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AN

ILLUSTRATED WEEKLY JOURNAL

OF

HORTICULTURE IN ALL ITS BRANCHES.

FOUNDED BY

W. Robinson, Author of the "English Flower Garden."

" You see, sweet maid, we marry
A gentler scion to the wildest stock ;
And make conceive a bark of baser kind
By bud of nobler race : This is an art
Which does mend Nature,—change it rather : but
The art itself is nature."

Shakespeare.

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TO
Jul-Dec, 1893

MONS. B. LATOUR-MARLIAC,

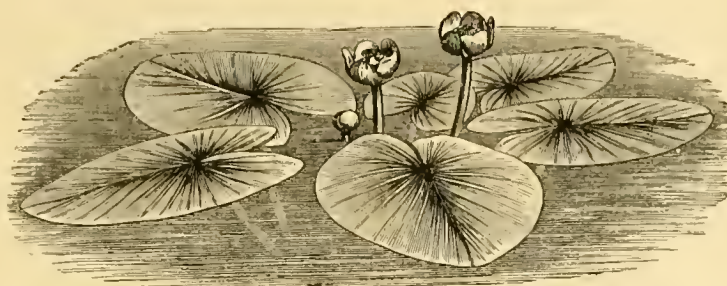
WHO HAS BROUGHT THE LOVELY COLOURS AND FORMS OF THE WATER LILIES OF THE
EAST TO THE WATERS OF THE NORTH,

THE FORTY-FOURTH VOLUME OF "THE GARDEN"

Is dedicated

BY ITS FOUNDER.

W. R., January, 1894.



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The GARDEN.

VOL. XLIV.

ORCHARD AND FRUIT GARDEN.

GROWING STRAWBERRIES.

UNDER this heading (on page 506) Mr. Porch gives his experience with a quarter-acre plot of Strawberries, grown with a view to testing the expediency or otherwise of cultivating this popular fruit on a much larger scale in the future, and, further, asks for information as to the best methods of disposing of the fruit after it is grown. As I happen to be fairly familiar with the county in which Mr. Porch is located, and have also gained what may safely be considered reliable knowledge in the matter of growing Strawberries for the markets, I will give my experience in the hope it will be of some service to that gentleman as well as other readers of *THE GARDEN* who may stand in need of advice. All things considered, Mr. Porch succeeded fairly well, but very probably he would have done even better had he expended about £1 or rather more on rough or fresh strawy manure, this being applied in the form of a mulch not later than April. The Glastonbury soil must be of an even more retentive nature than ours in this part of Somerset, as it is very certain that if we had not both mulched and watered the breadths of Noble in these gardens, the crops would have been a failure. Then, again, if the season had been a wet one, or say only a few very heavy showers had fallen, the fruit, where no strawy mulch was not placed about the plants, must have been badly splashed and practically spoilt for market. I shall also be greatly mistaken if the unmulched plants do not fail to produce runners freely, red spider also being, probably enough, troublesome, and without a good supply of early, well-rooted young plants, how are the requisite new additions to be made cheaply?

Mr. Porch did well in starting with Noble, this variety succeeding better the first season after planting—it was very late planting in his case—than any other sort that I have had any experience with. It is also very early and of attractive appearance, though not a good traveller. Supposing a good-sized field with a slope to the south is available, then it might be possible to compete with the growers in the neighbourhood of Southampton, who are among the first to consign Strawberries in quantity to Covent Garden and other markets. In this case Noble might well be extensively planted,

or, say, to the extent of four acres or more, but, as it happens, May 11 was not particularly early this year, being probably a week behind the Hampshire and Cornish growers' dates of commencing to gather Strawberries in quantity. This being so, Mr. Porch would not have obtained high prices at Covent Garden, though he ought to have done better nearer home. Personally I am of opinion that Mr. Porch as well as many other beginners in the direction of growing soft fruits for marketing will do well to let Covent Garden alone, preferring to cater for the wants of towns within easy reach of their fruit grounds. The former is very well supplied with quickly perishable fruit, but this cannot be said of the majority of provincial towns. Instead, therefore, of relying exclusively upon Noble, and which no one considers of the best quality, therefore not in demand when better fruit can be had, a succession should be provided for. Sir J. Paxton is the market grower's most reliable second early variety, as it does well nearly everywhere, the fruit being large, of good form, very firm, and richly flavoured. President succeeds this, and being a tremendous cropper as well as good in other respects, it will be some time before it is wholly ousted by newer varieties. Both Sir C. Napier and British Queen, where they thrive, are grand varieties for market, and the old Eleanor or Oxonian is yet one of the best for the latest crop. Alice Maud seems to be going out of cultivation, but if Mr. Porch and other beginners can procure it true I should advise them to give it a good trial. It is a second early variety and most reliable. All the varieties named can be bought cheaply, or at any rate are anything but new in cultivation, but were I to commence Strawberry cultivation on a large scale a trial would be given most of the newer varieties as they came out. If they proved superior to older forms, then they would be grown to the exclusion of the latter, but if they failed to surpass those that had previously done good service, then the rubbish-heap would be their destination.

Now a few remarks as to the best methods of packing the produce. Mr. Porch asks if it will pay to pack each fruit (meaning those extra fine and early) in leaves and boxes, when you can gather 50 lb. a day and upwards from the open ground. He failed to state whether his trial consignments were thus packed or not, but should say they were not so well packed as that, or the price would have been near 1s. 6d. per lb. instead of 9d., and that, too, at Bristol, and I should think Wells. Instead, however,

of taking so much trouble with the packing, and which may or may not bring its own reward—for it is all a lottery—the better plan in most cases would be to pack in shallow punnets, fitting these, in their turn, closely together in light flat boxes. For fine early fruit of Noble the punnets that will hold about 1 lb. of fruit in a single layer are the best, these being lightly padded with dry Moss or wood-wool covered with leaves and laid together or even enclosed singly in these. Then paper them over, tying this to the punnets with a strip of raffia, and pack tightly in a single layer in a shallow box with a latticed lid. The railway officials, when they know what they are handling, are not so reckless as often considered, and that is why I recommend the latticed lid. These early fruits ought to realise, and would have done this season, not less than 1s. 3d. per lb., plenty being retailed at 2s. per lb., the prices gradually falling to 9d. I am of opinion that fine or selected fruit of Sir J. Paxton or other varieties might also be packed in shallow 1-lb. punnets with advantage to the sender, such retailing readily at 1s. or rather more per lb. As it happens, the bulk are packed in deep 1-lb. punnets, and these not being filled above the level of the rims, two layers, of either one dozen or two dozen, can be packed in boxes made to hold these numbers respectively. Shallow baskets are also largely used for sending Strawberries in, but I would strongly commend the Bath practice of packing Strawberries, when plentiful, in flat punnets or very cheap chip baskets with movable handles. These are sold just as received by the fruiterers and this is better in every way than handling the fruit. The same advantage attends the use of smaller punnets, and, besides, Strawberries travel badly in masses. There are times when Strawberries sell badly, and, in anticipation of this, arrangements should either be made for making fruit that will not sell readily for dessert into jam, or else there ought to be an understanding with someone to take all surplus fruit for a similar purpose. Mr. Porch ought to find a ready market for his fruit at Bristol, Bridgwater, Weston-super-Mare, Yeovil, Wells, and other local towns, and I doubt if Glastonbury and Street are any too well supplied. In each and every case arrangements should be made beforehand with fruiterers in the different towns to take the fruit when fit, and he and others similarly situated ought to claim to be able to send everywhere by rail at traders' rates. The difference between the latter and the ordinary

charges is very considerable, and unless the more favourable terms are conceded, Strawberry growers on either a large or small scale are badly handicapped. In any case, Strawberries should as much as possible be sold locally when the prices are falling below 5d. per pound.

The quotations of Covent Garden prices in the different papers, if not always absolutely correct, are as nearly so as the compilers can make them. To a certain extent they are misleading to inexperienced consigners, who have to learn that the fluctuations are in some cases very marked in a single morning, or far more so than the quotations denote. The latter are a fair average, but do not hold good a day after they are compiled. They show what has taken place, not what the prices will be subsequent to publication. Consigners ought always to be in touch with leading fruiterers and salesmen, and should arrange to have daily or frequent returns or notifications of the prices realised.—W. IGGOULDEN.

—Replying to Mr. Porch's questions *seriatim*, I may at once say that it will never pay to pack Strawberries from the open ground in small boxes. This form of packing is only practised in private gardens, or with forced or imported fruit sent from a long distance to the London markets. Some growers in the south-west of England send their fruit in this way to market, but they would not do so were it not for the risk involved in so long a journey. With forced fruit it is necessary to pack in a way that will ensure its coming into the salesman's hands without blemish; but there is no need to be so careful in the case of outdoor fruit. Where it is a question of sending off several hundred pounds of fruit every morning, the labour involved in packing the berries in leaves and the cost of boxes would be so great as to run away with the profits. The prime fruit is all sent in pound punnets, and various methods of packing these are employed. The boxes in which Oranges are imported are much used, they being roomy, light and sufficiently strong. The bottom of the box is filled with punnets, another layer being stood on them anglewise, so that there is not much pressure on the fruit. The box is filled in this way and covered with green Bracken or anything of a like nature that will tend to keep the fruit cool and fresh in transit. Baskets, such as Peas are imported in, are also good for the purpose, especially for the earlier gatherings, as, being smaller, there is less danger of the berries being injured. Any Covent Garden salesman will send these baskets at request, the custom being to charge 1s. each for them, this being returned when they again come into the salesman's hands.

The area given up to Strawberries has of late increased so much and prices come down to such a low level, that a great bulk of fruit has to be put on the London markets in an even simpler manner than that above described. In a favourable year the output from the Strawberry farms is so great, that only the very finest fruit will make enough to warrant the expense of putting it into punnets. The price for prime samples will then often drop to 2s. 6d. per 12 lbs., so that second fruit has to be dealt with in a different manner. For this inferior fruit half peck and peck baskets are used, thus lessening the labour of packing. An enormous bulk of fruit is disposed of in this way at prices which would have struck terror into the hearts of Strawberry growers twenty years ago. Many London people never think of buying Strawberries until they can get them at 2d. per lb. The London Strawberry season culminates in the "smashers' week," when prices come down to their lowest point, and the "smashers," or jam manufacturers, buy what fruit they want. As regards sending the fruit to Covent Garden salesmen, there is no other way of disposing of any bulk of prime fruit, except by making arrangements with men of a like description in some of the large northern towns. I have been told by those who ought to

know that prices run somewhat higher in Manchester and Birmingham than in London, probably because the markets are not so liable to be glutted as is frequently the case in Covent Garden. I do know that some of the southern growers make a point of sending some of their produce to the north, and much of what is consigned to the London markets never reaches the salesmen, there being loads of fruit coming up by road which are diverted from their original destination and go on to one of the northern lines. It is certainly in the interest of a grower to put his fruit directly on to the northern markets than to let it pass first through a London salesman's hands, who naturally gets a picking out of it and lowers the grower's returns. In the case of large quantities of preserving fruit for the same reason it is preferable to make a contract with some jam manufacturer, who, as a rule, prefers to get his fruit direct from the grower than to buy in the London market. The prices as quoted in the London dailies I have found fairly reliable. The wholesale prices are certainly given much more accurately now than I have ever known to be the case. The weight of fruit, 220 lbs. from 280 plants, partly last season's runners, with no manuring and in such a trying season as the present, I should consider very satisfactory. Noble is, however, a heavy cropper, yielding more abundantly than the largely grown Sir J. Paxton. So far from considering 9d. per lb. a poor price, I should think it a good one now-a-days. Our large market growers would think themselves fortunate in getting an average return of 6d. per lb. Even in the favoured Hampshire grounds, where picking commences three weeks earlier than in the home counties, the price in an abundant year will come down to 2½d. per lb. To have made not less than 6d. per lb., Mr. Porch's fruit must have been very good, a proof, I should say, that the soil is just the thing for Strawberries. This, indeed, is the main point that has to be considered in connection with profitable Strawberry culture. If the soil is not naturally favourable, no amount of labour will make it so, and a man will only lose money on it. This can only be proved by experiments conducted through a period of several years. There is little difficulty in getting Strawberry runners to grow into good plants. That can be done in most soils, but it is not so easy to keep them vigorous and sufficiently productive over the second and third year to recoup the owner for labour of planting and loss of space, as the year following planting the crop taken from the ground will no more than pay expenses, the second year being the crop that should recoup the grower for his outlay and yield him a fair surplus, and the third season he ought to be able to count on a fair crop. Where the soil is not suitable the third crop will generally be more or less of a failure, and thus the grower's profits are much reduced; in fact, I much doubt if biennial planting would yield any profit. Many who have embarked in Strawberry culture have found this out to their cost. It is certainly an early district where picking commenced this year on May 11, being about a week later than the early Hampshire lands, where gathering in this phenomenally precocious season began in the first week of May, a week before the earlier Kentish grounds, and from a fortnight to three weeks in advance of the main crops in the home counties.—J. C. B.

The Phylloxera.—We learn that the Phylloxera has appeared in the vineyards of the province of Trapani (Sicily), in which Marsala is situated. This is the only province of the island which has hitherto been exempt from the visitation. The districts where the disease has been discovered are Alcamo and Partinico. A Government commission has been despatched to the spot to combat the scourge.

The Apple crop will be very irregular and light. In grass orchards especially large quantities of Apples have dropped during the past few weeks, and they still continue to drop, the ground under those trees which set a heavy crop being thickly strewn with fruit of all sizes up to half-grown

samples. Very many trees failed to set any fruit at all, though the show of blossom was promising both in numbers and size of bloom, but the remarkably dry weather spoiled their chances of swelling. Trees on ground kept clean, and with no under-cropping, form a fine object lesson on the advisability of letting the trees have the full benefit of the soil they grow in. The growth of such trees, though rank in some seasons, is just of the right description now, while that on orchard trees is meagre and does not yet promise well for another year, though there is yet time for improvement, and the genial rains of the past day or two will help them, if more follow soon. Summer pruning will be worse than useless on light soil this year.—J. C. TALLACK.

Cherry Hâtive de Prin.—Last year in the nurseries of M. Maquerlot at Fismes (Marne) we met with a very fine Cherry, known in that district as the Cerise Hâtive de Prin, and so named from the hamlet of Prin, in the commune of Serzy-Maupas. It is excellent in quality and valuable for its earliness, while its handsome appearance has caused it to be so much thought of, that it always commands the highest price in the market at Rheims. Except in some localities in Champagne, this variety of Cherry is so little grown that it may almost be considered a novelty, and yet we imagine that we came across it again lately at Anizy, near Soissons, where we were informed that it is very highly esteemed throughout the entire district under the name of Cerise de Saint-Médard. It remains, however, to be proved whether it is the same variety which is known by these two names. As there were no leaves on the trees at the time of our visit to Anizy, we could not determine the point satisfactorily. The trees which we saw at M. Maquerlot's were of very vigorous growth, with bark of a glaucous brownish red colour. The full grown leaves were of a deep green colour, and had stalks about three-quarters of an inch long, the limb or blade of the leaf being about 4 inches long and 2 inches across, oval, abruptly acuminate, and margined with large, obtuse, unequal teeth. Flowers mostly in clusters of four, white. Fruit shaped like that of the Cerise de Montmorency, i.e., a depressed spheroid about an inch in transverse and about three-quarters of an inch in vertical diameter, and of a uniform deep cherry-red colour; flesh of a deep pink colour, juicy, full flavoured, sweet and acidulous combined. We cannot say that this fine Cherry is certain to exhibit everywhere else the same high qualities for which it is distinguished in its native district of Champagne, but we should earnestly recommend our readers to try it.—*Revue Horticole*.

Canker in fruit trees.—It is now known that the cause of canker in fruit trees is a microscopic fungus named *Nectria ditissima*, which rapidly extends its ravages, but which can be effectively brought under control. For this purpose the cankered parts should be cut away and dressed with a pruning-knife, after which a mixture of the Bouillie Bordelaise containing 3 per cent. of sulphate of copper and 6 per cent. of lime should be applied to the affected parts with a paint-brush. This application may be repeated once or twice in the course of the summer.—*Revue Horticole*.

Making new Strawberry beds.—Every Strawberry grower has his favourite method of forming new beds, and so long as the results are good it does not much matter what particular plan is adopted. That followed by Mr. Camm, gardener to Admiral Egerton, St. George's Hill, Byfleet, seems, however, to me to be worthy of special mention. The runners are put out in rows, allowing just enough space to admit of development the first year. In the autumn they are lifted and put into their fruiting quarters. Some beds of President, Héricart, and King of the Earlies managed in this way look, in spite of three months' parching weather, remarkably well. One advantage of growing the plants the first year in this way is that by the time the hot weather sets in the foliage fairly covers the ground and helps to

keep the roots cool, mulching not being needful. Watering can also be attended to, if desirable, much better than if put out at once in their permanent quarters. I have at various times grown Strawberries much in this way, and I found that so far as fruiting went the plants bore almost, if not quite as well lifted at the close of the growing time as if put at once into their permanent position. President is found to be by far the most reliable Strawberry at St. George's Hill, and Waterloo is well thought of. Noble, in spite of its prolific precocious character, has been discarded, the flavour being so inferior. For forcing Mr. Camm prefers La Grosse Sucrée to all others. —J. C. B.

Roses and Peaches in the same house.—

In a long lean-to house at Porter's Park, East Barret, I saw a fine lot of Roses growing in a house along with Peaches. The back wall was 10 feet high, probably more (I speak from memory in connection with a visit there three years since), and was wholly devoted to Roses. Cloth of Gold was especially noteworthy. The Peaches occupied the front of the house, and were trained over a rather low trellis. Judging from the crop of fruit and the quantity of Rose blooms, I could not but admit at the time that the combination was quite a success. I have frequently seen very fine examples of *Maréchal Niel* growing against the back wall of a lean-to vinery. The temperature required for successful Grape culture is necessarily higher than that required for Peaches, and for this reason less suited for Rose growing. We have here a *Gloire de Dijon* trained up the partition which divides two Peach houses, and well has it succeeded for the last twelve years. We can cut lots of flowers in the early spring months, and for this reason it is kept. True, the annual crop of green-fly makes its appearance, but the getting rid of this is a simple matter. While not advocating the combination of Peaches and Roses, the above shows that both can be successfully grown together. —E. M.

Jefferson's Plum under glass.—What a grand Plum this is for cultivating under glass. The fruits are large, of a golden yellow colour, and of excellent flavour. In fact, out of a goodly list of kinds of fruit at present in use this Plum is the most appreciated. My tree is planted out and trained up underneath the roof. In such a position it bears very freely, the fruits hanging in bunches. This checks the tree's vigour, although, of course, by this it must not be understood that the tree is overcropped. To cultivate Plums under glass the trees require to be kept cool and airy at all times, as any attempt at forcing would only end in failure. Our Plum house is a cool corridor connecting a range of vineries. —A. YOUNG.

GOOD DRY WEATHER STRAWBERRIES.

For the last three years the weather has been both hot and dry just at the time the Strawberry crop would have benefited by a heavier rainfall. No bardy fruit suffers more than the Strawberry if a lengthened period of drought is experienced directly the fruit has set. Not only is the fruit deficient in size, but it lacks flavour. These dry seasons, however, are not without their object lessons; they should teach us to make note of the varieties that succeed best under adverse conditions. Valuable information might be disseminated if others were to record the varieties that have given the best results during the present season, stating also the character of the soil in which the plants are growing, as so much depends upon this. In my opinion far too many sorts are grown; far better is it to ascertain those that succeed the best in any locality and plant freely of them. Within a mile of this garden the soil is heavy and too much impregnated with chalk for Strawberries to be grown successfully, as the foliage lacks that deep green shade so characteristic of vigour and productiveness that it has in sandy or heavy loams for instance where Strawberries grow so well. Outside of that radius

the soil is varied in character, being heavy and light loam, pent and gravel, in all of which Strawberries thrive wonderfully well. Hundreds of acres are cultivated for the market supplies. Sir Joseph Paxton is the one sort which succeeds above all others. Not only during such a season as the present, but in a wet one this sort is highly spoken of. The flavour is excellent in well-grown and thoroughly ripened examples. In our strong soil this variety is the best dry weather kind we have. Noble has borne a fairly good crop, having stood the drought remarkably well. In point of flavour, however, it has not improved, neither was it earlier than others. *Vicomtesse Hélicart de Thury* is a splendid variety for soil of this character. In point of cropping and quality it has no superior; the only complaint that can be made against it is the size of its fruit. We commenced gathering ripe fruit out of doors May 21. This is not an early garden, being so much exposed to east winds in addition to the heavy character of the soil. President is an excellent dry weather Strawberry both here and in lighter soil. The habit of growth is vigorous; the long leaf-stalks enable the leaves to extend a good way from the crowns, thus keeping the soil comparatively cool by affording shade for a distance around. *British Queen* and *Dr. Hogg* are not a success here in such dry weather. The latter does fairly well when the weather is less dry. Those who prefer a somewhat acid Strawberry will find it in the *Captain*; the fruit is borne on stout foot-stalks, but not in sufficient quantity to make it a profitable kind to grow. Sir C. Napier has a flavour peculiarly its own, but it also does not produce fruit in sufficient quantity.

E. MOLYNEUX.

Strawberry Stirling Castle—I met with this variety, certainly a very scarce sort, just recently at a jam manufacturer's in Kingston. It was spoken of as "*Stirling*," but is doubtless the old *Scarlet Pine*. The fruits were of the usual pointed or cone shape, rich in colour, very sweet, and of brisk pleasant flavour, one of the most pleasant varieties I have tasted for a long time. It should apparently make a good variety for breeding from to secure flavour. One jam-maker told me that he grew this variety and *Elton Pine* exclusively for jam manufacture, because the fruits are so firm and admirably adapted for boiling. —A. D.

KITCHEN GARDEN.

HOT WEATHER AND THE VEGETABLE SUPPLY.

VERY rarely indeed are vegetables so scarce as at the present time, and there will have to be a very early and marked change in the weather to effect an improvement in the supply. Peas, the most popular of all summer vegetables, are not at home in a tropical climate, and are behaving very queerly accordingly. Keeping them in a moist state at the roots does not sustain them in good health, and in no case that has come under my notice has the normal height of different varieties been approached. That is not the worst of it. Instead of the rows sown in March and April at intervals of a fortnight and still longer apart providing a succession of gatherings, all are fit to gather from, at nearly the same time. Even the late *Ne Plus Ultra* has developed into a second early variety, and we are also gathering from *Duke of Albany*, *Criterion*, *Telephone*, *Success* and *Carter's Daisy*, all being fit about the same time. Being kept moist at the roots, the pods fill well, but the contents are too old for epicures before it is expected. Later rows are also flowering too soon, and in very many

gardens where space is limited there will be few or no Peas fit for use much later than June. All we can do is to sow as many late rows as possible, the first or second week in July being none too late in many localities to sow *Ne Plus Ultra*, *Latest of All*, *Sturdy*, *Autocrat*, and such like, *English Wonder*, *William Hurst*, *Chelsea Gem*, as well as the later-growing early sorts being sown up to the end of that month. Where Peas are not much crowded, have been kept well supplied with water at the roots, and the crops closely gathered, there is every likelihood of the haulm pushing out fresh side shoots, especially if there should, fortunately, soon be a change to dull showery weather, and very acceptable second crops be thus obtained. Do not, therefore, be in a hurry to pull up the haulm of *Telephone*, *Telegraph*, *Duke of Albany*, and other strong growers, as these are the most likely to grow afresh and give good gatherings. Only thorough soakings of water are of any service to Peas, and if they do not work downwards readily, bore holes at short intervals along the rows with a pointed iron rod or sharp stake. The value of heavy mulchings of strawy manure can scarcely be over-estimated, especially during a hot and dry season such as we are grumbling about now.

Before these lines are in print I shall most probably have gathered kidney Beans from rows of plants on a warm border, and when once these become plentiful Peas can better be dispensed with occasionally. Luckily, this crop stands plenty of heat, but the plants ought not to be starved at the roots. Ours some time since had two thorough soakings of water and were then heavily moulded up. Later rows have been similarly served, and a very acceptable lot of Beans will apparently be had without much trouble. Runner Beans, again, seem to revel in the heat, as they are growing rapidly and strongly. As yet ours have not been watered, but they will soon have a thorough soaking, the dose being repeated twice a week during dry weather. These Beans are certain to be in great demand this summer, and none of the cultural details in the shape of thinning out, staking, training, mulching, or watering should be neglected a day longer than can be helped. Keep the pods closely gathered, whether actually wanted for use or not, allowing a number of them to mature seed having a most weakening effect on the plants. If some must be saved for seed, then set apart one end of a row for that particular purpose, and these few plants being well fed at the roots will produce a surprisingly good crop of seed, which maturing early and surely, the quality will be better than is often the case when saved in a more haphazard fashion.

Vegetable Marrows like plenty of heat, and in other hot and dry summers have been the principal green vegetable sent to the markets. Those numerous waggon-loads of Vegetable Marrows to be seen very early in the morning wending their way to Covent Garden and other markets are not grown on heaps of manure, but are produced by plants in the open fields with only a comparatively thin layer of solid manure under them. Under market growers' treatment the plants form only a moderate amount of haulm and abundance of Marrows, plants on heaps of manure behaving in an exactly opposite manner. They do not when grown on the level or nearly so require much water, and it could not well be supplied to them if they did. It is of the greatest importance, especially this season when the plants have grown as rapidly as Cucumbers in a frame and promise to be productive exceptionally early, that the

fruits be cut as fast as they are large enough for use. When this is not done, those left on the plants attain a great size, only to be spoilt, very probably, in the autumn, and the consequence of this neglect or thoughtlessness is a cessation of the growth of later fruit; whereas, if kept closely cut over, productiveness will be the rule up till the time early frosts are experienced. Vegetable Marrows are not considered very high class, and in very many establishments are not often seen on the dining-table. This, however, is either the fault of the cook or gardener, or, it may be, both of them together. If the ordinary Long White or Green Vegetable Marrows are cut when no more than 6 inches long and of about the same size round as a fully-grown Cucumber, cooked and served whole, they are then more worthy of being termed Vegetable Marrow, and would be far more often asked for by owners of large gardens than at present. This may seem an extravagant practice, but small samples are plentiful enough if only the big manure heaps are avoided and close cutting is practised.

This promises to be a good year for Tomatoes, and if the season continues hot and dry, they will ripen earlier than usual and be abundant and good from open-air plants. If the precaution is taken to protect those plants growing against walls and fences with frame lights, or glazed cases when the weather is dull and wet, disease might, to a certain extent, be defied and a lot of sound fruit be had accordingly. For salad, those ripened under glass are the best, but any moderately well ripened in the open air are suitable for cooking, and a very wholesome and acceptable dish they prove to most people. Being kept in a moist state at the roots, and I hold it is a mistake to starve them in hot weather, the plants are growing very strongly with me, the crops also setting most satisfactorily. If there is any drying off at the roots practically, it should only be done in dull showery weather, and in no case ought the plants to expend any of their strength in the production of side shoots for which there is no room or use. Lay in a few where there is room for them to form one or two bunches of fruit and pinch out the rest as fast as they form.

M. H.

Tomato Challenger.—I am greatly interested in a fairly large trial of Tomatoes under glass, all the best praised varieties and many that have as yet received no commendations in this country being grown. Up to the present time, none have given so much satisfaction as Challenger, and this excellent variety will be grown to the extent of a thousand plants next season. It is of good sturdy habit, the leaves not taking up a disproportionate amount of room, while the clusters of fruit almost touch each other from the ground up to a height of 6 feet, and the plants are still making good progress. The majority of the fruit is of a medium or most serviceable size, of good form and colour, while no fault can be found with the quality. It certainly resembles Chemin, but with me is a better cropper.—J.

Salt for Celery.—Would it be beneficial or otherwise to sprinkle salt on the Celery drills heavily before earthing with a view to killing the worms and slugs? Also would it be beneficial or otherwise to dust the ground heavily with lime before earthing the Celery?—T. C.

** Salt may with advantage be freely forked into the Celery trenches with the manure. Use enough to fairly whiten, but not wholly cover the surface of the manure, and well mix it with the latter, or a bushel of it may be mixed with every cartload of manure before it is thrown into the trenches. This will certainly benefit the Celery

and check, but not wholly keep away or destroy the worms and slugs. Prior to moulding up, a mixture of soot and lime may safely be dusted very freely about the plants, and also the soil brought up to them, soot in particular having a lasting effect. It will mean a little extra trouble in the way of cleaning the "sticks" when required for use, but better than than badly-eaten and disfigured stalks.—W. L.

ALLOTMENT GARDENS AND THE DROUGHT.

I HAVE been during the past two weeks engaged in awarding prizes to a large number of allotment gardens, and I have noticed in many instances the difficulties which have beset the cottagers in battling with the disadvantages of the drought. In a field of about 14 acres, of one-eighth and one-sixteenth of an acre allotments, though water is laid on, there are only two or three stand pipes, and some of the holders have to carry their water a considerable distance. Things are generally backward in development. Peas, Broad Beans, Cabbages, Lettuce, Turnips, Turnip-rooted Beet, and Vegetable Marrows are the only articles up to anything like their usual mark, and some of the best of the Peas will almost be over by the first week in July, when our local show is held. Some of our Ealing cottagers have been famous for the excellent Cauliflowers of the Erfurt type, they have made a practice of exhibiting during the first and second weeks in July, but this season there is scarcely a good Cauliflower to be seen, so much are they out of character and disfigured by blight, and anyone might be led to suppose from their present appearance the cottagers are growing a very indifferent stock. Then the plants are sadly affected with blight and caterpillars, and the club in the case of the Cauliflowers is this season a great pest. The use of lime and soot in the soil in which the club appeared last season and an entire change of crop have had little perceptible effect. It would be interesting to know if club is more prevalent in a wet season than in a dry one. Cabbages sown last autumn are quite out of character this season, and to judge from the appearance of some of them, a certain sort named Defiance, which is a great favourite among our Ealing allotment-holders, is this season so different as to look like a bastard, and yet I am assured that seed from the same packet has produced Cabbages of remarkable quality, and as inferiority is the result of the season and not of the strain, no one should be in a hurry to condemn the seedsman for supplying a bad article.

On light gravelly land, of which a portion of our allotment gardens consists, the crops are thin and poor, largely owing to want of rain and the difficulty experienced in procuring manure; indeed, this has now become in some of the suburbs of London a very expensive luxury. The allotment-holder scrapes together the very best materials in the way of manure he can, but it is too often a poor fertiliser. When last winter lecturing to allotment-holders in the county of Berkshire, I found that in the country as much difficulty is experienced in procuring manure as near London. I was questioned as to the best patent manure for allotment-holders, and, desirous of having the most reliable advice, I wrote to Mr. J. J. Willis, of Harpenden, who admitted that the problem as to suitable artificial manures for allotment-holders is a difficult one, not from want of materials, but for conveniences for their storage, preparation and application, and it is of little use to recommend anything that requires careful mixing by those employing it. The best all-round manure of this character is, in the opinion of Mr. Willis, undoubtedly guano, but its composition varies so greatly, that persons purchasing it may pay double its value. Probably the safest and most economical manure for general garden purposes would be a low grade manure, such as is advertised as Turnip manure, and which costs from £7 to £8 per ton. This contains about 9

per cent. of nitrogen, and should be sown broadcast and dug in at the rate of 2 to 3 cwt. per acre according to the crop for which it is intended, the Cabbage tribe requiring more than Onions, Carrots, Beet, Peas, &c. There are some good bone manures now to be had which are well adapted for Peas, Potatoes, Onions, &c. Soot is a good manure, but it is one that, while apparently ready to the hand of most allotment-holders, they appear to use very little of where it can be procured. Basic slag may be used with advantage on all soils that are not chalky.

The difficulty of getting a patent manure to suit allotment-holders is great, but capable of being overcome. If it were possible for a body of allotment-holders to club together and get one or two tons of Turnip manure direct from a good firm, they would find it come cheaper than going to an agent, and the firm would deliver it carriage free. Then come the storage and division, both of which might be arranged by hearty co-operation and mutual assistance. R. D.

Deep cultivation.—When looking over an extensive range of allotments recently I could not help noticing the marked difference between the appearance of the crops in a few cases as compared with what was generally found. In relation to the latter I asked a worker to let me have his spade that I might ascertain how deeply his ground was worked, and found it did not exceed 10 inches. Below that the bottom was so hard, that it was most difficult to penetrate it. In the case of the few better cropped holdings I found that the soil had been worked 15 inches in depth. The allotments were all in the first year of cultivation, but the holders have all learned a rough lesson as to the value of deep cultivation, and it is to be hoped that the common 10 in. will be deepened to 20 in. during the ensuing winter. But there is not a garden in the kingdom where this season the value of deep cultivation is not being made manifest. If it be wise to advise the formation of trenches for Celery, Peas, and other crops, it is equally wise to advise that all the cultivated soil shall be treated as though it were one huge trench, as even single trenches ever so deep and well prepared by no means equal deep trenching of an entire area. It sometimes happens when moisture is too prevalent that on deeply worked soil the crops are too gross and leafy. That is much more seldom an evil, however, than is the existing one of excessive dryness, so that over large areas of cropped soil the produce will hardly pay the cost of the seed. Farm land just now is in a terribly barren, burnt up condition because it is so shallow worked. On the other hand, where ground is every few years trenched from 2 feet to 3 feet and well manured, crops in spite of the drought look fairly well, and for the season are almost the only successes. Such a season of drought as is the present should give a strong impetus to the deeper cultivation of the soil.—A. D.

Carrots dying off.—All the beds of Carrots in my charge are infested with a grub like a small maggot, which eats the young Carrots across. What can I do to destroy them, and can I do anything another year to prevent their ravages (in the preparation of the ground, I mean)?—T. C.

** Once maggots take possession of Carrot roots there is no remedy other than forking them out of the ground and burning all together. Sand thoroughly impregnated with petroleum and sown broadcast over the beds or freely between the rows soon after the plants show through the ground, further dressings being given every fortnight till the roots are large enough for use, has a decidedly deterrent effect upon the fly that causes the trouble, but no applications of either diluted petroleum or other insecticides are equal to destroying the grubs once they are formed unless strong enough to kill the plants as well. Try the sand remedy on any plants that come up after the rains, and if any seed is sown soon with a view to having young Carrots throughout the autumn and winter months, distribute some petroleum-soaked sand along

the drills. For the attacks of grubs after the roots have attained a serviceable size, these disfiguring the roots, but not often causing the leaves to flag badly and die, a free use of wood ashes is the best lasting preventive. Instead of sowing this very freely in the drills with the seed and risk destroying the latter by an over-dose of it, completely cover the surface with good wood ashes, or the latter and soot in mixture and lightly fork it in. Nitrate of soda and salt are also deterrents of grub attacks, and excellent fertilisers in most cases. Ground intended for Carrots ought, as a rule, to be dug up deeply and roughly early in the winter, a second turn being given during a dry time in March. This will be the means of greatly improving the soil and getting rid of various insect pests. In extreme cases a complete change of ground should be tried, a compost of fresh sandy soil being substituted for ordinary garden soil. The less thinning out of seedlings there is needed the better, always provided there are enough plants, grubs being most often troublesome where much thinning has had to be done.—W. I.

CUCUMBERS FAILING.

WITH this I am sending stems and roots of Cucumbers and Tomatoes, which I shall be glad if you will submit to an expert to examine. The whole of the Cucumber plants in two long houses have collapsed just when they were beginning to do well, and no reason for this can be found. They are grown without bottom-heat in a light sandy loam, with solid manure and bone meal mixed with it. The progress up to the time of failure was most satisfactory, the root action being good and the top growth equally so. First a few leaves flag, then some of the branches, and eventually the whole of the plant goes. I can find no damaged roots and the stems are apparently sound, though the collars, I should say, are not quite as they should be. The water used is principally "town water," and very hard. It is run into tanks and warmed by means of hot-water pipes passing through them prior to use. The houses are new, and there may be something wrong with the paint. Only a few Tomato plants go wrong, but the symptoms are much the same, and the collapse of strong fruiting plants is very sudden. Strangely enough, another large house of Cucumbers in this neighbourhood failed similarly, the soil in this case being very different from ours, but the house was new. If you can help me to solve the mystery a great favour will be conferred.—G. W.

I enclose leaves and roots of Cucumbers from the house of a small grower for market. The plants flag and in a few days are what might be termed dead. There are two more places half a mile distant where the plants are similarly affected, and in one of them I am informed that the Tomato plants of one of the growers are going off in the same way. The house from which I pulled the enclosed plant up is, like the others, most suitable for Cucumbers, and the owner told me that a Rose tree in a pot at one end began to go wrong first, then a couple of Geraniums, then the Cucumber plants. I do not attach much importance to the death of the Rose and Geraniums, and I simply give the man's explanation. I saw he had a fine healthy Tomato plant in the place where he said the Rose stood. I shall be glad to know of cause and likely remedy for the Cucumber disease.—W. P.

* I am very sorry I have not been able to reply to the enclosed letters before, but I could find no cause of injury to the plants, so I sent them to Miss Ormerod, who was not more fortunate. The same reply applies equally to both letters. I am sorry to say that I am quite unable to say what has caused the death of the Cucumber plants. I have carefully examined the roots under a microscope, and, failing to find any cause of injury either insect or otherwise, I sent one to Miss Ormerod, who quite confirms my examination. There are some eel-worms present in the stem, but not enough to injure the plants. I think the very hot weather may have had something to do with

the mischief by drying the atmosphere or the soil more rapidly than was imagined, or was the temperature of the houses too high? Whatever the cause may have been, I think you may be quite certain that it was not an insect, mite or eel-worm or a fungus.—G. S. S.

THE PEA CROP.

WHEN Peas sold at public auction fetch £17 per acre, it shows that the crop is very scarce in some districts, especially when the buyer has to pay for gathering, carriage to market and other incidental expenses. This price was obtained in this district for a fine crop. In many instances the dry weather has proved disastrous, growers in several cases having had to plough up the crop as not worth retaining. Besides the drought to contend against, there was the Pea weevil, which played terrible havoc. Rarely have Peas been gathered so early in the season. In the case of some of the varieties, no sooner had gathering commenced than it was over. Those people who have hitherto put their faith in the early rounds for a first crop will eventually have to grow the better quality early marrows. The only gain as regards the early rounds is where they are sown in November or December; then with a fairly favourable time these afford the earliest gathering. This was the case this last season, as after a perusal of all published reports, it was those sown in November or December which were the earliest. Of these, Veitch's Selected Extra Early, good types of Ringleader and William I. were the best. I must admit that the season was all in favour of the early marrows, whether raised under glass and planted out at the first opportunity or sown in the open. On the other hand, the early rounds did not beat them for earliness when sown under like conditions. These are evidently what might be described as wet-weather Peas, as they take a surprising amount of moisture both in the atmosphere and at the root. The hot and dry weather this season was too much for them, as besides being abnormally short in the haulm, they were in and over in less than a week, the haulm turning colour rapidly. Those people who relied upon these for succession for the first two or three sowings must have been without Peas at some time and quite unable to keep up a succession.

The varieties which I have grown, and which also have done exceedingly well, have been William Hurst, Chelsea Gem, English Wonder, and May Queen. These are all of fine quality, come early into use, last a surprisingly long time in bearing, and give a daily succession of pods instead of one or two gatherings like the early rounds. In more genial seasons I have had William Hurst and Chelsea Gem keep lengthening out the haulm and forming pods. At one time it was customary to make the sowing for the first crop during November, and in many gardens this is still done with more or less success. Soil and situation have a great influence one way or the other. Many gardeners, I know, condemn this system, but I do not. By not sowing in November or December they make a mistake in relying, when they do sow, upon the more inferior rounds. I have quite given up forwarding the rounds in this way, as the haulm quickly lengthens out, and if an inclement time should follow to prevent planting when ready, they soon get spoiled. Another feature of the dwarfs is, that by being sown comparatively closely together the crop is far heavier.

A. YOUNG.

Tomato Early Ruby in the open air.—It is very seldom that ripe Tomatoes can be gathered from the open air in the third week in June. This has happened with a variety called Early Ruby. Good plants were put out against a south wall on a raised border during the first week in June, the first trusses being well set and the fruit swelling. This, of course, would be a help, but however this may be, it shows the remarkably early character of the season.—A. YOUNG.

TREES AND SHRUBS.

THE JAPANESE ARALIAS.

THE *Aralia* family has no representative in Eastern North America outside of the genus *Aralia*, and only one woody plant, *Aralia spinosa*, a small tree of the Middle and Southern States. In Japan the family appears in no less than eight genera. The Ivy of Europe reaches Japan, where it is rather common in the south, although we did not meet with it north of the Hakone Mountains and the region about Fugisan. *Helwingia*, a genus with two species of shrubs, remarkable in this family for the position of the flowers, which are produced on the upper surface of the midribs of the leaves, is Japanese and Himalayan. In Japan *Helwingia* ranges to Southern Yezo, where, in the peninsula south of Volcano Bay, in common with a number of other plants, it finds its most northern home.

In the flora of Japan, *Fatsia* is represented by the handsome evergreen plant *Fatsia (Aralia) japonica*, now well known in our conservatories, an inhabitant of the extreme southern part of the empire, although often cultivated in the gardens of Tokio, both in the open ground and in pots; and by *Fatsia horrida*, a low shrub, with stout, well-armed stems, large palmate leaves and bright red fruit, which is also common on the mountains of the north-west coast region of North America from Oregon to Sitka. In Japan we found it growing under the dense shade of the Hemlock forests on steep rocky slopes above Lake Umoto, in the Nikko Mountains, at an elevation of 5000 feet above the sea-level, and in Yezo. The third member of the genus, *Fatsia papyrifera*, from the thick pith of whose branches the Chinese rice-paper is made, and an inhabitant of Central and Southern China and of Formosa, is frequently seen in Tokio gardens, as it is in those of the United States and Europe. In Yezo is found a representative of the Manchurian and Chinese genus *Eleutherococcus*, a shrub still to be introduced into our gardens, and *Panax repens*, a delicate herb with trailing stems and bright red fruit, which manages to live on mountain slopes under the dense shade of Bamboos; while *Dendropanax*, a tropical genus of trees and shrubs of the New World, as well as of the Old, reaches Southern Japan with a single shrubby species, *Dendropanax japonicum*. *Aralia* is more multiplied in species in Eastern America, where six are known, than in Japan, whose flora contains only two, although a third, the Ginseng (*Aralia quinquefolia*), a native of Manchuria, Northern China, and the United States, has been cultivated for centuries in Japan for the roots, which the Chinese esteem for medicine and buy in large quantities, sometimes paying fabulous prices for them, especially for the wild Manchurian roots, which are considered more valuable than those obtained from North America or from plants cultivated in Japan, or in Corea, where Ginseng-cultivation is one of the most important branches of agriculture. Curiously enough, this North American and Chinese species was first made known to the outside world by Kämpfer's description of the plants cultivated in Japan.

Of the indigenous *Aralias* of Japan,

ARALIA CORDATA is a herb with large pinnate leaves and long compound racemose panicles of white flowers, which are followed by showy black fruit. In habit and general appearance it resembles our North American Spikenard (*Aralia racemosa*), but it is a larger and handsomer plant, and well worth a place in the wild garden. In Japan *Aralia cordata* is often cultivated in the

neighbourhood of houses for the young shoots which, as well as the roots, are cooked and eaten.

ARALIA SPINOSA VAR. *CANESCENS*, only differing from our American *Aralia spinosa* in its rather broader and more coarsely serrate leaflets and in the character and amount of pubescence which covers their lower surface, is a common tree in Yezo and in all the low mountain region of Northern and Central Hondo. It usually selects rather moist soil, and sometimes, under favourable conditions, rises to the height of 30 feet or 40 feet and forms a straight, well-developed trunk. In Hondo large plants are rare, probably owing to the fact that the forests on the low and accessible mountain slopes are frequently cut off, but the shrubby covering of such hills is almost always brightened in September by the great compound clusters of the white flowers of the *Aralia* which rise above it. The Japanese form does not appear to be much known in gardens, although young plants have lately been raised in the Arnold Arboretum from seed sent a few years ago by Dr. Mayr from Japan, and it is the Manchurian variety known as *Aralia chinensis*, or as *Dimorphanthus mandshuricus*, that is usually seen in our gardens, from which the American form, the type of the species, appears to have pretty nearly disappeared, although the name is common enough in nurserymen's catalogues.

But of all the *Araliaceae* of Japan, *Acanthopanax* is the most interesting to the student of trees. It is a small genus of about eight species of trees and shrubs, all members of tropical Asia and of China and Japan, where half-a-dozen of them have been found. The most important of the Japanese species are *Acanthopanax ricinifolium* and *Acanthopanax sciadophylloides*. Of the other species, *Acanthopanax innovans* is a small tree, of which I saw young plants only, on the Nagasendo, without flowers or fruit, and which is still to be introduced. *Acanthopanax aculeatum*, a shrub or small tree, with lustrous three or five-parted leaves, is much planted in Japan in hedges and is hardy in Southern Yezo, where, however, it has been introduced. *Acanthopanax trichodon*, of Franchet and Savatier, a doubtful species, which, from the description, must closely resemble *Acanthopanax aculeatum*, we did not see; but *Acanthopanax sessiliflorum* of Manchuria and Northern China and an old inhabitant of the Arnold Arboretum, we found evidently indigenous near Lake Umoto, in the Nikko Mountains, on the Nagasendo and in Yezo.

ACANTHOPANAX SCIADOPHYLLOIDES is still unknown in our gardens, and we were fortunate in securing an abundant supply of seeds. It is a handsome, shapely tree, sometimes 40 feet in height. The flowers appear in early summer on slender pedicels in few-flowered umbels arranged in terminal panicles 5 inches or 6 inches across, with slender branches, the lower radiating at right angles to the stem, the upper erect. The fruit, which is of the size of a pea, is dark blue-black, somewhat flattened or angled, and contains two cartilaginous, flattened, one-seeded stones. This handsome species inhabits the mountain forests of Nikko, where it is not common. Later we found it in great abundance on Mount Hakoda, in Northern Hondo, and in Central Yezo, where it is common in the deciduous forests which clothe the hill-sides. Here it apparently attains its largest size, and grows with another species of this genus,

ACANTHOPANAX RICINFOLIUM, the largest *Aralia* of Japan. I have followed the Japanese botanists in referring this tree to the *Panax ricinifolia* of Siebold and Zuccarini, although the plant cultivated in our gardens and in Europe as *Acanthopanax ricinifolium* or *Aralia Maximowiczii* is distinct from the Yezo tree in the more deeply lobed leaves with much broader sinuses between the lobes. A single individual similar to the plant of our gardens I saw growing in the forest near Fukushima, in Central Japan, but, unfortunately, it was without flowers or fruit. And as I

was unable to find any leaves on the Yezo trees with the broad sinuses of this plant or any intermediate forms, it will not be surprising if the forests of Japan are found to contain two species of simple-leaved arborescent *Acanthopanax*, in which case it will be necessary to examine Siebold's specimens to determine which species he called *Panax ricinifolia*. In the forests of Yezo, where it is exceedingly common, *Acanthopanax ricinifolium*, as it will be called for the present at least, is a tree sometimes 80 feet in height, with a tall straight trunk 4 feet or 5 feet in diameter, covered with very thick, dark, deeply-furrowed bark and immense limbs, which stand out from the trunk at right angles like those of an old pasture Oak, and thick reddish brown, mostly erect branchlets armed with stout, straight, orange-coloured prickles with much enlarged bases. The leaves, 7 inches to 10 inches across, are dark green and very lustrous on the upper surface, light green on the lower surface, which is covered, especially in the axils of the ribs, with rufous pubescence. The small white flowers are produced on long slender pedicels in many-flowered umbels. They appear in August and September, and are very conspicuous as they rise above the dark green foliage, giving to this fine tree an appearance entirely unlike that of any other inhabitant of northern forests. *Acanthopanax ricinifolium* is common in Saghalien and Yezo, and I saw it occasionally on the mountains of Central Hondo, where, however, it does not grow to the great size it attains in the forests of Yezo. Here it is associated with Lindens, Magnolias, White Oaks, Birches, Maples, *Cercidiphyllum*, Walnuts, *Carpinus* and *Ostrya*. The wood is rather hard, straight-grained, light brown, with a fine satiny surface. In Yezo it is highly valued, and is used in considerable quantities in the interior finish of houses and for furniture, cases, &c.—*Garden and Forest*.

The golden-leaved Alder.—A hot and dry season such as we are now having brings out the colour of the golden-leaved Alder. We have several trees growing on exposed banks and knolls in the pleasure grounds. In conjunction with these, we also have several specimens of the purple-leaved *Prunus Pissardi*, the two together making quite a harmonious blending of colour. Unfortunately, rabbits are very fond of peeling the stems during the winter months. A piece of wire netting bound around the stem will, however, protect it.—A. YOUNG.

The Clammy Locust (*Robinia viscosa*).—This is a charming member of the *Acacia* family, and makes a handsome tree, but, happily, we have not to wait till it attains tree dimensions before it gives us considerable beauty. Some specimens quite recently planted and less than 6 feet in height have been blooming this season, and will now continue (only more profusely) each year. It has some considerable resemblance to the False *Acacia*, but it is rather smaller in growth, more slender, and the bark of the young shoots is very clammy; hence the name. It is fast-growing, and on a lawn would soon make a handsome tree with a considerable spread of branches. The flowers are of much the same tint as those of the pink variety of the common *Acacia*, but they cluster more thickly in short racemes.—A. H.

Double-flowered Peach Clara Mayer.—This is a very fine and also a very rare and remarkably floriferous variety. The flowers, which are very large-sized, well formed, and of a very deep bright red colour, are produced in such abundance, that when the tree is in bloom the branches are completely hidden by the flowers and foliage, the contrasting colours of which have a very striking ornamental effect, more particularly so as the red colour with which the petals of the flowers are suffused throughout never entirely leaves them, but sometimes becomes a little lighter or weaker in tint here and there. The culture and propagation are precisely similar to those which are practised in the case of all other fruit trees belonging to this group. The soil should be a somewhat tenacious

one, and light rather than too heavy. Propagation is effected by sowing the fruit stones, when such are produced, but more usually by shield grafting, the stock employed being the St. Julien Plum tree. In some soils or under special climatic conditions other kinds of stocks are sometimes preferred—the Myrobella Plum tree, for instance, which is especially employed when small sized or half standard trees are required. In some localities the Damas de Toulouse Plum tree is also used as a stock, and is valuable for this purpose in districts where own-root Peach trees do not succeed well. Elsewhere it is seldom used as a stock. We have no hesitation in recommending the double flowered Peach tree Clara Mayer as being one of the finest ornamental trees or shrubs. Moreover, it is hardy and possesses all the good qualities that an ornamental tree should exhibit, being robust in growth and never suffering from the severest frosts in winter. It also accommodates itself to every mode of training and does well under every form and in every position and aspect.—*Revue Horticole*.

Spartium junceum (the Spanish Broom).—There are few outdoor shrubs which better enjoy the present long and remarkable spell of semi-tropical weather than the old Spanish Broom. It is flowering now very beautifully. It is easily distinguished from all the hardy *Leguminosæ* by its green rush-like stems, devoid of leaves except when young. It grows to a height of 8 feet or more, but being of a lanky, gaunt habit is seen to best effect when planted in shrubberies where its base is hidden, and a suitable setting of greenery is provided for the profusion of blossom. The flowers are individually larger than those of most of the hardy shrubs of the same tribe, and the colour is a rich glowing yellow. It is a native of Spain and other parts of the Mediterranean region, and is also found in the Canary Islands. According to Loudon, it is chiefly found on gravelly soils in its natural state, and in this country it is useful for dry sandy soils where many other shrubs would not thrive. It is one of the earliest exotics brought to this country of whose introduction a record exists, the date being 1518. The plant seeds with freedom, and may by this means be rapidly increased. There is a double-flowered variety in cultivation which promises to be a valuable plant, but it is not common as yet.

Kalmia angustifolia and **Rhododendron hirsutum** are very pretty now. I think these deserve to be planted more extensively than they are. The ponticum and hybrid *Rhododendrons* are all faded and gone, and *R. hirsutum* and *Kalmia angustifolia* form a good succession. It is generally understood that *Kalmias* will only grow in peat bog, but we have some strong plants on clayey ground, which, I hope, is something in their favour. The three best sorts are *Kalmia angustifolia rubra*, *K. a. rosea* and *K. a. glauca*. The last-named is in bloom in April, the other two during the present month (June). The *Heaths* are coming into flower. There are four kinds of white *E. cinerea*. *Erica cinerea alba* is a strong-growing plant, best suited for a dry bank. It has light green foliage and blooms later in the year than minor or major. *Erica cinerea alba minor* is a pretty compact-growing variety—one dense mass of white blooms, similar in growth to *carnea alba*, only dark green foliage, the earliest of its class to bloom. *Erica cinerea major* is in bloom with minor, only makes stronger growth and larger flowers. *Erica cinerea alba multiflora* is the latest to bloom and resembles minor, only it is in bloom longer than the other and has light green foliage. Then there are the bright-coloured varieties of *cinerea*. *Purpurea* is a bright purple; *atro-purpurea*, a dark purple; *nigra* is dark purple; *rosea*, a flesh colour; *coccinea*, a bright scarlet; *atro-sanguinea*, a crimson; *pallida*, a pink. All the forms of *cinerea* do best on a dry bank. The same remarks apply to *E. tetralix* and *E. ciliaris*. The vulgaris varieties grow almost anywhere.—C. REEVES, *Flash Nursery, Two Dales, Matlock*.

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WISTARIA AT THE LARCHES, EAST GRINSTEAD.

WE are indebted to Miss Brown, of The Larches, East Grinstead, for the very excellent photograph from which this engraving was made. The engraving tells its own tale. This district is not so favourable to this noble climber as many others in England, but still the hardiness of the plant and its freedom of bloom are well proved in this rather cool and hilly district. It is surely needless to say any more of a plant which everybody ought to know so well. Of its use for bowers and covered ways we spoke last week. Up to the present its most

fruit which are now employed in many parts of France, "the orchard of Europe."—*Revue Horticole*.

ORCHIDS.

EPIDENDRUM VITELLINUM MAJUS.

I AM in receipt of a letter from Major-General C. B. Lucie-Smith, of Worthing, in which he questions my remarks as to this plant preferring a shady situation, giving a case in point of a plant in his own possession which had been treated quite the reverse. He says:—

I obtained the plant when semi-established, having forty-five bulbs in April, 1891. In the May

sunlight is accountable for the depth and brilliancy of the colours. Take, for instance, *Cochlioda Noezliana* and *C. vulcanica*, *Ada aurantiaca*, and the *Masdevallias*, which have as bright colours as any Orchids, all of which grow best and flower most freely without sun in a north house. We are told that Roezl found *Epidendrum vitellinum majus* growing upon stunted Oaks in a district where it rains for about a couple of hours every day from May till October, and where from December to February the plants are enveloped in dense fogs and subject at times to frost. Lindley tells us the typical form is found on cloud-capped mountains amidst continual mists in the regions of Lichens, so that the plant in a state of nature is not troubled with much sunlight. I hope that General Smith's plant



Wistaria sinensis at The Larches, East Grinstead. Engraved for THE GARDEN from a photograph sent by Miss Brown

common use is as a wall plant on the houses around London. There are many noble specimens of it at Tooting and other pretty villages.

Dried fruit and vegetables.—A practical treatise on the drying of fruit and vegetables has just been published conjointly by M. Nanot, director of the National School of Horticulture at Versailles, and M. Tritschler, engineer of arts and manufactures. In the United States of America this branch of industry has become an important element of agricultural prosperity, and special apparatuses for the drying of fruit accompany the extension of the enormous orchards of the West. It will be at once seen how important is a work by competent writers which fully describes the stoves, the dryers, the peeling and paring machines, and the evaporators which ought to take the place of the antiquated methods of drying

following I put it in the full sun in the open air, protecting it from heavy rain and wind until the 16th of September, when it was removed to a cool house, placing it well up against the glass, where it could get all the sun available. In May, 1892, it began to bloom, and gave eighteen spikes bearing 172 flowers of exceptionally fine colour and substance. Would growing it in the shade give as good results, especially as regards brilliancy of colour?

I am glad my notice has called forth this statement. I saw the cut with an account of the plant in question in a contemporary last season, and I have been watching for a notice of it this year, but I have seen nothing; neither does the writer mention anything about it in the year 1893. During the year 1891 we had very little sun, but plenty of moisture, so that this plant had not much sunlight to put up with. I do not think such good results could be chronicled this season. I do not think

will continue to give a like amount of flower for many years, but I doubt its ability to pull through the present season in a like creditable manner.

WILLIAM HUGH GOWER.

Sobralia macrantha Princess May.—I have received a beautiful flower bearing the above name from Messrs. Pitcher and Manda, the United States Nursery, Hextable. The plant grows only about 1 foot or 15 inches high, the flowers being large and of good substance. The flowers resemble those of the variety *Kienastiana* in size and in being, like those of that form, of the purest white, saving the front lobe of the lip, which is suffused with a delicate and pleasing shade of heliotrope. It is an extremely delicate and desirable variety. —G.

Oncidium Lanceanum.—G. Simmonds sends me a flower of the above-named plant, with the erroneous name of *O. Lawrenceanum*. He says it

is from a plant that came to him last year from Surinam. Its leaves are getting very spotty, and he asks what he can do to prevent this. You have one of the grandest plants in the genus *Oncidium* and one of the most difficult to manage. I have grown it and have seen it doing well when well shaded from the sun's rays. It should be allowed to spread its roots wherever it likes upon a moist and stony bottom and be kept in a hot and very moist atmosphere. This is the best plan to prevent the spots which usually appear on its leaves if exposed to the sun. Yours is a very good coloured variety, with a rich dark purple lip, and the flower yields a delicious odour resembling vanilla.—W.

Cattleya Sanderiana, which I noted recently as being shown so finely by Baron Schroeder at the Temple, and of which I also recently noted a fine variety sent me by Mr. Broome, of Llandudno, have both been eclipsed in richness of colour by a variety sent to me by Mr. Kerslake, gardener to the Rev. E. Handley, of Bath. It is of about the same size as the two referred to, the petals, however, being somewhat narrower than in Mr. Broome's fine flower. The colour of the sepals and petals is a deep, rich rosy purple, the side lobes of the lip of the same colour, and the large and finely developed front lobe of a very rich velvety crimson-magenta, with the two yellow eye-like spots at the side of the throat.—G.

Cattleya Schilleriana (H. Parsons).—A superb flower of this plant comes to me for my opinion, the sender saying he had always taken it for a strong-growing plant of *C. Aclandiae*, but from which it appears to differ. It does differ, and that considerably, for in *C. Aclandiae* the column is quite exposed, the side lobes of the lip being quite rudimentary; whilst in the flower sent these organs are very large and form quite a vaulted hood over the column. The flower, cut from a scape bearing five blooms, measures $4\frac{1}{2}$ inches across, sepals and petals of a bronzy purple, much spotted with purple of a deeper hue. It is a very fine form of this rather variable plant, but I cannot consider this as a natural hybrid between *C. Aclandiae* and *C. guttata*, as some do, and even if a hybrid, I do not think that the first-named plant is one of the parents. It flowers sometimes twice in one season.—G.

Houlletia odoratissima.—H. Parsons sends me a flower of this singular and beautiful species, which was introduced to cultivation by M. Linden, of Brussels, over forty years ago. The flowers are very fragrant, borne several together on an upright spike, the one before me being fully 3 inches across, the sepals broader than the petals, reddish brown. The curious lip is white and hastate in front. These plants have never been popular. They are easily managed, and some of them should find a place in every collection. They do well in either hanging baskets or pots well drained, using for soil good brown peat fibre or Sphagnum Moss. Water should be given freely when growing, much less being requisite in the winter. They may be grown in the *Odontoglossum* house, keeping them at the warmest end during the winter season.—G.

A giant Cattleya.—Mr. Holmes, gardener to Mr. G. Hardy, Pickering Lodge, Timperley, sends me a flower of *Cattleya Warscewiczii* Sanderiana, which is certainly the largest and most richly coloured that I have ever seen. It measures 10 inches across, the sepals and petals of a fine deep rosy purple, broad, the latter being prettily frilled at the edges; the large lip is 4 inches long and 3 inches broad, frilled at the margin, the colour an intense rich velvety crimson. At the side of the throat are two large eye-like blotches of a rich yellow.—G.

Cattleya Aclandiae in two varieties comes from Mr. Holmes, with whom the plant is a great favourite. In one form the sepals are broader than the petals, the former slightly waved at the edges, ground colour yellowish, with a tinge of green, tipped with bright chocolate, and profusely marked with spots and blotches; the middle lobe of the lip is bright rosy purple with deeper veins, side lobes very small, white; the other form is smaller, the colours paler. It is not a plant that seems to

be very amenable to cultivation, but I have had nice plants of it which were grown upon good-sized blocks of wood with but a very little soil about the roots. It requires a moist atmosphere and a high temperature, with a good deal of bright sunshine.—G.

Cattleya Warneri.—G. Wilson sends a grand flower of this for an opinion. It is a very fine variety, nearly as dark as some of those which I used to see about thirty years ago, and which one seldom sees now; the flower before me measures upwards of 8 inches across, broad, and of good substance, deep rosy purple in colour, the large lip deep rosy crimson in front, very much undulated and frilled, the base white, having a streak of orange in the throat, with numerous lines of white traversing it. It is a magnificent variety, first flowered by Mr. Robert Warner some thirty-three years ago.—W. H.

Limestone for Dendrobium Phalaenopsis.—*Dendrobium Phalaenopsis* apparently grows freely enough when potted in the same material as the majority of other *Dendrobes*, but at the same time it shows its extreme partiality for limestone, this being used both for drainage and mixed with the peat used for potting. By using the above material, the young growths from small pseudobulbs are remarkably strong and healthy, and the roots cling closely to the stone.—A. YOUNG.

Cattleya Mossiae Hardyæ.—Flowers with this name also come from Mr. Holmes. He says he thinks it is quite distinct enough for a name. It is a chaste and beautiful variety. There are four flowers upon the scape, the sepals and petals being of the purest white; lip also white, the middle lobe of the lip beautifully crisped at the edge, has a ground of pure white, stained with orange in the throat and on the side lobes. It is a charming variety, even prettier than *C. Wagneri*, the first plant of which I exhibited at Regent's Park some years ago.—G.

Aerides Fieldingi.—For the general uses of the garden no species of *Aerides* has proved of so much value as this, commonly known as the Fox-brush Orchid. It is one of the most easily cultivated in the whole family, maintaining year after year a vigour of growth which, unfortunately, departs from a good many Orchids after two or three years' cultivation. Although I have frequently noticed a night temperature of 60° to 65° in winter recommended for this amongst other *Aerides*, my experience is that the *Cattleya* house is more suitable, choosing the warmest position. I believe Mr. Gower has in these pages recommended temperatures approximating those of the *Cattleya* house rather than those of the East Indian house, and from what I have seen I feel certain that as fine spikes will be produced with greener, sturdier foliage when this advice is followed. I have plants now in flower with spikes 2 feet in length. The flowers are $1\frac{1}{2}$ inches in depth and of a beautiful amethyst-purple, the lip and the rounded tips of the petals being considerably deeper in shade than the rest of the flower. The species comes near *A. multiflorum* (A. Lobbi) in botanical relationship, but is distinguished not only by its robust foliage, but also by the pointed apex of the labellum. *A. Fieldingi* is a native of the Sikkim Himalaya and Assam.—B.

Cypripedium spectabile.—It is interesting to see from the experience of Mr. Field that this beautiful plant can be grown with care in an ordinary garden, but anyone who has a piece of boggy ground may leave it to take care of itself. I have had it in the wild part of my garden for many years, and it comes up every season like a weed. It has never been finer than this year. I had nearly thirty blooms open at one time. It is useless, however, to attempt to cultivate it except under conditions similar to those under which it grows in a state of nature. My plants are in ground that is constantly wet, but I have noticed that the roots run about near the surface, and I should advise anyone planting it not to bury them too deeply. I have never seen it growing wild, but I fancy it grows on, rather than in boggy ground, that is, on the loose mossy surface of such places.

Some time ago we were clearing out some ditches in the winter, and my men threw the soil over where the *Cypripediums* were growing. They were not covered by more than 3 inches or 4 inches of soil, but none of those that were so covered ever came up again. Some of my plants are growing in the shade and others in the sun, but they are all protected against wind by trees. *Cypripedium pubescens* and *Cypripedium parviflorum* grow also in my wild garden, though not so vigorously as *C. spectabile*. They all increase very slowly, and I have never known any self-sown seedlings to appear. *Cypripedium acaule* I have tried again and again, but I have never succeeded in establishing it. I found it growing near Ottawa, in Canada, some years ago and brought a few plants home with me. They came up the next year and flowered, but they made no sign the year after. Perhaps the English summer is not warm enough to enable this form to ripen its bulbs for the next year's growth. If any of your readers have been more successful with this species, I should like to know how they have managed it. The European form—*Cypripedium Calceolus*—is not difficult to grow, but it requires different treatment. It is not a bog plant, but grows, I believe, in limestone districts.—F. W. HARMER, *Cringleford, Norwich*.

GARDEN FLORA.

PLATE 916.

RHODOCHITON VOLUBILE.

(WITH A COLOURED PLATE.*)

This interesting and attractive flowering climber is one of the many that are conspicuous by their absence in a great number of instances in our plant houses of to-day. Like others, it has had to give place in a measure to other and more showy plants. It is, however, none the less a most useful climbing plant for the cool greenhouse. Its position therein is almost indicated by the style of the growth as seen in the coloured plate. In any house, for instance, where it can be trained up the rafters, hanging therefrom over pathways, &c., it is seen to the very best advantage. There are other and likewise very useful plants of a similar habit, *Maurandya Barclayana* and *Lophospermum scandens* being cases in point. These are both better known in many gardens than the *Rhodochiton*. Each of them is, however, amenable to the same treatment, the last being the most vigorous grower of the three and at the same time the most free-flowering. Not being an enduring or lasting plant, it is needful for the sake of greater safety to strike a few cuttings every year. The best time to do this is towards the end of the summer, so as to have nice young plants to grow on the following spring. With good care such plants as these will go through the first winter afterwards with hardly an exception; after that, however, the young plants will be much the safer. The cuttings should be taken with a heel, being about 4 inches in length; these will strike best in nearly all sand under bell-glasses in a cool pit or frame, striking singly in $2\frac{1}{2}$ -inch pots being the best way to proceed. In after-potting I would advise the use of a little peat as well as leaf-mould and good loam, about one-third of each. After-pottings should be attended to before the plants are pot-bound so as to starve or weaken them, but anything beyond a 10-inch

* Drawn for THE GARDEN in the gardens at Burford Lodge by Gertrude Hamilton, September 23, 1892. Lithographed and printed by Guillaume Severeys.

pot will be rarely needed. Another mode of culture is to turn the young plants out into boxes, but planting out as it is generally understood is not to be recommended in this instance.

This *Rhodochiton* is a Mexican introduction of more than half a century back. It should further be added that where the seed ripens another good and easy mode of increase is afforded with a correspondingly vigorous growth. At Burford Lodge, Dorking, where the drawing was made, cuttings of this climber are taken in the autumn, and when rooted, kept in the greenhouse during the winter. They are potted on in the spring and planted out at the same time as the other summer occupants of the flower garden. It also seeds freely at Burford Lodge. The late Rev. Harpur Crewe used to have it grow and flower freely outdoors in his garden at Drayton-Beauchamp Rectory, Tring. G. H.

FLOWER GARDEN.

TRANSPLANTING LILIES.

EVERYONE who has a garden is obliged from time to time to transplant his flowers for various reasons, and it becomes, therefore, a matter of great importance to find out the best time for doing so. With imported plants this is one of our difficulties. Many years ago I sent for a large number of *Hellebores* from Holland; at the time I was very imperfectly acquainted with their peculiarities, and I lost them all. The gardener, knowing the hardness of the Christmas Rose, said, "Any place will do for these," and they were put where I wanted to have them in various corners, and soon withered off and died. If I were to try the same experiment now, probably I should not lose one, but this is a hard experience to gain.

I have had an interesting letter from M. van Tubergen, of Haarlem, in answer to one from me about moving Lilies. I had said that I did not find the varieties of *Martagon* and some other Turk's-cap Lilies difficult to move. He replies, "I cannot help saying, but I do not agree with you about the moving of Lilies; not one variety bears it well, except *umbellatum*; almost all of them suffer much by lifting and planting." Now M. van Tubergen must be taken as a good authority, and yet practically I have proved that Lilies will bear transplanting in the very height of their growth. This season when the rain came after the first great drought, I took the opportunity to move *L. chalcedonicum*, *pyrenaicum*, and *Thunbergianum* Prince of Orange. They have all moved perfectly well, and if I live to see it, they will no doubt flower much better next season than if I had left them alone. The Prince of Orange flowered well after transplanting. I moved the *chalcedonicum* because it was not doing well where it was; *pyrenaicum* had just finished flowering. I am inclined to think that they move best just at the flowering season. I should not have ventured to move the above-named Lilies had I not tried the experiment before. I was visiting near London either at the end of May or beginning of June about three years ago and I was offered some *L. chalcedonicum*. The thought in my mind was they would surely die from the rough treatment; but, instead of that, they have grown and flourished, and a fine clump of this very beautiful Lily will this year give me abundance of bloom. The secret seems to be semi-shade

and abundance of water, and the Lilies will go on apparently almost indifferent to their change of quarters; but if their new situation agrees with them, they will rapidly improve and be finer and better next summer than if they had been left alone. *L. pardalinum* does appear to be very obstinate. I had some fine roots sent to me in 1890, and they do not seem to have recovered the shift yet. They did not bloom at all the first year, and they are only flowering scantily now. With more attention they would, no doubt, have done better. The season has been dead against *pardalinum*, but still it is evident that it resents any removal even when carefully performed. *Auratum* does well after removal, and so, of course, does *candidum*. With regard to this last Lily, I made a mistake in transplanting and culture which nearly caused the loss of a splendid bed of it. Seeing the roots pushed out of the ground, I took the bulbs up and replanted rather deeply and in rich ground. The next year was almost a complete failure, and this year the bed is only convalescent. I shall never cover deeply the roots of *candidum* again, but when they require it put some earth around them. I have watched the mode of culture in cottage gardens, where these Lilies generally grow better than in large gardens. The rule, where they do best, is to let them alone, except according to the rough, but successful, plan adopted by cottagers with regard to their perennials, when they put in autumn some manure around the roots.

I moved the common Christmas Rose (*H. niger*) this year about the middle of March—just in the driest time. It was not looking well when I moved it, but since that it has begun to throw up strong growth. Of course, in that case the exposure after taking up was very short, and I resorted to careful shading and watering. I did this chiefly for an experiment in transplantation. I know one grower of *Hellebores* who frequently moves his plants. I have no doubt that, on the whole, Christmas Roses do best when let alone, but they want good ground. They are prospering in a wild condition under the trees at Kew.

A GLOUCESTERSHIRE PARSON.

DWARF LILIES.

AMONG the earlier flowering Lilies are some of the dwarfest of the entire genus, for some varieties of *L. elegans* or *Thunbergianum* are at the most little more than 6 inches high, yet they bloom with the greatest freedom. In no other Lily is there such a great amount of variation to be found as in the different varieties of *L. elegans*, for they vary not only in shape and colour of the flowers, but also in height and season of blooming. The nomenclature of most of these forms is in a very confused state, for varietal names are often given to individual fancy, and the result is very confusing. This practice seems to be on the increase, not only with Lilies, but in all classes of plants, and quite recently in *THE GARDEN* (p. 477) a protest was entered against the same principle being applied to Orchids. One of the dwarfest and earliest of these forms of *Lilium elegans* is Prince of Orange, the flowers of which are of a bright yellow. A second variety—*alutaceum*, in which the flowers are more of a buff tint, is often seen mixed with Prince of Orange, though the two are perfectly distinct, as, apart from colour, the leaves of *L. alutaceum* are much shorter than those of the other, while the petals are less pointed. While noticing the difference between these two, it may on the other hand be pointed out that the varieties *alutaceum*, *aureum*, and *aureum nigro-maculatum*, are practically one and the same thing. A very pretty flower of a yellow colour, splashed more or less with crimson, is also known by the varietal

names of *bicolor* and *pictum*. Rather taller than either of the above is an early-flowered form with large, but somewhat irregularly disposed petals of a brownish red hue. This can be obtained from different dealers under the names of *lateritium*, *biligulatum*, and *aurantiacum multiflorum*. Again, in purchasing such varieties as *fulgens*, *sanguineum*, and *atro-sanguineum*, it will be found that the different dealers are by no means of one accord in their ideas of these varieties. *L. elegans* in variety is sent here from Japan during the winter months, and very superior forms they are as a rule, and quite distinct from the varieties cultivated by the Dutch. One that generally crops up in considerable numbers among these imported bulbs I take to be the variety *brevifolium*, the leaves being unusually short, thick, and of a very deep green, while the flowers are of a peculiar shade of light red. This grows about 18 inches high. A second variety from Japan is a bold grower, and in the bud state it is very noticeable by reason of a woolly substance around the unopened buds. The flowers are yellow, heavily spotted with crimson. This has at different times borne the names of *splendens*, *guttatum*, and *robustum*. Under this last name it was awarded a first-class certificate eleven years ago by the Royal Horticultural Society.

H. P.

FLOWER GARDEN NOTES.

IN A gardening experience extending over thirty years I never remember such a trying time for bedding stuff, and doubtless many whose memory carries them back longer than this would have to make the same remark. Heavy and persistent watering is the only thing possible to encourage growth, and in many flower gardens this is hardly possible. At Cowdray, where tuberous *Begonias* enter largely into flower garden arrangements, Mr. Geeson has adopted the only method possible to secure rapid growth, viz., a surface mulching of cocoa fibre, a heavy watering, and then a slight shading with breadths of tiffany until the plants get established. *Begonias* will evidently be strongly to the fore in bedding arrangements for the current season, and it is gratifying to find the idea gaining ground of either planting thinly on a dwarf carpet or mixing with a nicely contrasting plant that is slightly dwarfer than the *Begonia*. *Koniga variegata* or *Geranium Manglesi* associates admirably with crimson *Begonias*, besides allowing space for the latter to develop into symmetrical plants. The efforts of the best growers, both nurserymen and private gardeners, to establish a more erect flowering race are bearing good fruit. Such a race will be infinitely more attractive and useful for outdoor purposes than the large flowering drooping section. True, we shall have, I imagine, to sacrifice size to a great extent, as flowers 5 inches and 6 inches across are hardly likely to be induced to assume and retain an erect position, but then, to slightly alter an idea already more than once broached in these columns, "the general beauty of a bed does not depend on the size of individual flowers." The shading of *Begonias* above mentioned is not only a help to quick establishment and growth, but also in weather like the present highly beneficial to the foliage, which if not thoroughly well hardened, is liable to blister and burn under a scorching sun. Some varieties seem much more susceptible than others to the sun's influence in the early season.

MIXED BEDS.—With the laudable desire to initiate a more free and natural style in the bedding operations, mixed beds are often to be found on rather an extensive scale in lieu of carpet beds; but, although one can appreciate the motive, it is difficult always to praise the execution. Whether it is that mixed beds are often the last to be done, and so get all the odds and ends left from others, I do not know, but certainly the result is often by no means pleasing. No greater mistake can be made than to huddle together indiscriminately zonal *Pelargoniums*, *Fuchsias*, *Marguerites*, *Be-*

gonias, Iresine, Coleus, such annuals as Stocks, Zinnias and Asters and even small shrubs and conifers. Such an assortment may seem impossible for one bed and an exaggerated statement, but it is not the case. I have counted all these different things, and planted, too, very thickly—from 6 inches to 9 inches apart. I suggested the bed would be a regular thicket so soon as the different things were well on the move, and was told they would be thinned out. I doubt very much if any bed could be satisfactorily worked in such a manner; the judicious blending of colours, so important in these beds, would be well-nigh impossible.

The advantage of a deep, fairly holding soil over one that is dry and shallow in a season like the present for herbaceous plants was early apparent, and each succeeding rainless week enforces the advantage. So far as Violas are concerned, for instance, it is impossible on our sandy soil to do justice to the plants or produce flowers in anything like the condition shown by Messrs. Dobbie, from Scotland, at the Temple. I was hoping to note a few special characteristics, both of habit and colour, of sundry new varieties on trial, but must reserve any such notes for another season. There is not likely to be the slightest chance this year of giving an accurate description, and, indeed, the remark is applicable to all new outdoor flowers. No fair estimate can be made of their worth unless they are specially favoured in point of soil and facilities for watering. The best thing just at present in the herbaceous borders (Countess of Paris Carnation—grand this year—excepted) is *Lilium candidum*, and it is a treat to see this old favourite throwing some of its good old-fashioned spikes. I write "old-fashioned" because it is a remembrance of the pre-disease era to find single spikes with a dozen and more good flowers. Very good also just at present are *Erigeron aurantiacus* and *E. speciosus*, the latter in the distance hardly distinguishable from an early Starwort. Both are capital subjects for cutting and stand well in water. To those readers who require large quantities of white flowers, I should like to recommend The Pearl variety of *Achillea ptarmica* fl. pl. For cutting in quantity this is specially valuable, and really beautiful wreaths and crosses can be made with a groundwork of this double white Yarrow, interspersed with Mrs. Sankey Sweet Pea or the white Everlasting Pea (*Lathyrus albus*), an occasional bloom of *Lilium candidum* and spikes of Princess Alice Stock. How acceptable, too, are all these flowers in making up baskets or nosegays for the yearly children's flower service. If the dry weather continue, it will be well to mulch and water any special beds where rapid growth is required. Beds of scented plants, for instance, comprising besides the lemon-scented Verbena and Eucalyptus all the best of the finely cut leaved Pelargoniums, furnish such a lot of cut foliage for the flower basket through the summer months that we are glad to get a profusion of growth as soon as possible. *Aloysia citridora* is very subject to red spider when growth is at a standstill, and an occasional dose of insecticide or a heavy syringing with water, with which a handful of sulphur has been mixed, is highly beneficial.

Claremont.

E. BURRELL.

Lathyrus grandiflorus.—This is really a splendid Pea and of a most enduring character. All the perennial Peas seem able to adapt themselves to a variety of situations, but this species is, I think, the most accommodating of them all. I have met with it under a variety of conditions, and it always was showy and free flowering. Although not so popular as *L. latifolius* and its variety, it deserves to be most extensively grown, and no trailing plant of the early summer months surpasses it in brilliancy. I was especially charmed with it recently growing up the front wall of a cottage beside the road in a country village. It was quite 8 feet high and profuse in bloom from base to summit. Another plant blooming finely at the present time has its roots in nothing better than the garden walk. Amongst shrubs it will

hold its own vigorously. Its flowers are double the size of those of any other perennial Pea and bright in colour. Usually the spikes are two-flowered, but I have had it in a border of good loam with four and five flowers upon a spike. Care should be taken not to introduce it among choice things. For a temporary summer screen, nothing could be finer, and a line of some length would make a truly gorgeous effect. It goes on blooming for some weeks and does not exhaust itself in producing seed; sometimes a few pods swell, but generally none at all. It is easily increased, however, by the roots, which are very numerous, and the smallest piece appears to grow away on its own account if encouraged at the start.—A. H.

ANEMONE SULPHUREA.

This seems to abhor limestone of any description. Imported plants seldom become established under two years (these should be got in the spring). The sum and substance of its culture seem to me to be that autumn and winter transplanting are in most cases the cause



Anemone sulphurea.

of failure. Seed is the best method of raising a stock. It should be sown in November in the open ground in a partially moist, peaty situation, and the seedlings be allowed to remain for two years. Then, when growth commences in the spring, transplant to permanent quarters. It takes about the same time as a Christmas Rose to get from a small plant to a good specimen. Full exposure, ample drainage, and moisture in summer are its requirements.

MAURICE PRICHARD.

Christchurch.

The white Lily (*L. candidum*) is again unsatisfactory this year; at least, we have seen very few thriving masses. At Kew, where Lilies do so well and are planted in a picturesque way, *L. candidum* is far from presentable, and it is not easy to overcome this malady, that afflicts one of the most beautiful plants of early summer. Large groups are planted at Kew amongst shrubs and also in the open, but in both cases the growth is sickly and most disappointing. Perhaps some readers of THE GARDEN have had success with it, and we remember a few years ago seeing a splendid break of the flower in Bath. The gar-

den was near the railway station, and a hot, moderately dry, sloping bank was set apart for this Lily. The bulbs succeeded remarkably well, sending up vigorous stems crowded with splendid flowers. In wet and dry seasons *L. candidum* behaves alike, but its fine aspect in many cottage gardens seems to point to the fact that the bulbs are better in the open fully exposed and not disturbed.

NOTES ON SWEET PEAS.

THE familiar Sweet Pea has been much improved of recent years in the colour of the flowers, and the range of hue extended considerably. These notes are prompted by a collection in full bloom in the Chiswick gardens, and it is of interest, a number of kinds having been received from Mr. Eckford, Mr. Laxton, and Messrs. Barr and Son. We are concerned chiefly with the varieties of Mr. Eckford, who has done much towards getting new shades of colour in the flower, and the many rows, side by side, each variety kept quite distinct, give ample opportunity for comparison.

We notice that the several varieties are very true to name. A few "rogues" occur, but nothing worth speaking of, thinning out these leaving more room for the better development of the desired type. The plants, through the severe drought, are dwarfer than would otherwise be the case, but they are blooming freely. Such a collection is not often seen, as one can tell at once the more effective kinds for colour. The rows of mixed varieties are charming, but brilliance and boldness of colouring are derived from the rows of distinct forms, the carmines, pinks, and other shades showing to advantage. This suggests that in large gardens the Sweet Peas should be kept in some measure distinct, not mixed freely, as is the custom, the bold massing of decided colours being rich and telling. This system need not be carried out to an undue extent, but a line of a brightly-coloured variety, as *Ignea*, would make a decided change and keep in beauty over a long season. One could gather freely from such without destroying its beauty, although flowers for cutting should be grown in a reserve garden, and then those for effect are not interfered with.

There are many lovely things amongst Mr. Eckford's seedlings, and also a few that are certainly no advance nor justify their name. Princess of Wales is a type that we do not care in the least for, the flowers striped with a mauve-purple kind of colour, most objectionable, ineffective, and dead. Such varieties as these should not be grown when there are so many very beautiful forms already. A few kinds also approach closely to one another in colour, too closely to warrant their cultivation together. Princess of Wales and Senator have much in common, and in noting the various varieties we shall allude to those that appear synonymous, or at least practically so. Mauve or purple shades must always be used with extreme caution, and Mr. Eckford will do well not to get too many of this tone or of the striped varieties. Such a variety as Primrose scarcely justifies its name. The flowers are certainly not true primrose, but a cold creamy yellow, distinct, it is true, and the possible forerunner of a good primrose-coloured Sweet Pea. Such

a kind would be of great beauty and of value for cutting as well as in the garden. It is far from our wish to condemn such an acquisition, but it is scarcely good enough to name. We value it as a herald of better things. The varieties in this interesting collection at Chiswick range through many shades of colour. A gem is that named Mrs. Gladstone, the flowers of a pink shade, deeper in the upper than the lower petals. It should be grown freely for cutting, and might be used in many choice arrangements. Apple Blossom is another beautiful flower, large, and very free. Her Majesty has a large flower, and the colour is brilliant carmine-rose. It shows up distinctly, and would be valuable for cutting; Dorothy Tennant, violet-purple, and Countess of Radnor, a charming pale lilac shade, are of note. The colours of Sweet Peas are not very easy to define, the subtle shades of purple, maroon, and crimson melting one into another, but we give as near as possible the tint. It seems that we may in time get a blue Sweet Pea. It has not been raised yet, but several flowers are of this shade of colour; Captain of the Blues and Imperial Blue are too much alike to be grown in the same place, the flowers of the latter being the lighter of the two. The colour is purplish blue and the flowers large. Empress of India is similar to Apple Blossom, but White Queen is a desirable kind, the bloom large and rose-white in colour, a free, pretty variety. Amongst the brightest in the collection is Ignea, the flowers rich crimson, paler in the lower part; it is very effective and distinct. Valuable for its tender colour is Mrs. Sankey, the flowers of which are white just tinted with pink—a good kind to grow in the reserve bed for cutting. Very effective is the variety Boreatton, the flowers of deep colour, a crimson-purple shade, almost black. Such intense tones stand out conspicuously from other types. One of the brightest flowers is Cardinal, scarlet; whilst Splendour, also of a carmine shade; Princess Victoria, rose-carmine; Maroon, deep maroon, intense shade; Jennie Lea, rose; and Delight, white, are noteworthy. Mrs. Eckford is creamy white. We do not care for this colour, it is neither one thing nor the other. The Bride, white, and Isa Eckford, delicate pink, are two good kinds. A fine contrast of colour is got in Monarch, the upper part of the flower crimson, the lower violet-blue.

Mr. Eckford is doing good work amongst the Sweet Peas, but care is necessary not to give names to flowers that are not quite distinct from those already in cultivation, nor to praise the dingy striped kinds. There is a lamentable desire to get striped things now-a-days, and if the colour is a dull heavy maroon or purple, so much the better. But this is not correct; such things spoil an otherwise beautiful series of flowers.

Delphiniums from seed.—A few distinct kinds under name are all very well, but if a good strain of seed is not procurable, it is a good plan to grow a few of the best of the named kinds and save your own seed. The seeds should be sown thinly in the open air, and the year afterwards the seedlings transplanted where they are to flower. I grow hundreds about the pleasure grounds in the shrubbery borders, the towering spikes being now extremely handsome. Under good treatment it is remarkable the height the stems will rise to. On light soils the height of the stems during this season of drought is much dwarfer than usual, but on our heavy soil they are all that can be desired in this respect.—A. YOUNG.

A note on Foxgloves.—The homely Foxglove is not made half sufficient use of in English gardens. There are many beautiful varieties with

large flowers, finely spotted, and those pure white, with intense crimson, purple, or other coloured spots, are remarkably handsome. The name *Gloxinkedora* given to some strains is in allusion to the *Gloxinia*-like character of the flowers, their bold shape and charming series of colours, the spotted kinds being especially worthy of note. This paragraph was suggested by a large break of varied coloured kinds amongst shrubs, a perfect forest of spikes rising from the undergrowth, so to say, and presenting a splendid effect either close to or in the distance. Many positions in the shrubbery, border, and woodland might be brightened with this tall and graceful flower. It looks well on the higher tiers of the rockery, especially if the surroundings are of shrubs, the dark leafage of these throwing into bold relief the colours of the Foxglove. Few things are more easily grown, and it is not difficult to get a thoroughly varied and attractive type of plant. Those with pure white flowers relieved with deep coloured spots are the more appropriate.

Anthemine tinctoria.—A perennial hardy and free enough to grow anywhere and with flowers like the yellow Marguerite Daisy should be a valuable thing in every garden, and a boon to gardeners that have to provide large quantities of flowers for cutting. Such is the above plant, and the reason for its comparative scarcity, I do not know. It remains in beauty for many weeks, and one may go to it again and again to cut flowers by the armful and still leave abundance to make the garden gay. It is very hardy even on a cold clay soil, has a tufted habit, and bears several flowers on a stem varying from 1½ feet to 2 feet in height.

Nemesia strumosa.—I was not much struck with the appearance of the above new annual at the recent Temple show. As exhibited, in pots, it shows none of the continuous blooming character that was promised. Possibly this character might show itself in plants grown in the open ground and in rich soil; but, judging from the habit of the plant as shown, I should rather depend on successional sowings for successional bloom than trust to its production from one set of plants. Again, there was but little promise of the range of colour in the blooms that one had been led to expect. The limited number of plants exhibited may be answerable for this, though there were several plants in which shades of orange prevailed. Altogether, I thought the exhibit disappointing, though this is not an unusual experience with new plants, when seen for the first time, after much has been read of their wonderful merits. It seems a pity that a greater range of colour was not shown at such a show.—J. C. TALLACK.

Heuchera sanguinea.—Will someone who has succeeded in flowering *Heuchera sanguinea* kindly inform me of his treatment of this pretty plant? I have tried every means of inducing it to bloom, but without success. I have it on rock-work, in the garden beds, in pots, small and large, but all to no purpose. It certainly must require some particular treatment or some special soil to induce it to flower. I recollect seeing it at Kew in the small greenhouse, some three or four years ago, flowering beautifully in rather small pots, and thought it a lovely plant.—W. R. B.

"Margaret" Carnations.—Would it not be wise to fix the name by which this useful class of Carnations shall be known? Up to now there seems to be some doubt about the matter, for we find them written of as Margarets, Margarita, Marguerites, as well as with other variations. When the Messrs. Veitch first introduced seed of this valuable strain, they gave it the name as written at the heading of this, and, personally, I think it the best because it is the simplest of all that have been given and there is no danger, in speaking of them by this name alone, of confounding them with the plants so long known as Marguerites. Though only of recent introduction, these fringed Carnations have long been grown in France, where they are valued very much for their free-flowering properties. Unless they are wanted absolutely true

to colour, they are best raised from seed, as their free-flowering character is all against their welfare when struck from cuttings, for only in rare cases do they make anything but flowering growth when grown from cuttings. This spring I had 500 cuttings sent from Monte Carlo in five different colours or shades, viz., white, yellow, red, pink and deep pink. All but the last struck very freely and have been planted out for some weeks, but most of them make but little grass, nearly all the growth made being flowering stems, and no amount of pinching will induce them to make any other kind of growth. I hear that this class of Carnations is grown very largely in the neighbourhood of Monte Carlo, and they succeed well as early spring-flowering plants under the sunnier skies and more genial climate met with there. Judging from their habit, it seems probable that they are grown from seed saved from flowers of selected colours, and that they come fairly true. Here it is impossible to grow them for spring flowering, except under glass, so that it is more than ever necessary to be careful in saving seed which will produce a large percentage of double flowers.—J. C. TALLACK.

Garden Pinks.—Most beautiful as well as sweetly perfumed was a big handful of the new Pink Ernest Ladham, which I brought away with me from Shirley the other day. I found it growing there in great abundance and blooming profusely. It has large solid blooms, white shaded rose, with dark maroon blotch in the centre, and seems to be one of the most beautiful of garden varieties. It is now possible, with the old white, Mrs. Sinkins, Her Majesty, Mrs. Welch, the old Paddington red, Anne Boleyn, Ernest Ladham, Lettie Dean, and other good forms, to have in gardens a really good collection, and to these hardy sorts may be added some of the best of the laced varieties, although just two or three of these suffice for ordinary culture. Now is the time to propagate Pinks by cuttings, and once a good stock is obtained, all other culture is easy enough.—A. D.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

BROCCOLI.—The planting of Broccoli should now take place as the seedlings become ready. It is often advised that Broccoli should be planted on undug ground, but all soils are not adapted for this plan of planting. When the ground is rich, planting on undug soil may be practised, as the growth made will then be sturdy, and so able to withstand severe frosts. On the other hand, when the growth of the Brassica is not generally satisfactory, then the plot should be dug and manured if necessary. What must be avoided is planting on loose and over-manured soils. Where possible give Broccoli a well-exposed plot, setting out the plants 30 inches apart each way. If club is troublesome, do not neglect to dip the roots in a puddle formed of soil, soot and lime, also freely dusting the surface over with lime.

SELF-PROTECTING BROCCOLI.—This being one of the most useful of autumn and early winter choice vegetables, a large breadth of it should be planted. If the weather keeps good, heads may be cut from the open until far on in November, but if weather of an inclement nature should set in, then the whole of the plants may be lifted and bedded in in cold pits or any other available place, even to a sheltered border if protection could be afforded afterwards. My practice is to plant out after second early Peas, all that is necessary being to clear off all rubbish, levelling and chopping over the surface with a heavy hoe.

LEeks.—Where this useful winter vegetable is in demand and the plants are strong enough, planting should now take place. The soil for Leeks must be both deep and rich, for, as the roots will be inserted deeply, manure just applied to the surface is useless. If a quantity is grown and the soil is in good heart the plants must be set

out in rows 15 inches apart and 9 inches in the rows. As the plants become established liquid manure may be freely applied. Planting in trenches should be adopted where the soil is poor and there is but little depth. In this case take out the trenches a foot or 15 inches in depth and the same in width. In these place some good manure, filling up with the best of the surface soil. Insert the plants deeply, and as they become established and are growing freely they may be further encouraged by the application of liquid manure. That made from cow manure and soot is the best. Being planted in the trenches, the soil should be levelled down as the Leeks become strong enough.

LATE PEAS.—Whatever effect the present weather may have upon the growth of Peas, as late a supply as possible should be provided for by sowing at the present time one or more varieties, such as Ne Plus Ultra, Sturdy, or any other approved variety; even the dwarf earlies, such as William Hurst, Chelsea Gem, or English Wonder, will answer. Being dwarf growers, these are easily protected from birds and early frosts. The soil must be both well worked and fertile, and if this should not be the case, then fork in a good dressing of manure and burned refuse. The rows for these should be drawn about 2 feet apart, and if dry at the time, the drills must be well soaked with water, this ensuring a quicker, and consequently stronger germination. For the taller growers the rows must be more isolated and also well exposed or mildew will attack them. Trenches should also be prepared, especially on light soils, as if the weather should prove dry, a soaking of water occasionally will be needed after the Peas have started well into growth. A. YOUNG.

FRUIT HOUSES.

RIPE AND RIPENING GRAPES.—In many instances colouring has been very rapid, too much so, in fact, for it to be perfect, but the Grapes were not so ripe as they appeared to be, another fortnight or longer exposure to a good circulation of warm dry air being needed to bring out a full rich flavour. Unless extra well coloured, Black Hamburgh bunches are liable to lose much of the blackness there may be about them, and if the foliage is thin, it is advisable to either shade the roof or cover some of the best bunches with squares of kitchen paper. A good covering of healthy old leaves is the best aid to colouring and a preservative of colour afterwards. Nor ought white Grapes to be unduly exposed to the full light and sunshine, or disfigurement is very likely to take place. Fire-heat is still needed in the case of Muscats, a circulation of warm dry air being needed both to swell the berries to their full size and to ripen them properly. The berries of Madresfield Court, and in a lesser degree Foster's Seedling, are liable to crack badly in dull wet weather, and nothing but plenty of air will quite prevent this. From the time colouring has well commenced till the bunches are cut the house ought never to be quite closed. If it is necessary to draw up top sashes when it rains, these ought not to be wholly closed, wooden caps being fixed over the openings at a distance of 10 inches from the coping, these keeping out the rain and not wholly hindering an escape of warm air, the requisite amount of fresh air being admitted through the front lights. If air can be admitted at the ends, a few squares of glass being taken out and half-inch mesh galvanised wire substituted, this will be found a very effectual preventive of cracking to some distance across the house. There should be no withholding of water at the roots, as that is no preventive of cracking, and may even be the indirect means of causing it directly water is applied. In dull showery weather fire-heat should be kept constantly turned on, this being needed to assist in the maintenance of a good circulation of dry air.

LATE GRAPES.—Lady Downe's is now sufficiently forward in most vineries to be liable to scald badly, and in some instances bunches have already been disfigured from this cause. Early and careful ventilation is the best preventive, a sudden

rise in the temperature while yet the berries are very cold and the air not changed being the primary cause of scalding. Keep the hot-water pipes just warm, very slightly open the top-lights late in the evening, and give air freely before the sunshine is very strong. None of the bunches ought to be exposed to direct sunshine, but all ought to be lightly shaded by their own first formed leaves. Sub-laterals should be early pinched back to the first leaf, allowing them to grow strongly and then cutting them back wholesale being sometimes attended by loss of berries by scalding, and is a faulty practice in any case. Gros Maroc is also liable to scalding, and occasionally a few berries of Muscat of Alexandria are lost from similar causes. The sun striking direct on bunches in the morning at the east end of a house, and again on those at the west end of a house in the afternoon, is liable to cause scalding, and nothing short of thinly shading the glass with lime water or whiting will prevent it. Now that the berries have attained a good size, it will perhaps be better realised in some cases that the crops are heavier than the Vines are capable of properly supporting, and it is not yet too late to reduce the number to reasonable limits. It should also be borne in mind that very solid bunches of late Grapes are by far the most difficult to keep, those most freely thinned usually hanging much the longest. Before it is too late, the bunches should be again gone over, and a few more berries be very carefully taken out wherever they promise to eventually press tightly against each other. The smallest, or those with the fewest stones ought to be cut out first as much as possible, and if the bunches of Lady Downe's, Alicante and Gros Colman do present a somewhat loose appearance when fully ripe, this will very probably be an advantage in the end.

PEACHES AND NECTARINES.—When the fruit is cleared from the trees in the earliest house they must still be well attended to, or next season may see a partial failure. After syringing ceases, this being when the fruit is on the point of ripening, the borders, previously constantly being moistened and, it may be, trampled on frequently, commence drying, cracking very probably following in due course. Lightly loosening the surface with a fork and mulching with strawy manure is a good preventive of this, and if not carried out prior to the crops being gathered should be done immediately after, the mulching in this case following upon a thorough good soaking of water, or, better still, liquid manure. Newly-moved trees will continue growing after the crops are gathered, and this growth should be fostered by means of morning and evening overhead syringing. Older trees should have much of the wood that has just produced fruit cut out, and if there is any red spider on them, instead of daily syringing the trees and thereby keep them growing later than desirable, the better plan is to thoroughly coat both surfaces of the leaves with flower of sulphur. Squeeze a double handful through a canvas bag into a three-gallon can of water, and well syringe the trees with this mixture. If the first application does not suffice, repeat the dose. The house should be set widely open and the borders never become very dry. See that the borders supporting the successive trees are in a thoroughly moist state when the fruit commences ripening, allowing them to become dry and then applying water having the effect of forcing many fruits from the trees, and none are so large as they would otherwise have been. Every morning all fruits that are ripe enough to gather without actually dragging them from the trees ought to be collected and stored in a cool, dry room ready for packing or home consumption, the quality and keeping properties being improved by this timely attention. Let ripening fruit have plenty of air.

RETARDING PEACHES AND NECTARINES.—There is every likelihood of Peaches and Nectarines being somewhat scarce in the autumn. Instead of the open-air crops being late or affording a succession to any grown under glass, these promise to be a month or so earlier than usual. The heat reflected from or radiated by the walls is largely re-

sponsible for this, progress in the open being more rapid than in unheated houses, and if the latter are kept cool the latest supplies may be had from these. Ventilate freely in the daytime, close about 4 p.m., at the same time giving the trees a thorough syringing, partially re-opening the top ventilators in the evening. In some instances it would be a good plan to lightly shade the roof, especially over trees on which the crops are ripening faster than desirable. Deferring tying down or laying in the young wood also has the effect of keeping the walls and the fruit on front trellises cooler than they would be if more exposed to sunshine. Allowing the borders to become dry is a mistake at any time, and never more so than when those in charge are desirous of retarding ripening.

PRACTICAL.

ORCHIDS.

THE most beautiful Orchids now in flower in the Cattleya house are the varieties of *C. Warscewiczii*, or, as it is better known in cultivation, *C. gigas*. Sander's variety is much superior to *C. gigas* in richness of colour, and yet another quite distinct form was exhibited at the Drill Hall, Westminster, recently under the name of *Sandere*. It is said that this *Cattleya* grows chiefly upon trees, in the full sun sometimes, and that plants grown in the shade produce long, drawn pseudo-bulbs, which do not flower. This is just what might be expected, and bears out what I wrote about the growths of *Cattleyas* last week. It is certain that if we are to have free-blooming plants of *C. gigas*, *C. Sandariana*, *C. imperialis*, &c., the plants must be kept well up to the roof-glass and in a position where the light can get at them. I have in previous numbers alluded to the treatment required for these and hybrid varieties of them and *C. Dowiana*. One thing noticeable this year is the very early flowering of the *C. gigas* type and also *C. Gaskelliana*. The season is something like three weeks earlier, and the cultural directions must also be pushed forward. Instead of being in the first week of July, we are really in the third week of that month, and must go to work as if we were. All the *C. gigas* types of *Cattleya* may be repotted as they pass out of bloom, for roots are freely produced soon after that time from the base of the last formed pseudo-bulbs. Amateurs have an idea that to get such shy-flowering Orchids to bloom well, they must be starved into it. This is a grave error and utterly opposed to the physiology of plant life. Let the plants have the best fibrous peat and Sphagnum, intermixed with clean potsherds, to grow into. Encourage growth by a fair allowance of water and moisture in the atmosphere and give the plants plenty of light and warmth. When growth is complete the ripening period begins. Then is the time to keep the plants dry at the roots. Very dry they must be to prevent growth, but the roots must not be allowed to perish from over-dryness. I do not like to see the pseudo-bulbs shrivel much, but if the roots are kept in a healthy state, the bulbs will soon plump up again when the time comes to water freely.

During the next three months the houses will not be so well furnished with Orchid blooms as they have been, but many interesting and beautiful things will be found in all good collections. *Disa grandiflora* will be conspicuous in collections where it is well grown. It may be classed as a greenhouse Orchid really, but the main point in its culture is the condition of the atmosphere. This ought to be very moist, and the plants must be placed where they get sufficient air without being in a draught. They will sometimes succeed admirably in the coolest and best ventilated part of the *Odontoglossum* house. The garden variety *Disa Veitchii*, raised in the nursery of Messrs. Veitch and Son, by crossing *D. grandiflora* with *D. racemosa* is also very handsome and quite free in growth. Messrs. Backhouse, of York, have obtained the same cross. *Mormodes luxatum eburneum* and the spotted variety *punctatum* should now be in bloom, and they finish up their growth at this season of the year; but until the

flowering period is over and growth completed, they will require a good supply of water. *M. pardinum* is a distinct and curious species requiring the same treatment. There is a variety grown under the name of unicolor. These plants require careful treatment when growing, for if water lodges in the centre of the growths the plants may be killed. The leaves will decay as the plants pass into the resting period, and at that time no more water than will prevent the bulbs shrivelling must be given. Some of the *Zygopetalums* will soon be showing their flower-spikes, their distinct growth and colours forming an interesting feature. *Z. maxillare* is a distinct and handsome species; it has frequently been imported since Gardner found it on the Organ Mountains in 1837, and always, as it was found by Gardner, growing on the stems of Tree Ferns. I observed a large batch of it in the nursery of Messrs. Sander at St. Albans some time ago, and in each case the growth of the Orchid had been equal to that of the Tree Fern. The plants are best grown on the stems, whether the Fern is alive or dead. There are now very beautiful garden hybrids of these *Zygopetalums*, the best known being *Z. Sedeni* and *Z. Clayi*, much resembling each other. They succeed in the usual peat and *Sphagnum* compost. *Z. rostratum*, which also flowers at this season, requires a rather higher temperature when making its growth.

Owing to the very high temperature, we have dispensed with artificial heat, but not for long do the very hot nights as well as days continue, and at any time there may be a change. The value of ample storage for rain water has been exemplified in our case, for we have enough in the underground tanks to last a week or two longer. Well water, of course, has been used all through for damping down. We grow a crop of early Melons in the house where most of the *Dendrobiums* make their growth; the plants have all been cleared out, and the Orchids which have taken their place are grown in a high temperature. When the house is shut up at night, or rather in the afternoon, the temperature on sunny days rises from 95° to 100°, but with this high temperature there is also excessive moisture in the atmosphere, caused sometimes by syringing the plants well and always by damping down the paths, stages, &c. The plants form roots with amazing rapidity in this heated and moist condition of the atmosphere.

J. DOUGLAS.

PLANT HOUSES.

GREENHOUSE PLANTS.—When *Ericas* of the hard-wooded kinds and other plants from the Cape and New Holland have done flowering, the mistake is frequently made of allowing them to remain housed too long. In this way the growth that usually follows quickly upon the full development of the blossom is considerably drawn, and becomes attenuated and weakly. If this course be adopted for two or three seasons, the plants will in a measure lose their compact habit. Immediately the flowers are faded, all should be picked off carefully, and the plants being thus relieved, there will be nothing left for them to perform but the perfecting of the young growth. When any are bearing an extra crop of flowers, the first to fade should be picked off in advance of the general clearance. Take for instance an *E. Cavendishi* or *E. tricolor*. By the removal of the earlier blossoms as soon as faded, there is no detracting from the good appearance of the plant. Another mistake is that of permitting any shading over such plants after the flowers are past their best. It is done at times when from special reasons a plant is required to be kept in as fresh a flowering condition as possible for a few weeks longer, but such treatment ultimately weakens the growth if persisted in. Again, houses that are shaded to any extent by climbing plants are not suited for this class of subjects; nor are those structures that are badly ventilated. No houses have surpassed the old-fashioned ones with plenty of side ventilation for these hard-wooded plants; houses, it is true, that were constructed with a lot of wood

and small panes of glass, no shading, however, being thought of or ever deemed necessary. Overcrowding amongst soft-wooded plants should also be avoided, or the same results as to weakly growth will follow. If hard-wooded plants are used in the conservatory, see that they are not packed together, as is now the fashion, to an inordinate extent. Against their use I have nothing to say, provided they have sufficient room given them with the maximum possible of light and air. If the foregoing conditions and suggestions be attended to, these plants will do useful service where now they are considered as unfit for the purpose.

As soon as the flowers are picked off, a few syringings freely given will put a stop to any possibility of insect pests, as red spider, which often attacks *Pimeleas*, *Boronia*s, *Hedera*s, and plants of similar character. With a few days of such treatment and not quite so much ventilation, the young growth will be encouraged to start off more vigorously. Then, after a short interval, the plants can be stood outside in favourable positions where they can receive a good proportion of sunshine. A deal depends, of course, upon the locality and surroundings. In some cases a slight artificial protection will be needed, as where fully exposed to winds, whilst in others sufficient is afforded by the natural surroundings. The plants where possible should be stood upon beds of coal ashes, or in any case have bricks placed under the pots to prevent worms from entering them to cause future trouble. Repotting in any needful case can be attended to by the middle of the month. Time must be allowed for doing this properly, whilst the best soil obtainable should in every instance be chosen. This will consist of the best peat, not soft and spongy, but full of fibre, with silver sand and some nutty charcoal; a little fibrous loam should be at hand for such as *Pimeleas* and a few other plants, which do all the better with a small proportion. The potting should not in any case be excessive, nothing beyond 2 inches additional diameter being required, whilst often less will suffice. Firm potting is of the utmost importance. Freshly potted plants may require to be kept indoors somewhat longer, more especially should there be a change in the weather. Complaints as to the state of the weather have been frequent enough of late, but growers of hard-wooded plants have had no reason to complain.

AZALEAS (Indian) will require looking after closely to see that thrips do not make any headway. Both large and small plants are liable to attacks. The plants may now be out of doors in all probability in favourable localities, and have brought a few of this insect with them. It will increase rapidly if not checked, and for this purpose a strong solution of soft soap and tobacco juice is still one of the best remedies, the mixture being made to do duty over and over again, when it is caught in a flat receptacle. In such seasons as the present the red spider must also be looked upon with suspicion, for when hardy plants out of doors are badly troubled with this pest, it will be no small wonder if the Azaleas escape. Sulphur water will be found the best remedy, combined with frequent syringings of clear water. Only those plants that flowered late, or others not in the best of health, will now need to be kept in a moist growing atmosphere, and the sooner this can be dispensed with the better. I have more than once noted that when the plants have been kept under these conditions too long they have not set their flower-buds freely, but have formed duplex crowns of wood-buds instead. As in the case of the plants previously alluded to, the potting in any necessary instance should have early attention, good peat being the best soil to use, more especially when dealing with those of only moderate vigour. Extra vigorous kinds, as *Fletcher's White* and some others, will do with a little loam added to the peat, this being conducive to a more floriferous growth on the whole. In some instances a top-dressing of peat will prove beneficial; for instance, where the surface soil has been a bit washed or is sour looking, there will be room for a surfacing with advantage. In doing this the after-watering for a time

must be performed with a rose on the can or it will be labour wasted; allowance must at the same time be duly considered to see that the plants do not suffer, as the surface may not be dry when the lower portion of the ball is in this state.

JAS. HUDSON.

MARKET GARDEN NOTES.

TOMATOES.—The long spell of hot, dry weather, so unfavourable for many things, has been all in favour of Tomatoes. The early crop came in much more quickly than is generally the case, and the plants are ripening a great weight of finely-coloured fruit. Large quantities of Tomatoes are grown in houses previously filled with Strawberries, which in a general way ripen off by the end of May and beginning of June. The great heat has this year ripened the fruit quite a month earlier than usual, so that the London market will be very abundantly supplied with Tomatoes in the early summer months. Plants are specially prepared for this purpose, so that even before the last Strawberries are gathered the Tomatoes are beginning to get hold of the ground. In this way the houses soon begin again to furnish produce for market. Tomato growers are this year likely to take a heavy weight of fruit from their plants, but much will, of course, depend on the weather later on. Extremes, it is said, meet, and we are likely to see this adage verified as regards the weather after the turn of the days. It is most unlikely that we shall continue to get this fine weather through the summer. July and August may be just as unfavourable for Tomatoes as the last three months have been beneficial to them.

CHRYSANTHEMUMS.—Comparatively few Chrysanthemums are grown in pots for cut bloom. The plants are put out from 1 foot to 18 inches apart in beds some 6 feet wide. The great trouble with them is during the first month after planting. Planting in most market gardens is almost or quite completed, and all that is wanted is a steady light rain to thoroughly moisten the ground and make it firm round the roots. One good natural moistening will put the plants in good heart, and then, if the hoe is run in among them, they will go ahead and will do with an occasional soaking. As things now are, it is impossible to discontinue watering for more than a day or two at the most. The plants having no great body of roots, the lower leaves would turn yellow and probably be attacked with red spider if watering is not continued until a change of weather takes place. A mulch of short manure would be of great help, but this cannot always be commanded in sufficient quantity.

PEAS.—There is a general belief among growers here that there will this year be a serious break in the supply. The earliest crop came in fairly well, as they got the benefit of the heavy rainfall in February quite up to podding time. No trace of this remains, and the main-crop sowings have to do their work with the ground in a dust-dry condition. On some of our light Surrey lands, which are in an ordinary year good for all but late Pea crops, the failure is so decided that acres of them have been turned in. At the present time the London markets are very well supplied, but when the early sown crops are done, and with this forcing temperature they cannot last long, the effects of the dry weather will be felt. Peas like abundant moisture, and will not fill well if they do not get two or three good copious falls of rain on them after they come into bloom.

The long period of dry weather and brilliant sunshine has produced a state of affairs in market gardens of a most unpleasant nature. The labour of watering has been enormous. One London market gardener has been paying £10 extra weekly for the last two months for labour rendered necessary by the hot weather. The temperature in plant and fruit houses was as high in April as is the case in an ordinary summer in July and August. Sometimes extra labour pays, but the forcing nature of the season brought fruits and flowers in with a rush, and so filled the markets as

to reduce prices to a phenomenally low point. One man told me that for bunches of flowers such as Pelargoniums and Roses, the ordinary market value of which range from 1s. 6d. to 3s., he had been obliged to sell for threepence. Pot plants have had to be cleared out at prices that could not bring back the expenses incurred in their culture, and thousands of them have not been worth taking to market. Roses seem to have come in all together, especially Maréchal Niel, which never has a long season. One man had to cut a large houseful which would in ordinary years have lasted some six weeks in about ten days. Rushed into market in this way the blooms naturally were sold for next to nothing.

It was simply impossible to keep things back. Fires were drawn out in April and houses shaded, and still the inside temperature almost daily ran up to 100°. It has been a short, but the reverse of a merry season for many who rely on the spring months to yield the major part of their income. It has been the same with fruit; the weather was favourable for bringing on early crops, but 2s. 6d. per pound for Grapes and 3s. per pound for Strawberries were good prices in May. The hardy flower trade has suffered seriously. A cool spring is much better for growers of such things as Pansies, Daisies, Carnations, &c., as it gives a rather longer period for disposing of the plants. Owners of small gardens, who many of them cannot give much time to their plants, were afraid to purchase on account of the semi-tropical heat and dust-dry condition of the ground. They waited for a change which, in the south of England at least, has never come. Many have quite a third of their stock left on hand, which in most instances will be of no further use. Desperate attempts to clear by lowering prices have been made, and probably never has the hawk's barrow been filled at such low rates as during the past month. The general depression in trade has, of course, made matters worse than would otherwise have been the case.

J. C. B.

STOVE AND GREENHOUSE.

PARIS DAISIES.

It is wonderful the amount of fine blooms that a few plants of these will furnish during the earlier months of the year. Cuttings put in in early summer will be well established in 6-inch pots by the end of the autumn, and these will yield flowers from March onwards. The more root-bound the plants are the better quality will the blooms have, as they can be frequently fed with liquid manure. Where large conservatories have to be furnished, specimens in 8-inch pots will be found very useful. Plants a yard or more across with several hundred expanded blooms are imposing, and the more they are cut from the more blooms come. It is this wonderfully free and perpetual flowering character that renders the Paris Daisies so valuable. Provided they are well nourished, one may cut from the same plants from March till November. In France they are sometimes grown in standard fashion, with clean stems 4 feet and more in length. There was, and may be now, a florist in Normandy who made a speciality of these standard Marguerites. It was curious to see a considerable space of ground covered with them during the summer months. Some of the plants were veterans that had done nearly ten years' service in supplying cut blooms. They were miniature trees, and were preferred for cutting from to young plants, as the roots being so cramped they did not make much wood, and with judicious feeding the blooms produced were of high quality and in the greatest profusion. I do not know if the French growers are troubled with the leaf-mining grub that torments the plants in this country. I

never saw any trace of it and never heard it complained of. This pest has become so difficult to deal with, that the value of Paris Daisies has been thereby seriously impaired. Plants that one might otherwise depend on to yield abundance of good bloom all through the spring and early summer months suddenly become quite useless when attacked. Syringing with paraffin would probably act as a deterrent, but as new leaves are constantly forming it would have to be used every week. The constant use of soot water from the time the plants begin to grow will, I am told, act as a preventive, but I cannot speak from experience as to its efficacy. The leaf-miner is such a scourge with me that I have had great difficulty in getting even a few plants into good condition for spring blooming. Although in the autumn they looked perfectly healthy, by the time the bright spring days came they were of little value, the whole of the foliage being ruined with this pest.

The worst of it is that, unlike many insect pests, the Daisy fly continues to breed all through the summer and autumn, the intensity of its attacks ranging according to the nature of the weather. If September is sunny, eggs are deposited which appear to remain dormant all through the duller months, but are called into existence by the first warm days in February or March. If this is not the case, I cannot account for the way in which some large plants failed. They were as green and as healthy as one could desire up to March, and then to my surprise I found that all the older leaves were full of grubs. By the end of April they were quite ruined. It is evident that the eggs could not have been deposited in the winter, but the autumn previous had been very warm. The fly will, I believe, never work except in bright sunshine. I accidentally found that plants in shade were rarely if ever attacked, whilst others near by in the full sun were ruined. This gave me an idea that if the grubs could not be destroyed, the attack of the fly might be to a great extent avoided by keeping the plants in a rather shady place through the summer and early autumn. The best way I found was to cut down one-year-old plants in June, and when they came well into growth to stand them on a north border. This answered so far that they kept free from the grub till the following June. Young plants are not so well suited to this way of treating them, running overmuch to leaf, older ones, having a basis of hard wood and kept rather root-bound, remaining more compact and sturdy.

J. C. B.

Clorodendron foetidum.—Bright lilac scarcely conveys a correct idea of the colour of this. There is a pot plant now blooming in the conservatory here; reddish lilac would be better if such a term is admissible. So far from the flowers being foetid, they are really fragrant, but the foliage when touched gives out a rather rank odour. I notice on the border where the pot stood last year that some small roots found their way into the soil; from these young plants are springing up. This seems a ready way of propagating it.—J. M., *Charmouth, Dorset.*

Ivy-leaved Pelargoniums.—A very interesting collection of Ivy-leaved Pelargoniums is in bloom in the Chiswick Gardens, and we picked out a few of the brightest and most pleasing kinds, as, like collections of any other flower, only a few are worth growing. One of the best is Souvenir de Charles Turner, which has a large full flower of a brilliant carmine-rose colour, with maroon on the upper petals. Very pleasing is Galilee, the flowers double, intense and shining rose in colour, with a silvery reverse to the petals, quite one of the finest in the collection. A pure carmine colour is General Gordon, a showy variety with bold trusses; whilst a note may be made of

Diamant, a variety of bushy habit, the flowers of a charming lilac tone, the upper petals crimson at the base. Several plants are grown of that fine kind Rycroft Surprise, which has been already noted in THE GARDEN. Louis Thibaut is worthy of note. The flowers are bright crimson, double, and several appear in the truss. A good variety for its freedom and colour. Gloire d'Orleans is very distinct. The plant is free and dwarf, whilst the flowers, borne in neat trusses, are rich rose-magenta in colour. All these are double, and we may add to the list Flambeau, the flowers of large size, brilliant scarlet and freely produced; Mme. Thuvénir, rose-carmine; Gloire de Nancy, a well-known variety; Francisque Sarcy, white; Hoffgarter Exheler, scarlet, large; Mme. Cochin, flowers small, white, tinted with rose and very pleasing; Camille Flammarion, brilliant rose; Berthelot, rich magenta; Le Printemps, rose; Jeanne d'Arc, white, touched with pale lavender; and Beauty of Castle Hill, the flowers very large and of a rosy colour. These would form a good collection, all being of vigorous growth and the flowers of decided colour.

BOOKS.

BRITISH FOREST TREES.*

THE author of this book states in his preface that it "is specially intended for the use of land-owners and of those already engaged in practical forestry." His qualifications for the task of writing a book on "British Forest Trees" are original, not to say dubious. His book, he says, has "no pretension of being a work of original research or observation based on long experience in the treatment of forests in Britain," and "only professes to be, to a considerable extent, a compilation from the best German sources;" but the author vouches "for the correctness of the scientific principles enunciated from his personal observations made here, and also during fifteen years' active service in the teak forests of tropical Burmah." Most people would think that this was not the best of schooling for compiling a book on British forestry, but that does not appear to have occurred to Dr. Nisbet, and he has produced a book in which several German authorities are acknowledged in the lump "as having been chiefly utilised in the compilation" (p. viii. preface), besides "numerous other works" which have been acknowledged in a foot-note "wherever it has seemed desirable to quote the authority for any assertion." Beyond this it is exceedingly difficult to tell what is Dr. Nisbet's and what is from German sources, but we would hazard a guess, in justice to the latter, that a good deal of the book is the doctor's and the style exclusively his own.

British forest trees are divided into principal species and minor species for pure and mixed forests respectively. The first class includes eight coniferous and broad-leaved species, and the second class twenty-one species. Why the divisions are made is not apparent. The Austrian and Corsican Pines are classed among the minor species as synonymous, which is a blunder from the British planter's view. The Ash, Sycamore, Douglas Fir, and Elm are set down in the minor class, and the Birch, Alder, and common Spruce among the principal species.

The arrangement of the contents is orderly in its way. Each species is treated under the heads of "Coppice," "Distribution," "Ex-

* "British Forest Trees and their Sylvicultural Characteristics and Treatment." By John Nisbet, of the Indian Forest Service. London: Macmillan and Co.

ternal Dangers," "Fungoid Diseases," "Insect Enemies," "Maturity and Reproductive Capacity," "Requirements as to Light, Soil, and Situation," "Sylvicultural Treatment," "Tree Form and Root System," "Wood Formation," &c., and on any of these points the book will be a handy reference guide if it be a safe one. One wonders at such a book appearing now, because it has been more than anticipated by Schlich's "Manual" just out before it, but that is a consideration for the authors and publishers. As in Schlich, British authors on forestry are rather cold-shouldered, a thing not to be wondered at in anyone who aspires to write a book that is not a jumble of sense and prejudice. Mixed forest is advocated, as it appears to me, on slender grounds, in preference to "pure forest," and Sir Herbert Maxwell's advocacy of the latter is prominently cited as "entirely wrong," and as showing the "urgent need for some properly qualified instruction in forest science;" but I doubt if Dr. Nisbet's service in tropical Burma has made him a match for Sir Herbert on his native heath, and with whom most foresters agree, for the pure forest is much the easiest to manage, the most profitable, and the profits of pure forest planting can be much more certainly estimated. Dr. Nisbet's advocacy of close canopy overhead in woods, as of much importance in the production of timber, will commend itself to foresters, but close canopy is not consistent with the mixed planting which he recommends, for close canopy is difficult to maintain in a mixed wood. Of course trees of similar habit and rate of growth may be mixed without danger.

There is a great deal of useful and instructive reading that foresters will not find in any English book on forestry at the same or even a much higher price, but on many questions affecting forestry practice and the habits of British trees grown for timber, the author is not correct. Take the Ash for example (p. 248). "Its chief sylvicultural importance," we are told, "lies in the production of the larger assortments of timber for cabinet-making and the like," whereas there is no tree that is so easily disposed of in assortments of all sizes down to 2 inches quarter girth, and it is not cabinet makers who are Ash consumers, but agricultural implement makers and manufacturers of a great variety of common and useful household and workshop utensils. Agriculturally, Ash is "a very useful" tree in fields, we are told; whereas, wherever its voracious, wide-spreading surface roots trip up the plough or rob the soil of the nourishment provided for crops, it is simply detested. It appears also that the Ash "is deservedly prized" for the formation of avenues, which will be news to landscape gardeners. Under the head of "Sylvicultural Treatment of Maple and Sycamore" (p. 257) we also get something new. These trees, it is stated,

are not naturally intended to be grown in *pure forests*, or even to be allowed to grow up in *clumps or groups*, as they are distinctly light-loving after they have passed through the pole-forest stage of growth; hence they soon exhibit a *tendency towards branching and sparse crown*, and with their *scanty broken canopy and light annual fall of foliage*, prove unable to protect the soil against ultimate deterioration.

The words I have italicised should just be read in the opposite sense. By itself, or crowded with other trees of similar habit, the Sycamore makes a magnificent trunk—tall, straight and sound, and I have valued many such. It is not in the least disposed to be branching under such conditions, nor sparse crowned with scanty broken canopy, and the annual fall of foliage is one of the heaviest in the wood—smothering

bottom vegetation and forming a thick layer of humus upon the ground, in which the surface roots revel. Among broad-leaved trees we are also told that "no species equals the Beech in density of foliage;" whereas the Beech is a feather-weight compared to the Sycamore, Horse Chestnut and Spanish Chestnut in mass and weight of foliage. Statements like these, betraying lack of familiarity with British trees, shake one's confidence in the author's observations generally. Distinguishing the different species in respect of their "requirements as to light," as Dr. Nisbet does, is, I think, needless and fanciful. All British forest trees love light—the more of it the better, and the few species in his comparatively short list that endure shade better than others might have been enumerated in a much more concise and practical manner.

J. S. W.

The Illustrated Archæologist.*—This is a very nicely printed and a very promising publication. The processes with which the part is illustrated, and which for landscape work are generally so bad and shocking, will be found, when applied to illustrate level surfaces like stones and tables, as in the present instance, much more satisfactory.

NOTES OF THE WEEK.

White Pink Snowflake.—This is very much superior to all others. The habit is good. It is, as you will see, very free-flowering and pure in colour, and we are safe in saying that not five in a hundred blooms show the slightest inclination to burst. —DOBIE AND CO., *Rothsay*.

Annua' flowers will be poor this year, judging from their aspect in gardens. The long drought has proved too much for them and the flowers are small. It is interesting to note the influence of seasons upon plants. Last year annuals were splendid, but this, the reverse is the case. On one very fine border of bulbs, but sown with annuals in the spring to create colour during the summer, scarcely a single kind is in proper condition.

Lilium concolor is a very pretty species when grouped with shrubs of dwarf growth. We noticed it thus used recently, and the effect of its brilliant scarlet flowers, spotted with black towards the base of the segments, was much enhanced. It is better for the outside of the bed and grows about 18 inches in height, the leaves narrow, abundant, and making quite, so to say, a little bush. The variety *Coridon* is a worthy kind, the flowers yellow, enriched with purplish spots.

Rose Cloth of Gold.—"Caledonicus" (p. 474) asks if any reader has good tidings to tell of Cloth of Gold this year. I am again able to give a good account of our plants at Hollywood, Boscombe. Although the blooms have not been up to the standard of excellence of last year, owing to the drought, the plants have flowered satisfactorily. Our plants are not in the least sheltered. They make good strong growth and flower well every year. I consider the success of this Rose with me is due to its being planted 1 foot above the level of the lawn.—F. H. AND.

Kämpfer's Iris is one of the principal flowers in beauty now, and makes a charming picture in Mr. G. F. Wilson's garden at Wisley, where it is planted by the margin of water. This is precisely the situation that best suits *I. Kämpferi*, and half the failures with it arise from a too dry situation. Many fine gardens in England might be beautified by this species, but the margins of ponds, lakes and streams are strangely ignored. This Japanese Iris varies greatly in both size and colour of the flowers, but the single varieties are more effective.

* "The Illustrated Archæologist" for June.—Edited by J. Romilly Allen, F.S.A. Scot. Charles J. Clark, 4, Lincoln's Inn Fields, W.C.

The segments are broad and compose a strikingly handsome bloom, robust and showy. It would be advisable to weed out the ugly semi-double kinds in many instances. For the sake of effect get those kinds of decided colours, not the mottled and ineffective shades, which make a poor show against the rich selfs. One of the most beautiful of all is the pure white variety, which we remember by the lake in the garden of the late Sir G. Macleay at Bletchingley.

Senecio macrophyllus is certainly not a plant for the border, but it is splendid in the rougher portions of the garden, where its massive character is seen to advantage. We recently noticed a specimen in the herbaceous ground at Kew, standing out by itself, a perfect picture of vigorous growth and bold, if coarse, beauty. The leaves are very broad, with conspicuous midribs, the stem sturdy and tall, bearing at the summit a crowded mass of yellow flowers. A well-grown plant thus displayed is a feature that will interest all who admire vigorous, stately growth.

Geranium balkanum.—In reply to the Rev. Woley Dod's inquiry, I beg to state that *Geranium balkanum* was presented to the Imperial Botanic Garden at Vienna by Prince Reuss, the German ambassador there. He found the plant when on a hunting tour with Prince Ferdinand of Bulgaria in the Balkans. At Vienna the authorities were not quite sure whether it was *macrorrhizum* or not, and the intention was to call it *balkanum* in the case of sufficient distinctive character. I obtained a plant under this provisional name and distributed it as *G. balkanum*. —MAX LEICHTLIN *Baden-Baden*.

Gladiolus Colvillei albus we have made note of as a very charming bulb to plant near to shrubs of dwarf growth or at the foot of the rougher parts of the rockery, where the Heaths and plants of similar character are grown. When in a garden recently this beautiful *Gladiolus* was thus used, and the white flowers against the green foliage stood out boldly. This *Gladiolus* is not so tender as some suppose. It will live through the winter. A common plan is to lift the bulbs, dry them, and replant again in autumn. A good group of this *Gladiolus* is charming when in flower.

A beautiful Flag.—We send you by parcel post a few spikes of *Iris Monnierii* which is now a grand sight, growing here side by side with *Iris gigantea*, which plant it resembles in habit. The spikes are each 5 feet high, carrying a number of flowers; the clear yellow of the blooms makes a fine contrast with those of *I. gigantea*. —WALLACE AND CO., *Colechester*.

* * A beautiful *Iris* and quite hardy. We remember seeing this plant in the Garden of Plant, Paris, many years ago, and brought some to England. We often wonder why it is not more common in cultivation. The colour is clear and good.—ED.

Chæerops Fortunei.—This plant has proved itself quite hardy here. Our plants—a pair—are 13 feet high, and each produces every year three or four large spikes of bloom at the end of May. They are exposed to the east winds, and stood the blizzards of January, 1881, and March, 1891, without the slightest injury. Both are well furnished with healthy foliage to within 3 feet of the ground. This Palm deserves to be extensively grown, as it is as hardy here as the common Laurel. I used to leave the spikes on for seed, but they never matured any. Now I always cut the flowers off to strengthen the foliage.—J. G., *Kil'erton, Exeter*.

Lychnis Haageana is one of the finest hardy perennials in bloom now, and the bold flowers range from brilliant scarlet to pure white. The scarlet tones are most effective, but sunshine such as we have been favoured with during past weeks makes the flowers quickly fade. A plant in full bloom is very effective, as the flowers are individually broad, fringed and borne freely. Owing to the quick fading of the colours when the plant is exposed, a moderately sheltered position must be selected and not in full exposure to the sun. Ordinary soil, if it is light and well drained, will suffice, and it is also important to transplant often,

then this fine *Lychnis* will prove one of the showiest of perennials in bloom in the summer months.

White Lilies and dark-leaved shrubs.—When visiting nurseries and gardens recently we have seen the good effect of grouping the white Lily (*Lilium candidum*) with such dark-leaved shrubs as the purple Hazel or small trees of *Prunus pissardi*. The result is very beautiful, the deeply coloured foliage intensifying the purity of the bold spikes of spotless flowers. A very good way to plant *L. candidum* is amongst shrubs of varied toned foliage, but to get the chocolate-coloured kinds behind the Lily to throw into relief the dense masses of bloom. It is noticeable that this species succeed remarkably well thus planted.

The blue Himalayan Poppy is in bloom now, and in a cool recess in the Kew rockery it is seen to advantage. *Meconopsis Wallichiana* is not so fine this year as usual, owing to the drought, but its lovely flowers are always welcome. As suggested by the popular title, it is a native of the Himalayas, and when in suitable position grows several feet in height, forming a plant of great beauty and distinctness. It enjoys a deep well-drained soil and a shady sheltered spot. At Kew it is planted in a recess where Ferns luxuriate, and the surrounding greenery brings out the clear, soft, and distinct colour of the flowers. *M. nepalensis* is by the side of it, and the two make an imposing group.

Bech trees unhealthy.—You may possibly remember that I had a correspondence with you the spring before last, I think, concerning the injury done to the Beech trees. You thought it was due to the east wind. I have this year investigated the matter and have proved that the culprit is a weevil whose depredations have become serious with us, destroying the beauty of the trees, so that they can be recognised amongst the others by their withered leaves. The attack begins very soon after the leaf-buds open, when the eggs are deposited, the larvæ rapidly working their way with disastrous results. I should much like to know whether other districts have suffered.—R. L. ALLMAN, *Woodlands, Bandon*.

Aster diplostephioides is a lovely flower, not quite so vigorous and free in bloom as might be desired, but many fail with it through not giving proper treatment. This species is not new, although so little known that it may be regarded almost as a novelty. It was described by De Candolle as far back as 1836 under the name of *Heterochaeta diplostephioides*, whilst it was figured in the *Botanical Magazine*, t. 6718. It is unquestionably a remarkably handsome composite from the Himalayas, and last year was shown well by Mr. Marshall at one of the meetings of the Royal Horticultural Society. It enjoys a light, thoroughly well drained soil and open position, such as may be found on every rockery. The plant is not tall, but the spike rises quite 2 feet in height, bearing flowers about 3 inches across, the ray florets symmetrically arranged and intense purple-blue in colour, the orange-coloured anthers in rich contrast. Although shown occasionally, it has never become popular.

Two forms of our native Water Lily.—We lately had the pleasure of seeing a very lovely picture of our native Lilies in the lake at Middleton Hall, Tamworth, the residence of Mr. E. de Hamel. This lake, although nearly covered with the Lilies, does not show them in any overcrowded state, the flowers being superb. The effect, from many points of view of the lake in relation to the Manor House and a pretty orchard garden near, is charming. But what interests us the most is the fact that there are two distinct forms of the Water Lily growing there, one having a flower much larger than the other, wider, and with a delicate shade of pink through its central parts, and more distinctly on the outer petal. The other kind is no less beautiful, but the outer parts, instead of being pink inside and brownish purple outside, are a deep green outside and greenish white inside, the flower also being much smaller and a beautiful white. It is very interesting to know that there are two forms of the

native Water Lily, and for aught we know there may be other forms. We shall be very much obliged to our readers who may have made any observations of the kind if they would kindly communicate with us. We have been puzzled before by this native pink Lily, which is a handsome kind for the water, flowering freely and having very large blossoms.

Lilium Grayi is in bloom at Kew in a bed filled with *Azalea amena*. This beautiful form is a near ally of *L. canadense*, and some American botanists regard it as a distinct species. It was first discovered by Dr. Asa Gray in the year 1810, he having found it near the top of Roan Mountain, in North Carolina. Dr. Gray and Professor Sargent re-found it in 1879 in the same locality, whilst Mr. A. H. Curtiss discovered it in Virginia. A figure of this Lily appearing in the *Botanical Magazine*, t. 7231, the drawing having been prepared from a plant which bloomed at Kew in 1891. It is likely to prove a thoroughly useful garden Lily, being as readily grown as *L. superbum* or its relative, *L. canadense*. The flowers are carried on tall branching stems, and the whole aspect of the plant is graceful and the flowers very rich in colour, the outside of the segments deep crimson, whilst the inner face is heavily blotched with purple on a yellow ground, reminding one of the *Tigridia*. At Kew there is quite a group of it, and note should certainly be made of this uncommon species, if such it may be called.

Lilium Martagon album in London.—This has been in flower with me ever since the 28th of May. It is now (June 26) almost over. It is much earlier than in previous years. Last year it was not in bloom till June 21, and the year before June 28. The bulbs which I planted in September, 1890, gave me forty flowers the next summer. Last year they sent up five stems with ninety blooms, and this year they have thrown up six fine stems, some 5 feet high, with no less than 167 flowers. Two of these spikes carry ninety-one blooms between them. The white Martagon is a very handsome Lily, and with but little attention soon forms a striking feature in any border. The above facts concerning plants now in my garden clearly prove that this is a Lily which does well in suburban gardens. Next summer I hope to have it in bloom in Kensington, where, although under less favourable conditions, I have no doubt it will render a good account of itself. While in Oxford during the past term I frequently visited the Botanic Gardens, but was surprised not to find the white Martagon included among the collection of Lilies there.—R. A. JENKINS, *Highgate*.

Crinum Powellii album is blooming freely in the nursery of Mr. Morse at Epsom. This is a rare and beautiful flower raised by Mr. Powell, after whom it is named. C. Powellii, it may be interesting to mention, is the only hybrid *Crinum* and was raised from *C. capense* and *C. Moorei*. It was raised about 1876 and is a most beautiful plant for a warm, sheltered and sunny position. The type is well known, and its rosy-coloured flowers are effective when several plants are together. Mr. Powell mentions that "Strange to say, the white-flowered plants were obtained from *C. capense* roseum; while those of *C. c. album* (which was also used as a seed parent) had flowers of the deepest shades of rosy pink." We think in time that this beautiful plant will become popular; the flowers, pure white, are produced from June until October. As yet it is expensive and never likely to get very cheap, as it does not produce offsets so freely as the parent. C. Powellii requires to be planted deeply—about a foot, with some manure beneath the bulbs, but not actually touching them. It is quite hardy, and in an open loamy border will prove satisfactory. The rose and white flowers are pleasing in contrast.

Notes from Chester.—The long drought has happily left us unharmed, as the many visitors we had during the week of the royal show would be able to say. The copious rainfall of the past few days will quickly put a fair fresh face upon the foliage and fill up the blanks with new growth, which was held in abeyance for lack of moisture.

In walking through the avenues and quarters flower-filled and bright with summer glory, the bold striking plants of *Romneya Coulteri* cannot fail to attract. We have a large lot of this fine plant, and the effect is very fine. It is a decided gain. *Philesia buxifolia*, with its beautiful wax-like flowers, is in splendid perfection. It is the outside *Lipageria* quite, so far as character and beauty of bloom are concerned. *Hypericum empetrifolium* is one of the prettiest of the St. John's Worts. It is a most valuable little plant for working in effectively with bits of rock garden planting. We planted out the borders about the royal pavilion on the show ground here with fine-leafed plants of a hardy character, and the glints of gold we managed to get with this pretty *Hypericum* we found helped to brighten the effect without suggestion of intrusive gaudy patches of colour. But we must not overlook *Escallonia Phillipiana* in a list of the week's flowers. The little spray enclosed is from the open, unprotected, a position the plant has occupied for some years unharmed, and it must have endured up to 30° of frost. It is a beautiful little shrub, and is fragrant. It is the hardiest of all the *Escallonias*, if not the showiest.—DICKSONS.

SOCIETIES AND EXHIBITIONS.

ROSE SHOW AT EARL'S COURT.

JUNE 28.

THE second exhibition of Roses was held at the Gardening and Forestry Exhibition on Wednesday last. The competition was not very keen, and the flowers betrayed traces of the storms that have recently passed over the country. They were fresh, full of fine colour, but frequently much damaged, the Teas in particular, which were bruised and battered by the heavy downpour of rain. We noticed that the dark-coloured varieties came out conspicuously, especially *Horace Vernet*, whilst such kinds as *Xavier Olibo* and others of that type were seen to advantage. Besides Roses, a creditable display of fruit was to be seen, and the exhibition was on the whole very interesting.

The chief class was for forty-eight Roses, distinct, single trusses, and the first prize was awarded to Messrs. Harkness and Sons, The Nurseries, Bedale, Yorks. It is interesting to notice how at various times in the course of the summer certain firms come to the front; on this occasion the Yorkshire flowers were very successful throughout. This collection contained one of the finest blooms of *Gustave Piganeau* we have ever seen, large, solid, fresh, and of beautiful colour. It will be doubtless interesting to mention the finest of this prize lot, and they consisted of *Caroline Kuster*, *Mme. Haumann*, *Earl Fitzwilliam*, *Horace Vernet*, *Comte de Raimbaud*, *Jean Ducher*, *The Bride*, *Fisher Holmes*, *Marquise de Castellane*, *Rosieriste Jacobs*, *Le Havre*, *Mrs. J. Laing*, *Captain Christy*, *Marie Baumann*, *Pride of Waltham*, *Crown Prince*, *Francois Michelin*, *Dr. Sewell*, *Earl of Dufferin*, *Mme. G. Luizet*, *Barthelemy Jobert*, *Queen of Queens*, *Duchess of Bedford*, *Louis van Houtte*, *Mme. Cusin*, *Dupuy Jamain*, *Mme. Isaac Pereira*, *Chas. Lefebvre*, *La France*, *Dr. Andry*, *Xavier Olibo*, *Souvenir de S. A. Prince*, *A. K. Williams*, *Comtesse de Nadailac*, and *Senateur Vaise*; whilst the second place was occupied by Mr. Frank Cant, *Braiswick Nursery*, *Colchester*, the entries numbering five, not a bad competition therefore. *Ernest Metz*, *Ulrich Brunner*, *Duke of Wellington*, *Sultan of Zanzibar*, *Le Havre*, and *Mme. Cusin* were shown finely. It is always satisfactory to give equal first prizes, and this was the case in the class for twenty-four Roses, distinct, triplets. Messrs. Harkness and Sons and Mr. Frank Cant were bracketed together. They were practically equal, and the Yorkshire flowers of particular note were those of *Marie Baumann*, *Suzanne Marie Rodocanachi*, *Mme. G. Luizet*, *Countess of Roschery*, *Gustave Piganeau*, *Fisher*

Holmes, and a variety named Mrs. Harkness, which is a good flower, full, salmon in colour, and of a clear pleasing tint. The dark-coloured kinds in Mr. F. Cant's stand showed to advantage, particularly Horace Vernet and Sir Rowland Hill. We may mention that Horace Vernet was excellent in the third prize box from Mr. G. W. Burch, The Nursery, Peterborough. In the corresponding class for the same number, but single trusses, the Peterborough flowers from Mr. Burch won premier place, there being seven entries. They were a very even collection, and the best shown were Her Majesty, which was good in many stands in spite of the dryness of the season. Again Xavier Olibo was worthy of note, and Exposition de Brie, Senateur Vaisse, Dr. Sewell, Ulrich Brunner, Mme. Lambard, Victor Hugo, Mrs. John Laing, Horace Vernet, Duke of Wellington and Mme. Chas. Crapet. Mr. Cant's flowers were highly creditable, and Suzanne Marie Rodocanachi—a terrible name for a lovely Rose—was noteworthy. The best twelve blooms of any dark variety came from Mr. B. R. Cant, Colchester, who had splendid flowers, especially for colour, of Alfred Colomb, the second place being occupied by Messrs. Harkness with Charles Lefebvre; whilst in the corresponding class for light-coloured flowers, Her Majesty was shown well by Messrs. Perkins and Sons, Coventry, that now popular variety, Mrs. J. Laing, being exhibited well by Messrs. Harkness, who were second.

Amateurs came out well, showing very fine flowers. The chief class was for twenty-four Hybrid Perpetuals, distinct, single trusses, and the first prize was keenly contested, this award going to Mr. E. B. Lindsell, of Bearton, Hitchin, who had remarkably fine dark-coloured flowers, Horace Vernet in particular, whilst Mrs. J. Laing, Heinrich Schultheis, A. K. Williams and Dupuy Jamain were also well shown. The Rev. J. H. Pemberton, Havering-atte-Bower, Romford, who seems likely to stand well this year, was second, but equal first with Mr. Lindsell for twelve Roses, distinct, three trusses of each. In the two collections we made special note of the varieties Horace Vernet, Ulrich Brunner, Duchess of Bedford, Gustave Piganeau, Louis van Houtte, Alfred Colomb and A. K. Williams. For twelve single trusses, the Rev. H. A. Berners, Harkstead Rectory, Ipswich, was a good first, having very fine flowers for the season of Her Majesty, Ulrich Brunner, Baronne Rothschild and Earl of Pembroke; Mr. J. Gurney Fowler, Glebelands, South Woodford, Essex, second.

Tea and Noisette Roses were not so numerous, and as a rule disappointing because so much spoilt by the weather. The principal class was for twenty-four distinct single trusses, the first-prize-winner being Mr. B. R. Cant, who had very good blooms of the leading kinds. Especially worthy of mention were those of Mme. de Watteville, Ethel Brownlow, Mme. Cusin, Catherine Mermet, Souvenir d'Elise, Souvenir de S. A. Prince, Edith Gifford, Niphotos, Ernest Metz and Francisca Kruger, whilst Mr. Frank Cant was second. In the open classes there was one for eighteen single trusses, distinct, and here Mr. G. Mount came first with flowers of much beauty, although greatly damaged. It may be worth while to mention that throughout the show the finest blooms were those of Innocente Pirola, Comtesse de Nadaillac, Rubens, Souvenir d'un Ami, Souvenir de Paul Neyron, Jean Ducher, The Bride, Catherine Mermet, Marie van Houtte, Anna Ollivier, Niphotos, Mme. Cusin, Souvenir de S. A. Prince, Maréchal Niel, Mme. Lambard, Ethel Brownlow, Souvenir d'Elise Vardon, and Hon. Edith Gifford. Messrs. Prior and Son were second. In the amateurs' division for eighteen Teas the first prize went to Mr. H. V. Machin, Gateford Hill, Worksop, the flowers fresh and in good character, particularly The Bride, Cleopatra, a very fine exhibition Tea; Rubens, Marie van Houtte, Mme. Cusin, Jean Ducher, and Mme. Hoste, whilst Mr. Lindsell was a close second. For twelve distinct, the Rev. H. A. Berners won with a very charming box of flowers, the best being The Bride, Souvenir d'Elise, Mme. Bravy, Innocente Pirola, Comtesse de Nadaillac, Marie van Houtte, Anna Ollivier, Comtesse Panisse, Mme.

Hoste, Francisca Kruger, Princess of Wales, and E. Gifford; Mr. Lindsell second. Mr. H. V. Machin had the finest twelve blooms, showing Souvenir de S. A. Prince remarkably well, whilst Messrs. D. Prior and Son were second with Maréchal Niel.

The class for eighteen garden Roses was not the least interesting feature of the show, the first prize going to Messrs. Paul and Son, Cheshunt, who had a fine mass of them, the best being the bunches of Camoens, Mme. Pernet, Ducher, Aimée Vibert, the hybrid rugosa Mme. Georges Bruant, l'Idéal, and Waltham Climber. Mr. C. Turner, Slough, second.

Several miscellaneous classes were provided for things otherwise than Roses, but the competition was not severe. One class was for a group of tuberous Begonias arranged for effect, 12 feet by 8 feet, and although Mr. Ware, Tottenham, was the only competitor, his group was of much merit, arranged with Asparagus plumosus, and containing many fine varieties; want of space prevents individual description. A noteworthy class was for twelve bunches of Gloxinia flowers, and above all competitors was Mr. T. Bones, Heaton Gardens, Cheshunt, who had splendid flowers, Ruby, scarlet, Paragon, purple, white margin, and Princess May, white, being worthy of mention. Mr. Howe, Park Hill, Streatham, was second. Several very prettily arranged baskets of Roses were to be seen, and the first prize table decorations from Mr. F. W. Searle, Vine Nurseries, Sevenoaks, may be mentioned.

Groups and other plants not for competition were shown largely. The principal feature was a fine arrangement of Roses, representing great variety, from Messrs. Wm. Paul and Son, Waltham Cross, a rich profusion of flowers, especially of the variety l'Idéal, Maréchal Niel, Ma Capucine, Louis van Houtte, and Mme. Pierre Cochet, the flowers yellowish, shot with scarlet, a very fragrant and promising Noisette. These displays are most artistic. Messrs. Barr and Son, Covent Garden, had a large bank of hardy flowers, comprising a great variety of Sweet Peas and Poppies, besides various other things in season. Mr. J. R. Chard, Stoke Newington, had table decorations; Mr. J. Walborn, West Kensington, crimson Carnations; and Messrs. J. Cheal and Son, Crawley, tufted Pansies and other hardy flowers. Messrs. Jarman and Co., Chard, Somerset, showed Sweet Peas, and Cucumber Baker's Triumph, a very fine long ridge outdoor variety, also a new Tomato of promise. A very beautiful group of Cattleyas came from Mr. W. Davies, gardener to Mr. Danell, Stamford Hill, N. Mr. Anthony Waterer, Knap Hill, showed his splendid new Spiræa Anthony Waterer, which has been previously described in THE GARDEN. A new Rose named Merrie England was shown by Messrs. Harkness. It is a Hybrid Perpetual of the striped class. We do not care for it. The flowers are large, rose-pink in colour, with stripes of white. It is not pretty.

Fruit.

Some very fine fruit was shown, the competition in some of the leading classes being keen. Black Grapes were specially good, also Strawberries considering the dry season. Peaches and Nectarines were numerous and very good. Melons occupied a large space. The fruit was not allowed to be tasted. This acts injuriously, as it is impossible to judge Melons from appearance. In many cases fruit which would take some time to ripen was staged. Figs and Cherries were well represented, and there were several large exhibits in the miscellaneous classes. Several new fruits in the way of Strawberries and Tomatoes were staged, but only one secured an award. A splendid collection of fruit was sent by the well-known Sawbridgeworth firm.

A first-class certificate was awarded to

STRAWBERRY GUNTON PARK—This was certificated two years ago by the R.H.S., and has been exhibited several times this season. It is a very fine fruit, varying in shape from conical to cockscomb, colour dark crimson-scarlet, of brisk flavour, the flesh firm. From W. Allan.

For the best six dishes of fruit there were four competitors. Mr. J. McIndoe, Hutton Hall Gardens,

Guisborough, Yorks, was an easy first, having very good Muscat of Alexandria Grapes, a fine dish of Pear Clapp's Favourite, fine Stanwick Elruge Nectarines, Grosse Mignonne Peaches, large Brown Turkey Figs, and good bunches of Black Hamburgh Grapes, the berries large, but of poor colour. Second, Mr. Ocock, Havering Park, Romford, who had good Black Hamburgh Grapes, Elruge Nectarines, Bellegarde Peaches, and Brown Turkey Figs. For three bunches of white Grapes, any variety, very good bunches were staged; first, Mr. McIndoe, with large bunches and good berries of Muscat of Alexandria; second, Mr. T. Osman, Ottershaw Park, Chertsey, with very good bunches of Buckland Sweetwater. For three bunches of Black Grapes there was a strong competition, and very good; Mr. Osman secured the premier award with large well coloured Black Hamburgh; second, Mr. Taverner, Woolmer, Liphook, Hampshire, the variety being the same as above, but smaller bunches, having good berries nicely coloured. Mr. G. Featherby, The Vineries, Gillingham, was third. An extra prize was given to Mr. W. Thomson, Huttonhurst, Hounslow, for three grand bunches of Madresfield Court, but wanting a few more days to finish. Melons were numerous, but the white-fleshed kinds predominated. For three fruits Mr. Poulton, Ivy Mount, Streatham, was first with good even samples of Hero of Lockinge; second, Mr. J. C. Mundell, Moor Park Gardens, Rickmansworth, who showed three varieties; third, Mr. S. Mortimer, Swiss Nursery, Farnham, with Hero of Lockinge. In the class for one fruit, Mr. Poulton was first with the new Gunton Orange, staging a pretty Melon nicely finished; second, Mr. McIndoe with High Cross Hybrid. Peaches were very fine, grandly coloured, and in quantity, Mr. C. Stocking was first with a grand dish of Bellegarde; second, Mr. W. H. Divers, Ketton Hall, with Crimson Galande. For the best dish of Nectarines Mr. W. Robins was first with very fine Spencer's; second, Mr. McIndoe with Stanwick Elruge. For the single dish of Figs, Mr. Allan, Gunton Park, Norwich, was a good first with Negro Largo; second, Mr. McIndoe. Some fine fruits were staged in the class for two dishes of Cherries, Mr. Fowler, Glebelands, South Woodford, being first with large fruit; second, Mr. W. H. Divers. For the best three dishes of Strawberries, Mr. Allan was first, staging two dishes of Gunton Park and one dish of Lord Suffield; second, Mr. Divers, with British Queen, Waterloo, and a fine dish of Laxton's Latest of All. The same exhibitors secured the awards in the order named in the class for single dishes.

Messrs. Rivers, Sawbridgeworth, had a very fine collection of Cherries, Peaches, and Plums, receiving a special award. Among the Cherries the best were Early Rivers, Bedford Prolific, Bigarreau de Schrenke, Black Bigarreau, Black Hawk, and Monstrueuse de Mezel. Waterloo, Amsden June, Alexander, and a seedling Peach were also fine. Mr. S. Mortimer had a grand lot of Melons, receiving a silver-gilt medal. Mr. Divers sent six varieties of Peaches, the best being Alexander, Barrington, Sea Eagle, and Princess of Wales (silver medal). Mr. Featherby had a similar award for Tomatoes, Cucumbers, &c.

A full prize list is given in our advertising columns.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION. ANNUAL DINNER.

THE fifty-fourth annual gathering of the subscribers and supporters of this institution was held on Thursday evening, June 22, in the Whitehall Rooms of the Hotel Metropole, London. Baron Schröder presided. There was a good company present, including Lord Teynham, Sir Trevor Lawrence, Rev. W. Wilks (Master of the Gardeners' Company), Messrs. H. J. Veitch, G. F. Wilson, P. Crowley, N. N. Sherwood, and other well-known patrons of horticulture. It will be remembered that the anniversary dinner of last year was unavoidably postponed from the usual month of June

until the middle of November. This year, however, the former time has been again adopted. The present gathering must be classed with the most successful the institution has ever held, and the executive are to be congratulated upon the financial result of the same. Baron Schroeder, in his after-dinner speech, ably advocated the claims of the charity and the great need there was for further and increased support. The chairman urged all who love their gardens, and who look to the garden as their greatest possible source of enjoyment, to do all that lies in their power to render assistance to the gardener in times of confirmed sickness, adversity, and old age. He stated from practical experience that there was nothing so soothing as to be associated with flowers after a hard day's work in the city. Further allusion was also made to the recent alteration in the rules (see new rules, more particularly rule 10), whereby votes were added to subscribers who became candidates for the pensions in proportion to the years they had subscribed, from four years upwards to fourteen, and from 50 to 550 votes. This, the chairman considered, was one of the very best alterations or rather additions that could possibly be made, one also that is mainly due to the excellent and practical suggestions of the treasurer. Mr. H. J. Veitch, as treasurer, replied, thanking the baron for his earnest support. Mr. Veitch pointed to the steady progress that was being made in days of hard times, the pensions being maintained and the institution worked at the lowest possible expenditure. He claimed for the new rules as drawn up by the hon. solicitor (Mr. Peacock), revised by the committee, and sanctioned by the special meeting, that they were second to none for their comprehensive character and the benefits they confer upon the community of gardeners. He further stated that in the election of pensioners there was no distinction as to nationality, all parts of the United Kingdom receiving the same consideration. The treasurer also added that there were a large number of pensioners over 80 years of age, two of 87 years, one of 88 years, one of 89 years, whilst two had been pensioners for 21 years. The letters that he and the secretary had received spoke of the untold blessings that had been conferred upon the distressed and infirm. Sir Trevor Lawrence, Rev. W. Wilks, Mr. Sherwood and other gentlemen in their remarks further urged upon the company the indebtedness due to the gardener and the need of provision in old age. The result of the evening's meeting, as announced by the secretary (Mr. Geo. J. Ingram), was most gratifying, the total amounting to the sum of £1500, amongst the chief contributions to this amount being Baron and Baroness Schroeder, 100 guineas; Messrs. de Rothschild, 100 guineas; Mr. N. N. Sherwood, £100; Mr. George Monro, £91 18s. 0d.; Mr. H. Williams (Messrs. B. S. Williams and Son), £35; Mr. Robert Tate, £25; and from the Bristol and Bath Auxiliary meeting, £35 15s. 0d. In addition to these amounts several new annual subscribers were added to the list. The chairman, in conclusion, expressed his pleasure with the decorations of the evening, these being of a profuse character, Orchids being largely employed, no less than fifteen stands being decorated therewith—plants of Orchids being also employed. The cut Orchids in large quantity and choice variety came from Messrs. Sander and Co., and the plants of same from Messrs. B. S. Williams and Son. The arrangement of the cut flowers was entrusted to Miss Hudson, Gunnersbury House Gardens. Other plants were supplied by Messrs. Catbush and Sons and other firms. The pleasure of the evening was enhanced by the efficient programme of music, whilst, fortunately for the comfort of the company present, the phenomenal heat of the previous few days had greatly subsided.

The weather in West Herts.—The temperatures during the past week were considerably lower than those of the preceding one. Taken as a whole, however, the weather again proved warm

for the time of year; consequently this was the twenty-third unseasonably warm week that we have had in succession. During Sunday night the exposed thermometer went down to within 5° of the freezing point. Monday night, on the other hand, was the warmest yet recorded here during the present summer, the same thermometer falling only to 55°. During the last nine days the temperature of the ground at 1 foot deep has fallen 8°, and at 2 feet deep 4°, but at the latter depth is still warmer than at the same period last year. Rain has fallen on every day except Sunday, and to the total depth of about three-quarters of an inch. On several days the wind has been higher than at any time since the middle of March, and the air more humid than for some weeks. Although the recent showers have scarcely done more than wet the surface of the ground, yet their beneficial effect upon vegetation generally is very marked; in fact, the lawns are already beginning to look quite green again.—E. M., *Berkhamsted*.

SEED CATALOGUES.

TO THE EDITOR OF THE GARDEN.

SIR,—Will you use your influence against an abuse which was at one time moderated by your aid, but which has cropped up again? I mean the use of false names and descriptions in seed catalogues. I sent for my seeds this spring from one of the best firms, and amongst the rest for *Linnæa grandiflora*, white. This turns out to be the white form of *L. usitatissimum*, perfectly useless for the garden. It must all be pulled up and thrown away, leaving an unsightly gap in the scheme of colour. Again, I read "Pea Lord Anson's, hardy climber from Cape Horn." I fondly imagined that *Lathyrus magellanicus* had been re-introduced and sent for a packet, but when the seeds came they proved identical with my own, saved from the common annual *L. azureus*, a native of S. Europe. Surely a great firm ought to be above such tricks or such carelessness. C. M.

Eucalyptus oil—a warning.—The essential oil which is obtained by pressure from the leaves of the *Eucalyptus globulus* appears to have properties of a poisonous nature, demanding caution in the use of it. Intelligence has recently come to us from Australia that a man residing at Geelong, who was suffering from influenza, died after taking a rather large dose (over an ounce) of this oil. From Tasmania also is recorded the death of a boy ten years old who had taken a spoonful of the same oil as a remedy for a cold in the head.—*Review Horticult.*

St. Anne's House, Contarf, Co. Dublin.—The herbaceous borders are now at their best, and the Delphiniums, 10 feet or more in height, among more lowly Lilies, Poppies, Irises, and other flowers are much admired. At St. Anne's garden culture is at its best; all departments are well done. Fruit and vegetables, Orchids and Ferns, hardy and alpine flowers, and choice aquatics are here to be seen in perfection as the seasons roll round. I lately saw a clump of the hardy *Cypripedium macranthum* bearing no less than seventeen of its great purple flowers, and on my present visit I noted *Habenaria dilatata* with spikes 2 feet high, and a choice bit of the rare *Phyteuma comosum* with six or seven clusters of its curious flask-shaped blossoms. In a shallow pool in the open air the "Zebra-striped" or "Porcupine Quill" Rush (*Juncus zebrius*) was 3 feet high or more, with quills as thick as one's little finger. At every turn rare and choice plants, both hardy and tender, are to be seen. In a warm greenhouse are Oranges of many varieties as fresh in leafage and as fertile as if under an Italian sky. The Egyptian Papyrus is here quite at home, luxuriant, 15 feet high or more, while *Bignonia grandiflora* was in splendid blossom. Amongst the Orchids the *Cattleyas* were especially gay, also *Odontoglossum Alexandræ* and *Epidendrum vitellinum majus*, with its

orange-red spikes. The enormous growth on *Dendrobium Dalhousianum*, 5 feet to 7 feet long, and the fresh and luxuriant leafage of the *Catasetums* and *Calanthes* were a treat to see, as also were the choicest sorts of *Cypripediums* here so well cultivated. In a cool house I noted the luxuriant growth and enjoyed the odour of the *Malmaysian* *Cananions*, and the beauty of two or three varieties of the now too often neglected perennial *Daturas*, with their great pendent trumpet flowers. It is always pleasant to see St. Anne's under the guidance of Mr. Charles Smith, who has managed these gardens for no less than twenty-five years; and before leaving we happened by accident to see a very handsome practical token of the appreciation of his employers, Lord and Lady Ardilaun, in the form of a very handsome silver tea and coffee service with a suitable inscription.—F. W. B.

The white Camellia.—Can any reader inform me in what book recently published can be found a poetical description of the white Camellia?—FLEUR.

Tomato Challenger cracking.—Can any of your readers who are Tomato growers inform me if they find the new variety Challenger liable to crack. I have a house 60 feet by 24 feet planted entirely with this variety, and I find the fruits crack very badly. I shall be extremely grateful for any information as to the cause, and also if there is any cure. I may state that I am also growing Conference and Trophy in another house and find no sign of cracking there.—A CONSTANT READER.

BOOK RECEIVED.

"Mechanical Work in Garden and Greenhouse," In three parts. Part 1, "Geometry for Gardeners," by F. Chilton Young. Part 2, "Sundials and Dialling," by Arthur Yorke. Part 3, "Greenhouse Building and Heating," by various writers. Illustrated. Ward, Lock, and Bowden, Limited, Warwick House, Salisbury Square, E.C.

Names of plants.—*Subscriber*.—*Cattleya Mossiae*; good in size, but deficient in colour.—*G. T. C.*—1, *Bifrenaria vitellina*; 2, *Maxillaria picta*; 3, *Cattleya Forbesii*.—*Memo.*—1, *Orobanchæ minor*; 2, *Bupleurum rotundifolium*; 3, *Saxifraga tridactylites*; 4, *Trifolium incarnatum*.—*J. Hassock*.—1, *Erica Bergiana*; 2, *Erica hybrida*; 3, *Hoya carnosæ*.—*H. Griffiths*.—1, *Lycaste tetragona*; 2, *Cattleya Mendeli*; poor variety.—*African*.—1, *Calanthe natalensis*; 2, *Cattleya Mossiae*, good form; 3, *Aerides crispum*.—*J. B.*—1, *Myriopteris hirta*; 2, *Notholaena rufa*.—*B. C. B.*—*Paragramma longifolia*.—*Jane Hearn*.—*Sanchezia nobilis variegata*.—*Clibran and Son*.—3, *Linaria bipartita*.—*G. Sayers*.—*Dendrobium Dalhousianum*.—*B.*—*Yvon Rose* is *Ophiré* (*Noisette*).—*Miss Dayrell*.—No specimen received.—*Rev. F. May*.—*Colutea arborescens*.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts, in which form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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All of our readers who are interested in the improvement of cottage homes are invited to help us to make Cottage Gardening known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, E.C.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

CHRYSANTHEMUMS.

SEASONABLE NOTES.

MANY persons complain of the points of their plants being in some way injured, so much so, that many shoots are rendered totally blind and useless. One amateur cultivator said no less than two dozen plants in his small collection were, he feared, ruined by this cause alone. I have had some experience in the same direction. Plants that are grown on the orthodox principle of three shoots each, with a view of having that number of large blooms, seem to be the most susceptible to attacks. The injury is caused by an insect, which is about an eighth of an inch in length and very narrow, but which moves very fast. It punctures the skin in a longitudinal manner immediately below the lastly formed leaf. The puncture extends downwards about a quarter of an inch and appears to go through the tender skin into the fleshy part of the shoot, destroying the tissue and causing the shoot in a day or two to buckle over towards that side where the injury occurs. The extreme point of the shoot is thus rendered useless. Seldom can the depredator be caught in the act, it is so small and active.

No doubt the recent hot and dry weather is answerable for much of the damage done to the plants in this direction by the extra crops of insect pests. What I recommend is to employ the tobacco powder distributor freely in the points of the shoots, not, however, loading the tender leaves so freely with powder as to cause an injury to them by the hot sun when coated over with the powder, as is sometimes the case, but to scatter it lightly and often on the leaves. Another good remedy is to put a handful of sulphur or soot in the water two or three times a week when syringing the plants in the evening. Not only will the soot be objectionable to the insect, but it is useful in supplying lost colour to the leaves of the plants. It may be surprising to some to hear this, but it is a fact nevertheless that soot applied in a liquid form to the leaves will change their colour from light green to a deeper hue. The use of bones as crocks is a source of another complaint. Some writers go so far as to say that with the aid of bones as crocks the risk of the blooms damping is reduced to a minimum. This I am not prepared to substantiate, neither do I advise their employment for that purpose or any other. The objection this season to bones as crocks appears to be that they injure the roots directly they come into contact with the bones, which are, by the time the roots reach them, in a putrid mass. Bones that are simply ground without being bleached chemically are undoubtedly the most dangerous to use in this respect, but they are preferable when mixed properly with soil, as all bones should be. I do not advocate the employment of bones ground to half-inch size, or even quarter, for the reason they are not long

enough about the roots for the plants to derive sufficient benefit from them. Finely ground bones or those dissolved by the aid of sulphuric acid are what I advocate. The only remedy I can suggest is to remove the bones and replace them with clean crocks. This can be done without repotting the plants by holding the plant upside down in one hand, carefully lifting off the pot, changing the drainage and as carefully returning the pot to its former position. Another plan might be tried, that of well soaking the soil with lime water; this might cleanse the roots and probably the bones also by removing some of the offensive matter.

The persistent manner in which the plants have shown buds has been a source of great trouble to most growers of my acquaintance. The members of the Queen family have been the greatest offenders in this respect, although other sorts in many cases have formed an excessive number of buds. For the first time in my experience the Princess of Wales family has done the same, but not to the extent of that of the Queen. In the southern counties of England this has been more felt, owing to the extreme heat and dryness of the atmosphere. Happily, however, the plants are now showing a decided tendency to "grow out" of this freak. With a view to pick up lost time and to encourage the plants, I advise that a rather sharp stimulant be given them. Nothing is better than nitrate of soda given in a safe manner, purely with a view of elongating the sap vessels, to prepare them for future reception of more solid and stimulating food. Nitrate of soda may be applied in a raw state to the plants at the rate of half a teaspoonful to a 10-inch pot, watering it in. If, however, it is used in a dry state, it should be powdered fine, as when in lumps it is liable to burn the roots. In no instance, however, should it be given when the soil in the pots is in any way dry. A safer way to use nitrate of soda is to dissolve it in water at the same rate of strength and give the plants a thorough soaking. A second dose may be required in a fortnight if by that time a change is not clearly perceptible in the growth and general appearance of the plants.

It is rather early yet to commence with the regular feeding of the plants. They have not been sufficiently long in their flowering pots to absorb the whole of the nutriment in the compost, and to gorge them as it were with additional food would be to nullify the effects of a properly prepared compost. However, there is such a variety of opinions as to the proper time to commence to feed the plants that a note on this phase of culture may be of service to beginners. Many growers advise that stimulants be not applied until the flower-buds are formed. This is a mistake, because in some instances the flower-buds do not form till the middle and end of September, and even later than that. The time is too short from this stage for the plants to derive much benefit from stimulants, because these late-formed buds as a rule develop their blooms at the same time as those which set fully five weeks earlier. If the plants are not fed until so late a date, how can they retain their former vigour, as the roots quickly exhaust the soil given to the plants at the final potting in May? The plants ought to be fed before the buds form, so that they may be strong when that critical time arrives. Weakly plants never produce buds of the same quality as stronger plants of the same variety, and if the buds are not produced in proportion to the necessary qualities of each variety, how can the flowers be properly developed? When the plants are growing well do not let them de-

teriorate from lack of attention on this point, but keep them advancing, allowing no check to take place. Feeding should commence when the pots in which the plants are to flower are full of roots—that is to say, as soon as the roots have pushed through the new soil and have reached the sides of the pots.

E. MOLYNEUX.

Bones as drainage for Chrysanthemums.

—A member of the National Chrysanthemum Society informed me a few days since that the Chrysanthemum plants he is growing for exhibition are nearly ruined in consequence of the broken bones he used for drainage some three weeks before the time of writing having become rotten and infested with maggots. He adds that the bones in a dry state appeared to be an excellent sample. I thought the matter of sufficient importance to submit it to the opinion of a well-known expert like Mr. Norman Davis, of Camberwell, who states that the experience of the writer is a not uncommon one, and that he is constantly hearing of plants of Chrysanthemums being spoilt by the injudicious use of materials, singly or in the form of compounds, which are totally unfit for the purpose for which they are recommended. The bones used in this particular case had been imperfectly prepared, or they would not have so quickly fermented. So far as the presence of the maggots is concerned, they would not be likely to live long in the soil. There is no other remedy but to repot the plants, replacing the bones with a mixture of broken charcoal and old lime rubbish, which will have a tendency to sweeten the soil. In addition to this, Mr. Davis advises watering the plants as soon as repotted with luke-warm water, having previously dissolved half an oz. of common washing soda in each gallon. This will have the effect of clearing away any particles of sour, fatty substance that may be adhering to the roots, and then there is every probability a healthy growth will be made. Bones should never be used as crocks to provide drainage. Even when they have been properly prepared they are always liable to ferment and create life, but when mixed with the potting soil the case is different. The crocking of pots, says Mr. Norman Davis, is somewhat of a science. Chrysanthemum growers used to waste (as they considered it) the space at the bottom of their pots with broken pots; now-a-days a grower is apt to consider he cannot afford to lose such space, so there is a tendency to employ many materials that will act as food and drainage at the same time. But it is a hazardous proceeding without experience in such matters, and a grower may run the risk of killing his plants. Mr. Davis considers there is some danger in the use of charcoal by itself, inasmuch as it stores too large a quantity of chemical gas, which may injure the roots by burning or otherwise injuring them.—R. DEAN.

Chrysanthemum names.—The way in which the names of new Chrysanthemums are bestowed by the Americans is certainly far less confusing than that followed by our continental neighbours, for, especially in the case of complimentary titles, the same name is often bestowed by different raisers on two distinct varieties. A system of registration of names, which could easily be carried out, would obviate all this difficulty, and such a principle, if followed in this country, might with advantage be adopted in the case of all florists' flowers. A fruitful source of confusion, which is nowhere more noticeable than in the case of the Chrysanthemum, is naming varieties after different members of the same family, for in most cases the initial letter only of the christian name is given, so that mistakes very readily occur. A good illustration of my meaning is to be found in the list of new varieties on page 530 of THE GARDEN, for we find there Mr. B. Spaulding and Mrs. H. F. Spaulding, while Mrs. F. A. Spaulding and Mrs. T. H. Spaulding are older varieties. Ludi-crous mistakes are often to be seen at exhibitions of Chrysanthemums, the French names especially

being a stumbling-block to many, but when the different names approach each other so closely as in the above examples, errors are at some time sure to creep in.—T.

FERNS.

TREATMENT OF FERNS DURING THE SUMMER.

FERNS, as a rule, receive good attention during the early spring months as regards potting, watering, shading, &c., but I fear the same amount of care is not always bestowed upon them throughout the summer. As the season advances and the earlier growths mature it does not pay to neglect the plants; they rather require looking after even more closely than in the spring.

INSECTS,

which in the early part of the year were not plentiful or that had been cleaned off either by the removal of old fronds or by other methods, will now be again giving trouble if not well looked after. Both thrip and scale will cause considerable annoyance if they escape notice until the plants are seriously affected with them. This work, on the other hand, if taken in time is easily kept under; not so, however, when in the ascendancy, the plants being frequently disfigured for the rest of the season, more particularly in the case of thrip. Such a season as the present one has been favourable to thrip, a hot and somewhat dry atmosphere seeming to suit it all too well; whilst where the scale gives trouble most fear need be apprehended in a warm house combined with moisture, not that it will cease to thrive under more adverse circumstances. I regret to say still the greatest amount of filth which accompanies it will be found in a warm and moist atmosphere. Where the oldest fronds are badly affected it is better by far to remove them at once, provided they can be spared; the cleaning in many cases of such is a waste of time with no compensating advantage. The under fronds will be those most likely to be attacked; these in most cases can be spared if seen to in time so as not to cause the removal of too large a quantity. For the thrips nothing surpasses a good syringing or dipping in a weak solution of soft soap and tobacco water, or where possible two or three fumigations. Either remedy should be given in time so as to avoid repeated applications.

OVERCROWDING

the plants is another source of evil; this may possibly result from a previous luxuriant growth or by reason of having a larger stock than can be conveniently accommodated. It is well to have the plants thriving as it is to have them in good numbers, but when it comes to crowding the plants there are drawbacks that point to plants of lesser size or fewer in numbers. A deal may be done towards remedying this by shifting the plants to other quarters. Those Ferns, for instance, which are wintered and grown in the spring in the stove and that are known to be tolerably hardy can be kept for some months in a cooler and drier atmosphere with advantage both to themselves and others remaining in warmth. Again, other Ferns grown as a rule in a temperate house can be accommodated in a cool house and others in frames and pits even; anywhere, in fact, that is at all suitable rather than allow overcrowding, with its attendant evils, to ensue. In this

removal to other houses there are many advantages to be derived. The plants, for instance, become hardier and more enduring in growth, whilst additional material is also afforded for the conservatory or show house when flowering subjects are neither so much required nor any too plentiful.

WATERING.

is a matter calling for increased attention now, the pots being (or at least should be) well filled with roots. Ferns at any time do not look well if in pots or pans of excessive size, nor are they any the better for overpotting. It is far preferable to have the plants well rooted, so that they will take a liberal supply of water without that fear of soddening the soil that is ultimately the case when overpotted. There is a wide difference in Ferns as to the quantity of water they will absorb, but in no case is a dry course of treatment now to be recommended. *Gymnogrammas* when healthy at the root take a large supply; they must, in fact, have it if healthy plants are to be maintained. When these Ferns suffer and the fronds begin to curl, it is a most difficult matter to resuscitate them. The *Nephrolepis* take a liberal quantity. These Ferns do not show symptoms of distress so soon as many when in reality they are suffering, the result being seen a few weeks afterwards in the pinnae turning yellow and dropping off. In no case is it advisable to let Ferns droop before they are watered; some may come round again and not feel the effects materially, but the majority do so. The conditions of the house or fernery as to atmospheric moisture have an immediate bearing upon the plants in this respect. In a dry, airy house the plants will require almost twice the amount of water at the roots that others of the same kind would do in a moist atmosphere, yet if well attended to the former would thrive as well. This results from the roots in the former instance having more work to do, less absorption taking place through the fronds than under more congenial conditions. Where Ferns are found to dry up rapidly, it is a good plan to stand the pots in pans of water. I have tested this and seen it also adopted by other growers with the best results. Maiden-hair Ferns, for instance, which are well rooted may be safely stood in such as Strawberry pans. Where even it is not desirable to actually allow the pots to stand in water, it is a good plan to let them stand over it and upon bricks or rough drainage. Any Fern for which fears are apprehended as to water supply may thus be kept secure.

DOODIA.

Odontosoria tenuifolia (G. Myers).—This is the name of the specimen you send marked No. 1, and a very beautiful form it is of this variable plant. As it has a very wide distribution, it is not at all surprising that it should take on various forms. The very finest that I have seen is known in gardens as *Davallia Veitchii*, a beautiful plant, well suited for basket culture.—W. H. G.

Onychium japonicum (G. Myers) is the plant marked No. 3. Those numbered 2 and 4 I cannot name, they being sterile fronds of some *Lastreas* or *Polystichums*. *Onychium japonicum* is found in China and Japan, as well as various parts of India, and it makes an excellent Fern for the cool house, and even does well in the open-air fernery in many parts of these islands. The fronds you send appear to be very finely cut.—W. H. G.

The Mountain Bladder Fern (*Cystopteris montana*).—J. Early sends me a fine frond of this Fern, which he gathered last year in Norway, asking its name, and if it can be grown in England. This species when dried much resembles *Cheilan-*

thes viscosa from Central America and Mexico, but it is a British plant, and I have specimens of it gathered on Ben Lawers, in Perthshire; it is also to be met with on several of the higher mountains in Scotland, although it appears to be everywhere rare. It is also found in various parts of Northern Europe and on the Rocky Mountains of North America. I have always found it a difficult plant to manage under cultivation. It likes a moist shady situation, an abundant supply of water, to have *Sphagnum* growing about it, and a nice cleft between the rocks for its roots. On the other hand, many assert it is not difficult to grow, but this does not accord with my experience.—W.

Adiantum venustum, from Messrs. Birkenhead, is a remarkably handsome Fern, which does well in the temperate fernery, but I do not think it will succeed in the open air in the winter. It is a common species in Northern India, growing at from 7000 feet to 10,000 feet altitude. The fronds are about a foot long, the pinnae firm, finely toothed, and of a somewhat glaucous green beneath. This species is not so often seen as it deserves to be. Its fronds are harder than those of the generality of Maiden-hair Ferns, thus fitting them for cutting.—H.

Lepicystis squamata (G. Todman).—You have in this a very elegant Fern, and you did quite right in allowing it to become fertile before sending it for a name. It is the plant more commonly known as *Polypodium squamatum*. The fronds, rising from a creeping rhizome to 2 feet or more high, are pinnatifid, the pinnae being divided nearly down to the rachis. They are from 6 inches to 8 inches in width, rich green above, densely scaly beneath. It is a fine stove plant from the West Indies.—G.

Cheilanthes capensis (G. Todman).—This plant partakes of the character of an *Adiantum* very much, and I do not wonder at you so naming it, for it has been called an *Adiantum* and an *Adiantopsis* by several Fern authorities. Your frond, which is about 4 inches long, is nearly its full size. It is a superb Fern, suitable for the cool house, and I used to think it adapted for a Wardian case, but I have found that when so placed the pinnae turn black from getting too wet. It is a native of South Africa.—W. H. G.

Ferns from Sale, Cheshire.—I have received a batch of Ferns for determination, and amongst them is a frond labelled *Adiantum pubescens*, which Messrs. Birkenhead say is called *hispidulum* in some other gardens. These two names apply to the same plant, and *hispidulum* appears to be the name having the preference. The plant called variety *tenellum*, a name given by Moore, is quite correct. The form called *hispidulum fulvum* is the true *fulvum* of Raoul, which comes from the Fiji Islands as well as New Zealand. This may be the reason of the other form, called *fulvum*, being different. The *Hypolepis* appears to be *H. amaurobachis*, which I do not think has been found in New Zealand, but is Australian. The two forms of *Davallia* called *pentaphylla* and *pyncocarpa* appear to be different, and if they keep as distinct when growing, I should retain the names, although I have seen *pentaphylla* with three pairs of pinnae besides the terminal one. Is there any difference in the growth of the plants? *Davallia elata* is quite correct, I should think, but I should be glad of a specimen when fertile. *Trichomanes humile* appears to be *T. angustatum* (Carm). It is broader in the pinnae than the specimen of *humile* I have. The other species appears to be *T. flabellatum*. I should like to see examples of the kind you had from New Zealand under this name. *Lomaria attenuata* appears to be the *L. gigantea* of Kaulf, a South African plant, but it is very difficult to name a species from a single sterile frond. The plant sent that has a creeping rhizome appears to be *Polystichum coriaceum*. The rest I will give my attention to next week.—W. H. G.

The English Flower Garden.—Design, Views and Plants. Third edition, revised, with many new illustrations. London: J. Murray, and through all booksellers.

COTEHELE, CORNWALL.

This is one of, if not the most unique old place in the west of England, and a paradise to the antiquarian. A local guide book says:

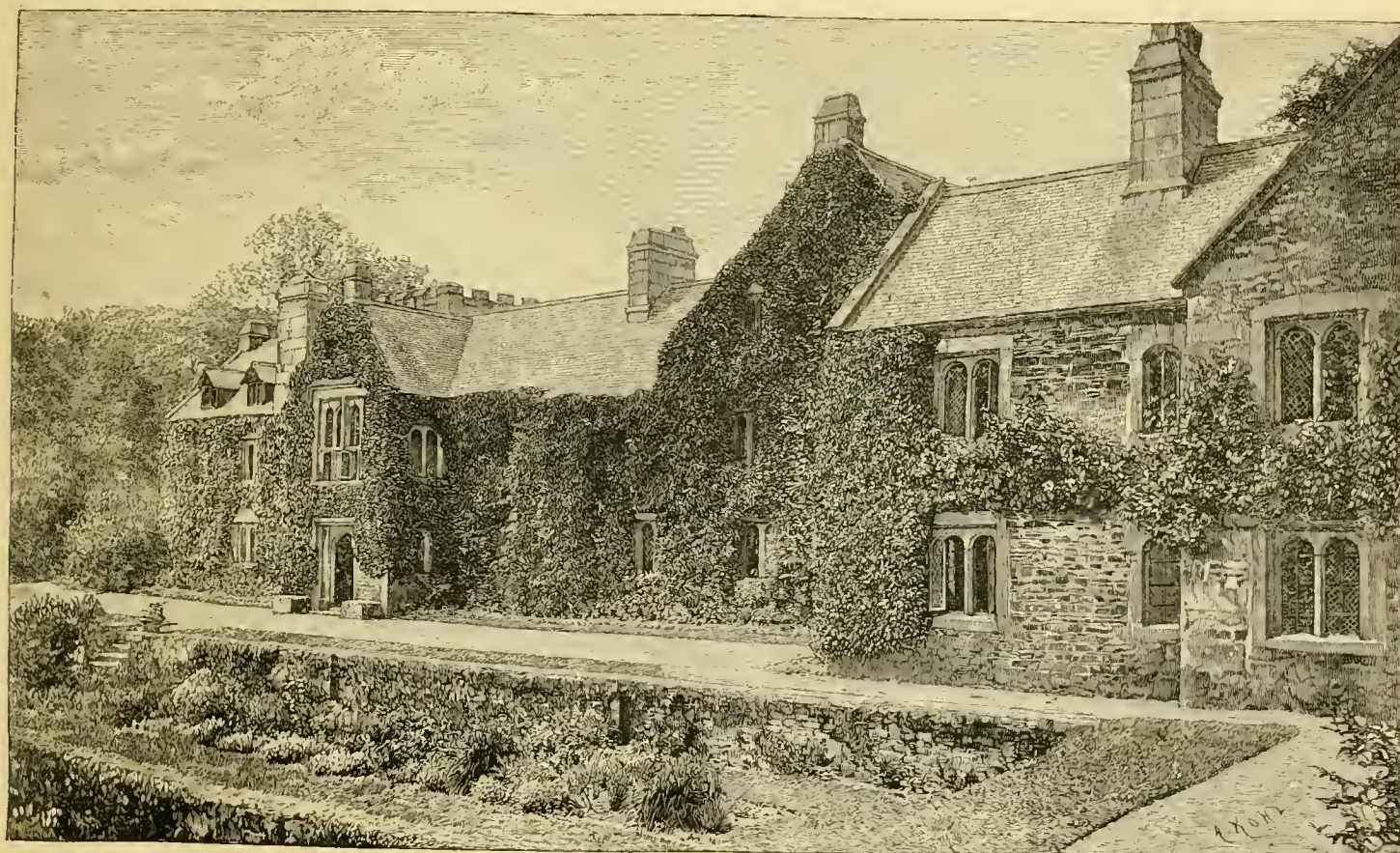
It is impossible, indeed, to conceive anything better than Cotehele as an illustration of the home life of our mediæval ancestors. The building, the furniture and appliances, as they are to-day, so were they 300 years ago; as it was in the days of Henry VII., so it is in those of Queen Victoria, and so, thanks to the preserving spirit of the Edgumbe—the Mount-Edgumbe family—it is likely to remain for centuries to come.

These remarks apply to the exterior (with which we are at present most concerned) with as much force as to the interior. The quaint old terraces—four in number—are laid out in

brated Morwell Rocks, about three miles distant, and a full view of the old town of Calstock, lying in a direct line with the Morwell heights and about half-way distant.

Cotehele estate appears to have suffered most severely in the great snow blizzard of 1891, thousands of large trees, including English Oaks and Spanish Chestnuts, having been torn up by the roots. A giant among the Chestnuts that had withstood the fury of the gale was still standing in a somewhat sheltered nook. This at 3 feet from the ground measured 21 feet round. One extensive hill-side exposed to the full force of the gale was quite stripped of all its magnificent timber. The whole of this hill is now (June

by road and river. The principal sorts grown are President, Paxton, and Alice Maud. Many of the newer varieties, including Jubilee, The Captain, &c., have been tried, found wanting, and discarded. Sir Charles Napier did well, but was too late to command the best prices. The present season appears to have been most satisfactory and the fruit has paid the growers well. At the time of my visit Cherry and Raspberry picking was going on, but both crops will be very light, not more than half the average, on account of the severe drought. One grower kindly showed me his accounts for last year, and amongst other items I noticed the sum of £147 odd as paid for Raspberries consigned to one buyer



Cotehele House, from the east. Engraved for THE GARDEN from a photograph sent by Mr. Hayman, Launceston.

old-fashioned beds and borders filled with hardy flowers. No carpet bedding or any other modern monstrosities have been permitted here. Very little masonry is seen in the formation of the terraces, and the old walls are mantled with various creepers, including Vines, Ampelopsis, Myrtles, Clematis, Magnolias, Jasmines and Ivy.

The engraving gives a faithful representation of one side of the house, looking east. The house is used as a shooting-box and dower residence by the Earls Mount-Edgumbe. The building is situated on the summit of a high hill on the Cornish side of the river Tamer, commanding extensive views of its winding course, also of the distant ranges of hills in both Devon and Cornwall, including the cele-

13) carpeted with wild Strawberries laden with pretty fruit, showing well above luxuriant foliage and forming a beautiful natural picture. The fruit appeared to be unmolested by birds, as perhaps too busy with choicer fruits.

This place is in the centre of very extensive fruit gardens, hundreds of acres being devoted to Cherries, Strawberries, Raspberries, Plums, &c. Strawberry picking commenced this year on April 18, eleven baskets having been despatched to London on that date. The last pickings took place the end of first week in June. Some idea may be formed of the quantities sent off to the metropolitan, midland, and local markets from the fact that this year 118 tons were sent from Beeralston Railway Station, besides the quantities sent

in London. In every direction I found abundance of fruit, but it will be impossible for the trees to mature their heavy loads unless we get a speedy change in the weather. A plague of caterpillars had swept over one part of the district, leaving the trees in their course stripped of all their foliage. Apples, Pears, Plums and Cherries, as well as bush fruits, seem to have suffered alike.

Cotehele Quay is situated in the centre of this extensive fruit growing district, and can be easily reached by steamboats which run from Plymouth every day at tide time.

W. S.

Saccolabium curvifolium.—This is not only one of the brightest coloured of Saccolabiums,

but may even in this respect be said to be surpassed by few Orchids. It produces short erect spikes, on which the flowers are thickly crowded, their colour being a brilliant orange-scarlet, the effect of which is heightened by the apex of the column being violet-purple. The species is easily distinguished from any other *Saccolabium* by its foliage. The leaves are narrow, about 8 inches long, and very markedly decurved, the apices being jagged. This plant is found in Assam and Burmah, but not in Ceylon or Java, as has been stated. From the latter island comes *S. miniatum*, a species very much like *S. curvifolium* in the shape and colour of its flowers, but always recognisable by the shorter, straighter leaves. According to my experience it also flowers a couple of months earlier than the one under notice. It has nevertheless been a good deal confused with *S. curvifolium*, a figure of which appears in the *Botanical Magazine*, t. 5323, as *S. miniatum*.—D.

ORCHARD AND FRUIT GARDEN.

SUMMER PRUNING AND TRAINING OF FRUIT TREES.*

It has been said that the principle of summer pruning of fruit trees is one of those phases in the successful cultivation of fruit grown in the open air upon which cultivators are not agreed. Certainly there is a great diversity of opinion as to the time when and the extent to which the trees should be operated on, and there are some people who go so far as to question whether summer—or, indeed, any—pruning is really needed. This being so, some would perhaps say, "If there is such difference of opinion, who is to decide which is the correct mode?" or, "If such differences of opinion exist, it can surely matter but very little whether summer pruning is practised or not." I am fully convinced that when it is judiciously performed summer pruning is one of the greatest possible aids towards the successful cultivation of fruit in the open air; and amongst really practical gardeners I do not believe there is any difference of opinion as to the system itself, but only as to the time and manner of performing it. At the same time there appears to be amongst some an increasing tendency to allow outdoor fruit trees to grow with far greater freedom, and to allow them to assume what is called a natural form, with but little, if any, pruning at all. This, I think, is an evil; for if trees are allowed to carry their whole natural free growth they will soon become so crowded that, instead of being able to produce fruit of fine quality, it will be small in size and poor in flavour, and only appear at the outer edge of the tree, and not equally over the whole, as it does when the growth is kept well balanced by judicious pruning, and light and sunshine have free access to all parts. There can be no mistake as to the ill effect, so plainly visible to all competent observers, of the rigidly pruned-in trees; but do not let us go to the other extreme and allow the trees to grow into a tangled mass for the want of a little timely attention and restraint. Considering how much the cultivation of fruit is now engrossing public attention, it will be as well perhaps to consider more at length which is the best system to adopt, and what advantages are likely to be obtained by what I may term a judicious system of summer pruning. Summer pruning is not by any means a new process,

for although the cultivation of fruit trees has advanced considerably during the past few years, summer pruning in some form or other was practised years ago, but whether judiciously or not is at present an open question, though until quite recently the past generation of gardeners, or rather their practice, was held up to younger cultivators as a beacon light towards which they should all steer. Those bygone gardeners prided themselves especially upon their correct methods of training fruit trees, particularly those growing against walls; but, however clever they were in their training, the fruit was often only conspicuous by its absence. It has indeed been said that the time and attention these old practitioners bestowed upon their trees were more for the sake of extreme neatness of outline than for the production of fruit, as the fruit obtained was, considering the time bestowed upon the training, practically *nil*. Their bush and pyramid trees gave one the idea of topiary work, so shorn were they of extending growth throughout the season. Now although I have a great partiality for a well-trained tree, yet I should not by any means commend a system or a tree which did not in due season produce fruit commensurate with the time and attention bestowed upon it. But, on the other hand, I say that those who denounce judicious training as being unnecessary are not advancing the best methods of manipulating fruit trees. With trees growing against walls, for example, the better they are trained, the easier they are to manage afterwards, and the little extra attention bestowed upon them in their earlier stages is well repaid when they are once established, as a man can see at a single glance which shoots want removing and which not, and so he will not have to waste his time in pondering over the work, as he almost necessarily must do with ill-trained trees. Leaving out of sight for a moment the argument that well-trained trees are beautiful objects in any garden, I maintain that fruitfulness may be made to run on parallel lines with training, although in one sense, of course, the form the tree is to take is only of secondary importance, as it is the quantity and quality of the fruit produced, by which its value will be gauged.

The dwarfing stocks now largely in vogue have helped to revolutionise fruit growing, or rather the pruning that is required, for with the advent of these stocks, which supplied a want long felt, trees suitable for the smallest gardens or for special positions could be grown of a small restricted size, and be also made fruitful without much pruning or pinching being necessary to produce them. It was the attempt to rigidly restrict the old trees grafted or budded on what is known as the free stock which led to the abuse of summer pinching, as any attempt to dwarf trees on these free stocks by summer pinching or pruning only led to disastrous results, the continual pinching or pruning only causing the trees to produce a thicket of shoots and unfruitful spray. Regularly as the season came round the trees had to undergo the same operation, with the same result of little or no fruit following. In the treatment of such trees as these grafted on free stocks we have made a decided advance, as it is now fully recognised that by allowing them freer extension fruit-buds are formed naturally, and the trees to a certain extent, and after a certain time abandon their free or semi-wild mode of growth. Any kind of fruit tree growing on the free stock may thus be made to assume a restricted form by being allowed a semi-extension growth. I have often been struck with the fruitfulness of Apples, Pears, and Plums growing in the open when allowed

to have more of a free growth accorded them, but not to the extent of running wild so as to appear unkempt. I cannot sufficiently condemn what is by no means an uncommon occurrence now-a-days, viz., the stepping right out of the groove of rigid pruning into the very opposite extreme of absolutely natural growth, without any attempt or thought of even thinning out the shoots, so as to allow light and sunshine to have free access. This is where fruit culture is in danger of being abused now, and it behoves those who undertake the culture of fruit in the open air to practise the best possible system whereby the trees may be made fruitful, and also produce it in such a form as will ensure good quality.

Before discussing the most suitable methods of summer pruning and training I will just refer to the treatment of trees which have in the past been subjected to the most rigid system, and which are consequently almost devoid of fruit. They may be trained to walls or growing in the open as pyramids or bushes; either will illustrate my point. Some time during the month of June a thicket of shoots will be seen growing from each tree, as the more they are pruned the more they appear to grow. The centres of those growing in the open will be found so thick, that light can barely penetrate, and the natural and obvious result is that the main lengths of the branches are utterly destitute of fruit-buds. With such trees as these—and they are by no means uncommon—the most judicious and sensible course would be not to cut these shoots off wholesale, but to well thin them out in summer, even going to the extent of cutting out some of the main branches, so as to allow direct sunlight to reach right up to the main trunk. There need not be any fear as to the future well-being of the tree through cutting out superfluous branches whilst they are growing, for the wounds will all become well callused over by the end of the season. By allowing the light to have free access at this early part of the year, instead of waiting until the trees are dormant, a season is gained, as the sun is enabled to exercise its benign influence on the foliage whilst in active growth; for, as is well known, no elaboration of the strength of the tree so as to produce fruit-buds can take place whilst the tree is enjoying its winter sleep. True enough, it is wise to look over the trees whilst they are at rest to shorten in or remove any obstructive branch, and with standards this is the most sensible course to adopt; but with what are termed bush or pyramid trees the case is different, as they are more easily got at, and one great advantage of pruning in summer is that what may appear a favourable distance apart for the branches whilst the foliage is off presents quite a different appearance when the trees are in full growth, so different, in fact, as sometimes to make them appear quite crowded. Trees which are pruned during the growing season certainly require to be looked over at the winter season, but only to thin out a growth here and shorten a shoot there, so as to balance the growth or shape of the tree, and nothing more. During the past few years I have allowed all our Plum trees, bush as well as standards, to go practically unpruned, save the shortening of a branch here and there to balance the growth of the tree, and I never saw trees in a more fruitful condition, fruit-buds forming right up to the tips of the two-year-old wood; and though very little annual growth is made under this system, yet what there is, is short and fruitful. Now if these trees were subjected to rigid annual pruning, a thicket of spray is all we should obtain for our pains,

* A paper read before the Royal Horticultural Society, June 7, 1892, by Mr. A. Young, Abberley Hall Gardens.

Cutting out branches wholesale after the fruit is gathered, where they appear too crowded, is a much better plan than shortening the shoots and spurting in the laterals, with the idea of producing formal pyramids.

As a general rule wall trees are the first to require our attention in the matter of summer pruning; and amongst these the stone fruits should have precedence, and the operator must be early amongst them, for if pinching, disbudding, or pruning be neglected for any length of time, the trees very quickly become unmanageable, the basal leaves in many instances turning yellow and dropping off, on account of the exclusion of light. Trees growing against walls suffer from neglect much sooner than those growing in the open. These latter have light all around, whereas those on the wall get it on one side only. Peaches and Nectarines need not be very specially referred to, as with these the principle is more readily understood, even if not always acted upon, and cultivators are more agreed on how the trees should be managed. In passing, I would say that it entirely depends on how the shoots are treated during the growing season, especially during the months of May and June, as to whether Peaches may be successfully cultivated on open walls or not. Crowding the shoots in the early stages and the neglect of what is known as disbudding are two of the main causes of failure, combined, of course, with the insects, for, as is well known, the Peach is prone to the early attacks of insect pests, and if their destruction is not persevered with during the first few weeks of the tree's growth, there will be very few shoots left to disbud. It is the retention of the earliest shoots which is needed, as when secured they have the whole season in which to make their growth and to become efficiently ripened. The disbudding merely consists in taking off all shoots not required for the extension of the tree, and the retaining of one well-placed growth at the base of the fruit-bearing shoot, and another at the end to draw the sap. Never, however, lay in more shoots than will be required for the furnishing or extension of the tree, and all shoots retained should be well exposed to the light to ensure their being well ripened. After the fruit is gathered, the best course is to go over the tree and cut out what is known as old bearing wood and such as will not be required for the extension of the tree. By cutting out or pruning at this stage, if neatly done, the wounds quickly heal over and the shoots remaining are more fully exposed to the ripening influences of the sun and the air. Apricots, Plums, and Cherries—except the Morello, which requires somewhat different treatment—may all be referred to together, as the same general principle is applicable to each, all being adapted (when grown against walls) for the style commonly known as "fan" training. They are all subject also to the evil known as "gumming," a disease peculiar to stone fruits, but which is more prone to attack them when the trees are subject to hard winter pruning instead of to judicious pruning during the summer. The fruit-buds are formed on natural spurs, and also on the spurs formed by pinching or summer pruning, but the best course is to manage the trees so that these natural spurs will form plentifully, as they are more likely to produce both better and more abundant fruit than the pruned spurs are. What we have to consider, therefore, is which is the best system to pursue so as to cause these natural spurs to form. Commencing, then, with young trees, the cultivator should aim at securing a well-balanced tree,

with fruit-bearing wood equally distributed over the whole surface, bearing in mind to get the wall also well furnished. All young trees when growing against walls have a persistent habit of a few shoots or branches trying to get quickly to the top of the wall at the expense of the lower branches, and it is generally a few of the leading ones towards the centre of the tree which acquire this habit. This supplies its own lesson, viz., to check these strong shoots so as to throw the strength into the lower branches. The lower branches may require but little shortening when first planted, but the centre shoots must be checked, so as to secure a well-balanced tree. I think it is also a bad practice with trees of the stone-fruited section to train a shoot as a leader straight up the wall. If a young tree had six shoots I should train three on each side, leaving the centre open. If there should be an odd shoot, even if it be started in the centre, it should be cut back more severely than the rest, training the resulting growths right and left. Some people are of opinion that the shoots of a young trained tree when first planted should be laid in intact without shortening; but if such trees succeed in forming well-balanced growth, it will be found to be more the exception than the rule. It may appear out of place to refer to the shortening of these dormant shoots in a paper on summer pruning, but it is necessary to describe the formation of a young tree. In training the young shoots which are to form the main branches, each leader should be trained to take a straight course, so that it will not interfere with its neighbour. Sufficient shoots must be laid in to form the framework, and where they are too thickly placed they must either be pinched back to form spurs, or, if these are not needed, cut them clean out with a sharp knife. Sometimes a shoot or two may be forging ahead at the expense of the others, and be causing them to be weakened thereby; if so, pinch out the points, but not otherwise. It is these equally balanced shoots, laid in intact, which form natural spurs. Some would shorten all these shoots back again, if only to the extent of just taking off the tips. But this is not the best course to pursue. If a shoot should want shortening so as to equalise the growth or to form extra shoots, shorten it, but not otherwise. By merely taking off the tips it causes a mop-like growth to form at the ends, and the lower part becomes bare. Natural spurs are far more likely to form when the shoots are laid in their whole length. Secondary branches must also be encouraged from the leading branches, but the same principle holds good with the whole. The crossing of branches, or the running into each other, must of course be avoided; but with the framework of the tree thus properly laid the summer pruning may be very expeditiously performed. Allowing the young growing shoots of either Apricots, Plums, or Cherries to grow ahead until far into the season before being checked results in the trees becoming gross and unfruitful, and when in due course they are shortened back, instead of assisting in forming fruitful spurs, it only paves the way for other strong shoots to follow, and the trees gradually merge out of their fruitful habit, and probably gumming ensues. With young trees, and especially Plums, there appears to be a natural tendency for the shoots to form more thickly towards the ends of the branches; therefore, these should be pinched first, so as to equalise the sap more in the lowermost parts. All shoots not required for laying in must be pinched back to the fourth or fifth leaf, and after this first pinching any growth which may follow on

fruitful trees rarely exceeds what is needed for the health of the tree. The growth needed is a kind of semi-extension, and if this will not bring the trees into a fruitful condition, or if the growth should be extra strong through a too rich root-run, nothing short of root-pruning will bring the trees into a satisfactory condition.

PEARS ON WALLS.

These are trained chiefly as fan-shaped, horizontal, and cordon trees, though there are several other forms, but the pruning of each will be very similar, or more or less according to the different stocks the trees may be grafted on, as the Pear when on the Pear stock produces a far stronger tree, and pushes out more breastwood from the spurs, than when grafted or budded on the Quince. It is with Pears, I think, that the greatest errors of summer pruning have been practised, and it is the particular point which most needs clearing up. In their anxiety for extreme neatness, gardeners in days gone by commenced pinching the shoots as early in the season as possible, and the practice was repeated at intervals throughout the whole season, and the result was that fruit-buds were formed very sparingly. No amount of summer pruning or pinching will cause the formation of fruit-buds on the current year's growth. It is quite evident that summer pruning must be practised, or the fruit-spurs against the wall would be deprived of light, and this is what is needed to ripen up the buds. It will also be understood that any Pear trees which are growing strongly against walls, as old trees on the Pear stock are somewhat prone to do, will not be able to be brought into a fruitful condition through summer pruning alone. It is root-pruning which such trees require to bring them into a fruitful condition; and in passing I may say that I have seen some very successful experiments attending the root-pruning of old unfruitful trees. During the formation of the young trees, and whilst they are extending, it is one of the greatest possible mistakes to pinch or shorten the leaders of the main branches before they have filled their allotted space, be they on the Pear stock or on the Quince. Just shortening the leading shoot has a tendency to form a bunch of shoots at the end, and leaves a vacant space of perhaps 18 inches without one lateral shoot or fruit-bud forming. Shortening back also has a tendency—even when done sufficiently close to force all the latent buds at the base into starting—of giving the tree a gross habit, so that it does not come into a fruitful condition so early as it otherwise would; whereas by leaving the leader intact the buds will push out evenly, and, instead of growing into strong shoots, they will form natural spurs, and the tree will commence bearing much earlier. In the case of cordons, the leader must be left to grow ahead unchecked until the top of the wall is reached, which has the result, as previously noticed, of natural fruit-buds forming along the whole length; but if they are shortened back, coarse spurs are apt to form, and these during the growing season throw out a quantity of breastwood. When cordons are starting into growth and are fairly well advanced, there sometimes appears a shoot here and there growing strongly ahead, perhaps close to the top, and consequently the leader may be suffering on account of this strong shoot drawing away the sap. In cases of this kind it is much better to check these strong shoots, so as to equalise the sap and throw the strength into the leader. After a fairly long experience with cordon Pears, I find the best course is to go over the trees about the middle of June and shorten back the strongest shoots (not the leader) to about five leaves, allowing the

weaker to remain as they are, and then towards the end of August to go over them again, shortening back to four leaves or thereabouts. If the trees are carrying a fair crop of fruit, very little secondary growth will follow; but if it should, the bud at the end of each shoot will almost invariably draw off the sap, and so prevent the starting of what should be fruit-buds. The necessity of securing the leading shoots, so as to prevent injury from wind, cannot be over-estimated. This should be done early in the season, as if left for too long a time, they cannot be trained in so evenly and are also apt to be broken from not being so pliable. These are minor details, but they require close attention if well-trained trees are desired. Coming now to the larger trained trees, such as fan-shaped, horizontal, palmette Verrier, or whatever the form, the principle is the same even if the method be somewhat different. In training the trees, take particular care to lay the branches in straight. With fan trained trees in course of formation, it will be understood that a sufficient quantity of shoots to form the tree will not be able to start direct from the main stem, for if this were attempted the branches would have to be very close together to start with, and by the time they had reached the limit of the wall they would be very wide apart. It will, therefore, be necessary to shorten the leaders at convenient distances, so as to enable a well-balanced tree to be formed. With horizontals the central leading shoot should be shortened back during the winter to about 10 inches, when three shoots will probably form at the top; if more than three form, thin them out to that number. The centre shoot should be trained straight upwards, and the two others right and left of it. The branches are generally trained 9 inches apart, this being three courses of bricks. If by chance only two shoots form, insert a bud during July in the vacant space. In the southern counties of England it may be safe to shorten the leader as soon as it has become firm, so as to form an extra pair of branches in a season, and I have known such shoots to turn out satisfactorily, but in the north this would not be a safe method to follow. During the formation of the young trees, if there should be a shoot near the leader growing ahead and so acting as a "robber" to the main shoot, do not hesitate about shortening it back. As regards the summer pruning, it is the breastwood which most concerns us. Do not upon any account practise early pinching, thinking that by so doing fruit-buds may be formed. More probably such treatment will but add fuel to the fire, causing the growth of extra spray. The best course is to go over the trees about the middle of June, and shorten back all the stronger shoots to about five or six leaves, leaving the weaker ones untouched. Towards the end of August a general summer pruning should take place, all the shoots being shortened back to four leaves. Trees that are in a fruitful condition will not throw much breastwood, so that going over the trees twice will not take up much time. If the trees are only gone over once, there is the danger that if left too late it will cause the trees to become gross, and if done too early a quantity of secondary spray is certain to form, and by the end of the season the trees will have the appearance of not having been pruned at all.

TREES IN THE OPEN.

It is in the treatment of these that the greatest changes have occurred in people's ideas as to the extent of pruning necessary. There cannot be any gainsaying that, if we are to

secure fruitful trees, the old system of close pruning must be abandoned. The more we prune the more we shall have to prune. The amount of pruning really necessary will depend principally upon the formation of the tree during the first year or two after being planted. If it is allowed to grow ahead without any check, the growth will in most cases be unequal and crowded. But the early summer pruning of these open-air trees is a decided mistake, for when pruned or pinched early, secondary growths will almost certainly follow, and these cannot possibly have time to become well-ripened wood, so as to enable their being retained as permanent shoots. Occasionally a shoot may require checking early in the season, but only on quite young trees, which may, perhaps, have a shoot or two growing too strongly ahead, while the weaker are naturally suffering for it, or at least being checked in their progress of assisting in forming a well-balanced tree. Trees which are being allowed to form a semi-extended habit should not require pruning before the end of August, and the amount necessary will, of course, be determined by the kind of stock the trees are grafted upon. Where Apples on a free stock and Pears on the Pear stock are allowed to have freedom of growth, they early become of fruitful habit, which they retain without making gross growth. At the end of August the growths will have become of a woody nature, and then any spare shoots and those likely to crowd the centres, and so prevent light and air from having free access, should be pruned in to three leaves. Any extending leaders which are growing too freely must also be shortened. The style of tree will indicate the amount of pruning necessary. The time for removing any solid branches which are crowding up the centre will depend principally upon the fruit hanging upon them, as no one would think of removing them until the fruit is all gathered. This is the time when all bush or pyramid trees should have a general overhauling, as any crowded branches may then be seen at a glance, and should be removed forthwith. The wounds quickly heal over, and the remaining branches would derive the benefit of the extra sunlight and air. This pruning must take place before the leaves fall to be of any real benefit. As regards Cherries and Plums, the thinning or pruning necessary for them will resolve itself more into thinning out any crowded branches and shortening rampant leaders than to regular pruning, and by this course the trees will be enabled to become more fruitful than where close pruning is rigidly adhered to. By pruning during the month of September, the wounds quickly heal over and do not become subject to gumming—a disease Cherries and Plums are very prone to if pruned whilst in a dormant condition.

I am aware that closely pinched or pruned trees may be made fruitful by regularly subjecting them to root-pruning, but I think the course I have detailed will result in more fruitful and healthier trees.

Melons cracking.—I have a two light frame which I put on a hot bed of manure early in the spring, and planted Melons in it, Munro's Little Heath. They have gone on very well until now. They are nearly at their stage of ripening. They have been well attended to both as regards giving air and watering. Some of them are beginning to crack. I have only four fruits to every plant.—W. M.

. It is some years since I grew Munro's Little Heath in frames, but from what I know of it am somewhat surprised at the fruit cracking prematurely, or even cracking at all. In common with the Canteloups, of which I believe it to be

only a variety, the fruits are large, deeply ribbed, and have a rough, warty skin, their strong constitution and free-fruiting habit rendering them particularly well adapted for frame culture. In "W. M.'s" case the plants must have been somewhat highly cultivated and in the best of health when the fruits were beginning to ripen. When the drying-off process is commenced long before the fruit has arrived at its natural ripening period, or again when the foliage is lost from other causes, notably red spider, it is not often that any cracking of fruit takes place, or that it is fit to eat. In frame culture, however, there ought to be a certain amount of drying off practised both with a view to improving the quality of fruit and prevent cracking. When the fruit commences ripening or changing colour, there ought to be enough moisture in the manure underneath to keep the haulm fairly fresh, and no water should be applied from the surface, or any damping down carried out. Sudden increases of the temperature and accumulations of vapour in the frame should also be guarded against, air being given directly the sun strikes on the glass in the morning, and increased considerably before it becomes very hot, being gradually taken off in the afternoon, but not wholly, before 4 o'clock. On dull days also give a little air, or it may happen that a sudden burst of sunshine will bring about a state of affairs in the frame most prejudicial to the fruit before it can be remedied. When the foot-stalks of Melons are cracked all round, cutting may be practised as a preventive of cracking across the fruits, the latter being sufficiently forward to admit of their being well ripened where they are, but detached from the plant. It is the thin, smooth-skinned varieties, of which Victory of Bath is a good type, that are most addicted to cracking under frame culture.—W. I.

COLOURING WHITE GRAPES.

If the generally accepted theory that white Grapes require much more sunshine to colour and ripen them properly than do black varieties is the correct one, then ought the former to be exceptionally good this season. That all will ripen considerably earlier than usual is very certain, but it remains to be seen whether white Grapes will generally be much better than usual. At present they look remarkably well in several vineries that I have visited, but in others the prospect is anything but satisfactory, the excess of sunshine over and above what usually falls to our lot during the spring and early summer months evidently not having been properly dealt with. Black Grapes can be hurried along too rapidly for them to colour properly, and why are white varieties supposed to be capable of standing or being in need of different treatment? I hold that Grapes of any kind, white varieties included, should be given good time in which to colour and ripen, and all their good properties are then well developed accordingly. Doubtless very good produce can be and very often is had at the end of about four months from the time of starting them, but it is better for the Vines, and from a private, not a market grower's point of view, better also for the owner, that five and in some cases six months be allowed before many bunches are cut. Naturally, very much depends upon circumstances. For instance, some varieties mature more rapidly than others, inside borders being also in favour of more rapid forcing, while some localities have the benefit of much more natural heat and sunshine than others, nothing short of an extra free application of fire heat compensating for this.

All this is very well understood, in many cases being acted upon accordingly, but I have yet to learn why it is that white Grapes should receive such special treatment, more particularly during the ripening period. Why

are they so often much exposed to a strong sunshine when the black varieties are so carefully shaded from it? In one case the sunshine is supposed to lay on the colour and in the other to take it off, and to a certain extent the supposition is correct. I repeat to a certain extent, as the theory will not stand the abuse to which it is too often subjected when practised. If bunches of black Grapes are heavily shaded by a thick canopy of leaves and receive plenty of fresh air while ripening, there is every likelihood of their colouring very satisfactorily, but in all probability the flavour and keeping properties would have been better developed if much less shade had been accorded. As a matter of fact, they can be well coloured and most perfectly ripened under a thin covering of leaves, and what suits them is equally efficacious in the case of white Grapes. When the leaves are very carefully tucked or tied back from over the bunches of the latter, so as to let as much sunshine as possible strike full on the bunches, this apparently does hasten colouring considerably, but who has not been disappointed with bunches thus treated? They may appear very satisfactory when hanging, but when they are cut and fastened perhaps to a show board, the satisfaction diminishes considerably. The face of a bunch may be fairly well coloured, but the point and sides show a greenness not noticeable before cutting, and which cannot be got over or hid in any way. In very many instances the sunshine striking full on berries not previously exposed and, so to speak, hardened, disfigures them badly, the grizzled patches or rusty appearance denoting only too plainly that the attempt to hasten colouring in a somewhat artificial manner has failed badly. I have seen hundreds of bunches disfigured and practically spoilt, many berries being scalded, and have damaged a few score myself by exposing them prematurely to bright sunshine, and it is to be hoped my remarks will prevent many readers from commencing or persevering with the practice. According to my experience, the only time when the bunches should be exposed as much as possible to the full sunshine is previous to and during the flowering period. If this is done, the flowers are strong, open well together and simply set to perfection. Muscat of Alexandria thus treated may be set as surely in a mixed house as it can under any special treatment—a fact that I have frequently demonstrated, the bunches this year being as solid as those of Madresfield Court alongside. The rods being fully 4 feet apart, the laterals somewhat thin and all stopped at the second joint beyond the selected bunch on each, there is a slight division between each Vine or rod, and a certain amount of subdued sunshine reaches the bunches both from this slight opening as well as from between the uncrowded leaves.

If other conditions are favourable and good time allowed, or say not less than six months, from the time of starting (February 1 or thereabouts) the berries ought all to be of the clearest amber, and which I maintain is attainable by no other means. Six months may seem a long time for the growth and ripening of a crop of Muscats, but when the berries are extra large and solid, yet another two months is needed for colouring them to perfection, the true Muscat flavour also not being developed much under that time. This class of Grapes requires more heat during the ripening period than is good for black Grapes growing in the same house, at any rate as far as colouring is concerned, plenty of fire-heat and a free circulation of air being needed throughout. I am contented with

somewhat smaller berries, and which ripen surely enough in a somewhat airy house, the temperature of which where the Muscats are located seldom falls much below 65° or greatly exceeds 70°. In cooler parts of the same house, that is to say, at a well-ventilated end and along the front, Madresfield Court and Black Hamburg are grown, and a rod each of Foster's Seedling and Buckland Sweetwater is also worked in. Both of the latter white varieties receive treatment almost identical with the Muscats, and the former has done me good service repeatedly, Buckland Sweetwater also doing well. Neither of them will bear full exposure to fierce sunshine, but they will colour beautifully under a thin covering only of their own leaves. Golden Queen and Mrs. Pearson are quite as slow in ripening as the Muscat of Alexandria, and the only times I have ever had them both at their best were when they were started equally early or not later than the early part of February. This season, owing to the more rapid progress made, the chances are those started in March in a mixed house of late varieties will ripen more satisfactorily than usual or without the expenditure of much fire-heat in August or September. The same remarks apply to White Tokay and Calabrian Raisin, both of which are very slow in colouring, and when started late not unfrequently fail to colour properly.

Judicious ventilation and a moderate amount of light and sunshine alone will not, however, ensure the perfect colouring of white Grapes. Other essentials to success, notably a healthy root-action, sufficient moisture and food at the roots, a clean top growth, and the avoidance of overcropping, must not be lost sight of. Can it be denied that overcropping is more often resorted to in the case of white varieties than with black Grapes? At any rate, the consequences of this short-sighted practice are not sufficiently realised, especially in the case of Muscats. They will succeed well up to a certain point and then collapse badly, the berries shanking and shrivelling wholesale, not a presentable bunch being seen in the house by the end of August or thereabouts. Foster's Seedling overcropped is scarcely recognisable, the bunches being loose, the berries small, round, green and watery. Buckland Sweetwater is less often overcropped, for the simple reason that the Vines will not constantly produce more bunches than they are capable of properly ripening.

W. IGGULDEN.

RED SPIDER ON GOOSEBERRY BUSHES.

This has been very prevalent throughout the long drought, and has worked such havoc that some growers are quite discouraged. As Mr. Allan said in a recent number of THE GARDEN, not a few of the remedies prescribed with so much confidence either fail or prove as bad or worse than the disease. I also agree with this writer that the Gooseberry spider seems larger, different, and more difficult to kill than the usual form. But what I am most anxious to be more fully informed is Mr. Allan's remedy, viz., Bentley's soluble paraffin. Is it really soluble and easily applied, of uniform strength throughout without the usual risks of paraffin accumulating on the top, and so proving strong enough to scorch and burn, or weak enough to prove ineffective? There is no doubt of the potency of paraffin as an insect killer. The practical difficulty has been to make it soluble in water, so as to apply it of a uniform strength of half a pint to 3 gallons of water, as used so effectively at Gunton. As Mr. Allan says Bentley's soluble paraffin was equally effective in clearing Plums of green-fly, would he kindly add further in the pages of THE GARDEN whether it is equally so against Apple grubs,

Plum and Gooseberry caterpillars, &c.? Perfectly soluble paraffin should prove a great boon to cultivators and is a far safer remedy to use than the various preparations of sulphate of copper, which are also insoluble as well as virulent poisons. The latter properly used will kill every living thing, but unless kept in violent mechanical agitation to maintain a uniform mixture of substances absolutely insoluble in water, they will kill or seriously injure the trees or hedges as well, and a few such accidents are apt to arrest their use and leave the destructive insects in full possession of our gardens and orchards. It has been pitiable this season to note how little has been done to destroy insects, which have multiplied beyond all reasonable averages through the intense heat and dryness. Most fruits stood these wonderfully well and managed to set fair or very full crops of fruit, but when the pests of flies, grubs, maggots and caterpillars came, the majority of orchards were left to their fate.

D. T. F.

Insect pests in the garden.—At p. 507 Mr. Allan recommends Bentley's soluble paraffin for the destruction of red spider and aphids, and I can also testify to its value for black-fly on Cherries. I never saw trees so dirty as they are this season, no doubt owing to the drought. I note Mr. Young also advises the use of petroleum, but as a winter dressing, and an excellent remedy it is. I would advise the use of the same in a soluble state in the early summer months before the fruits get too advanced, and no injury will result. I prefer it to quassia, which will very soon spoil the flavour of fruit if advancing to ripeness. If trees are well cleansed in the winter and the roots do not suffer, there is less trouble during the summer. For red spider and green-fly on Rose trees, also mildew, I have found soluble paraffin the best insecticide. I have a quantity of standard Roses, and these had a dressing once or twice and the insects have given no further trouble. By thoroughly syringing Rose trees in this way one is enabled to enjoy the blooms in a cut state, as when placed in vases in rooms green-fly is most objectionable. I first tried paraffin for mildew in the Rose house early in the year, and it succeeded far beyond my expectations. American blight this season is rampant, but, as Mr. Allan explains, it may be got rid of by using soluble paraffin mixed like paint. We are now going over our cordon Apple trees, which are suffering from this pest.—G. WYTHES.

Jubilee Strawberry.—In a note on forcing Strawberries last year I named the above as doing well in the open. I intended growing some in pots for late forcing, that is, to come in at the end of May and first week in June, little thinking that the bulk of the outside fruit would be over at the last-named date and that forced Strawberries would be out of the question. Despite the early season, owing to the heat and drought, Jubilee still remains good. Being on a north border, it is now bearing freely and is wonderfully vigorous, the foliage luxuriant and there is neither spider nor lack of fruit. The fruit is smaller this season, owing to drought, but that must be expected on two-year-old plants, as all the runners we could secure we utilised for pot culture. The great value of this variety is its freedom of growth and long fruiting qualities. It does not produce a few large fruits and give over, but keeps up a succession. The flavour is also good, somewhat after the old Pine Strawberry. This note refers more to its value for late fruiting in pots than otherwise. As previously stated, I potted up a good number (some 500 plants). These were all intended for the last lot indoors, or, more correctly, in cold frames; but the season coming upon us so rapidly, the plants had not been pushed on, having other varieties. The result was they stood rather closely together in the frames and were kept cool. This variety came in very useful after the early and midseason sorts were over. I intend to grow Jubilee as a late variety for pots. By some mistake a score of plants were placed in heat along with La Grosse Sucrée, but the fruit did not finish well, and I do not advise it for pot culture, otherwise than for late

fruiting. I consider it a valuable Strawberry on light soils, or where Strawberries do not grow vigorously. Its constitution in such soils is much better than that of Waterloo, which is apt to go off in the winter. It is a bad dry-weather Strawberry, at least with me. I have Latest of All in close proximity. This is rightly named, as the fruits are only just colouring (June 24). I fear it is not so free in growth as Jubilee.—G. WYTHES

KITCHEN GARDEN.

TOMATOES FOR WINTER.

WHATEVER advance may have taken place during late years as regards improved varieties of Tomatoes, we have not as yet obtained a really good sort for winter fruiting, and, perhaps, never shall, but will have to rely more upon methods of culture by which to secure satisfactory results. A variety that was introduced last season with a great flourish of trumpets as being specially adapted as a winter fruiter has so far failed in this respect, it being no advance on others. The variety I refer to is Ladybird. I like the look of the variety as a summer fruiter, the fruits setting freely in bunches and the growth not at all too gross. Even from its seedling stage it showed its distinctness in this respect. The freest setting variety I have ever seen is the Pear-shaped. True, the fruits are not very large, but the quantity to a bunch makes up in this respect. The fruits, however, are as large as a fair-sized Plum. I had a couple of plants last season growing in a cool house, and the flowers set freely right up till Christmas. The structure was kept ventilated for Chrysanthemums, and if I could have kept the house warmer I am sure the flowers would have set right throughout the winter. My impression is that this would make a good parent to work upon to get a free-setting winter variety. As far as quality is concerned, it is everything that could be desired. As far as a supply up till Christmas is concerned, there is no difficulty in securing this from the summer fruiters, that is, where they are growing in light and well-heated structures, but it is after this time that the supply runs short. I have often been sorry to have to do away with plants in the early winter on account of the structure being needed for other purposes, as at this time it is impossible for the plants to prove satisfactory when subjected to a low temperature or, on the other hand, a too high and moist one. It is to meet such cases as these, where winter Tomatoes are needed, that it is highly essential to raise a fresh batch of plants and grow them on for the purpose of winter fruiting. On plants raised now and carefully attended to there will be time for a crop of fruit to set by the latter part of October. After this time the days are generally dull and wet, conditions not favourable for the setting of the flowers.

The best varieties to select are medium growers and free setters, such as Conference, Early Ruby, and by the appearance of Challenger under pot culture I should be inclined to think it would make a good winter fruiter. In pots the growth of Challenger is not at all gross, and it sets its fruit freely, these swelling off to just the size needed either for private use or for market. As regards the mode of increase, I prefer seedlings to cuttings, for although cuttings might naturally be expected to come into fruit earlier, and consequently be better adapted for winter fruiting, yet on the other hand seed-

lings under a judicious system of culture will fruit quite as early, and in every other respect most satisfactorily. Drawn and weakly plants are of no use whatever, as by the time these have become fit to produce fruit the season is too late for the bloom to set.

Pot culture is also preferable to planting out, as then the plants are more under control, and besides there is the advantage of having the structure at liberty for other subjects until Tomatoes are fit for housing. The best position for winter Tomatoes is those light houses or pits that are occupied with summer Cucumbers and Melons, for directly these are over and cleared out the Tomatoes can take their place. The plants should be in their winter quarters by the beginning of October or the middle of the month at the latest. A. YOUNG.

SHORT NOTES.—KITCHEN.

Cucumbers failing.—I have had the same experience as "G. W." and "W. I." re Cucumbers failing. About three years ago my plants went off mysteriously after making good root and top growth. I found it was caused through too close an atmosphere and dryness at the roots. I found that my plants were diseased at the collar, although as regards outward appearance they looked very healthy.—J. TARBET.

A purple-podded Pea.—Could you kindly inform me through THE GARDEN the name of enclosed Pea, as no one I have asked seems to know it?—E. WARD.

* * In reply to E. Ward, we beg to say that the Pea referred to is our purple-podded Pea, described in the "Vegetable Garden," page 110.—VILMORIN-ANDRIEUX AND Co.

TREES AND SHRUBS.

LAWN TREES.

I SUPPOSE there are few persons where the opportunity offered who have not gladly availed themselves occasionally during the late spell of exceptionally hot weather of the welcome shade of trees. A canopy of foliage more or less dense has been highly appreciated on lawns both large and small. In seasons like the present, the value of evergreen and dense-foliaged deciduous trees for lawn planting as compared with most of the coniferæ family is clearly demonstrated, and the remarks in that direction which have appeared from time to time in THE GARDEN receive ample corroboration, although one has only to walk through many, I might say the majority of pleasure grounds to realise the need for such persistent advocacy. There should, however, be a wise discrimination shown in the selection of ornamental trees, especially for prominent sites, as sometimes they are out of all proportion to their surroundings, or the nature of the soil may be all against their proper development. An instance of an oversight in connection with the first of the cases cited is furnished not many yards from where these notes are penned. A *Pterocarya caucasica*, that would have shown to splendid advantage on a lawn of anything over an acre, is hemmed in by a garden wall on the one side and by vineries on the other. Probably the planter of the tree had no idea of the size it was likely to attain, but it has appropriated the whole of the small piece of lawn on which it is planted, has a spread of branches some thirty yards in diameter, and, as I have said,

is rubbing shoulders on either side with surrounding buildings. On the other hand, *Laurus Sassafras*, which I have before recommended as a capital tree for small lawns (it makes a very nice specimen here, some 30 feet high, dense in foliage and well furnished), only seems to attain in some places the dimensions of a fair-sized shrub. Many admirable trees for small lawns can be found in those that combine sufficient density of foliage to afford a welcome shade with a fine display of flower and serviceable fruit. Strong-growing varieties of Apples, for instance, that make shapely trees, of which Cornish Aromatic, Scarlet Nonpareil, Beauty of Kent, Hambleton deux Ans, Blenheim Orange and Brownlee's Russet are half-a-dozen examples, may be planted with advantage, and so may the Mulberry, the Medlar and the Siberian Crab. Recent notes on Magnolias may tend to popularise these highly ornamental trees and lead to their occasional planting in situations where they would look remarkably well; some of them are very handsome and different to anything else we get in English gardens. They attain very fair proportions (our plant of *macrophylla* is over 30 feet high)—quite large enough for an average sized lawn. *Paulownia imperialis* and *Zelkova acuminata* may also be named as small trees with handsome deciduous foliage. The plea for greater variety in planting (and is it not needed?) so far as the smaller trees are concerned, which was the object of this note, might safely be extended to trees of larger size. No one would wish to debar our stately specimens of Oak, Beech and Chestnut, but a walk through many pleasure grounds shows that the rarer deciduous trees, often with highly ornamental foliage, are seldom met with. I was impressed the other day with a grand contrast in which the Copper Beech played a conspicuous part. A very finely coloured tree, not over tall, but with a shapely head, is backed and flanked by a group of Spanish Chestnuts; the latter are just now in full flower, and the contrast, as any tree lover will imagine, is wonderfully fine. Fine old specimens of the Tulip Tree are to be found in many gardens, but younger trees are seldom met with, an omission which if not speedily rectified will leave the majority of our gardens without any decent examples of this handsome tree when the old ones have died out. The foliage peculiar severally to such trees as *Ailanthus glandulosa*, *Gymnocladus canadensis*, *Magnolia acuminata*, and *Pyrus Sorbus* should secure them a place in all large collections, and all grow into handsome trees averaging from 50 feet to 70 feet in height. The maximum height mentioned was considerably exceeded by a fine Pear-shaped Service in the grounds here, which, unfortunately, came down in a gale during the winter of 1891-2. I must not forget a good word for the deciduous conifer *Taxodium distichum*, a very handsome tree, but, unfortunately, tender as a young tree; the leader is very apt to be crippled in severe winters, and all side growths die back. This is, I imagine, the reason why nice shapely young plants of this *Taxodium* are not easily obtainable. In addition to its stately appearance as a large specimen, its foliage is very useful for cutting.

Claremont.

E. BURRELL.

Abelia rupestris.—This is one of the most continuous flowering shrubs we have, and withal a very pretty one. Its usual habit is to form a neat twiggy bush, clothed with small oblong-shaped leaves, while the little pink tubular-shaped flowers are borne in clusters at the point of every shoot. In some districts it is just commencing to bloom, and it will, if untouched by frost, continue to

flower till November. It does well trained to a wall, and in such a situation will bloom later in the season than where exposed in the open ground. It is a native of China and was one of the many introductions of Robert Fortune from that region. Two species of *Abelia* have been illustrated in THE GARDEN, viz., *A. triflora*, a Himalayan species (Vol. X.), and *A. floribunda*, a native of Mexico (Vol. XIII).—T.

THE JAPANESE DOGWOODS.

CORNUS, which is exceedingly common in North America, where sixteen or seventeen species are distinguished, is less abundant in Japan than in the other great natural botanical divisions of the northern hemisphere. In the northern regions of Eastern America different species of *Cornus* often form a considerable part of the shrubby undergrowth which borders the margins of the forest or lines the banks of streams, lakes and swamps. In Japan these shrubby species, or their prototypes, do not exist. High up among the Nikko Mountains, on rocks under the dense shade of Hemlocks, we saw a few dwarf sprawling plants of the Siberian and North China *Cornus alba*, but did not encounter in any other part of the empire a shrubby *Cornel*. High up on these mountains, too, the ground is carpeted with the little Bunchberry, the *Cornus canadensis* of our own northern woods, which is also common in some parts of Yezo and on the Kurile Islands, where a second herbaceous *Cornel*, with large white floral scales, *Cornus suecica*, is found. This is a common plant, too, in all the boreal regions of North America from Newfoundland and Labrador to Alaska, and in Northern Europe and Continental Asia. Of arborescent *Cornels* the flora of Japan possesses only two species, *Cornus Kousa* and *Cornus macrophylla*, and neither of these is endemic to the empire.

CORNUS Kousa represents in Japan the *Cornus florida* of Eastern America and the *C. Nuttallii* of the Pacific States. From these trees it differs, however, in one particular. In our American Flowering Dogwoods, the fruits, which are gathered into close heads, are individually distinct, while in the Japan tree and in an Indian species they are united together into a fleshy Strawberry-shaped mass, technically called a syncarp. Owing to this peculiarity of the fruit, botanists at one time considered these Asiatic trees generically distinct from the American Flowering Dogwoods, and placed them in the genus *Benthamia*, which has since been united with *Cornus*. In Japan, *Cornus Kousa* is apparently not common; certainly it is not such a feature of the vegetation in any part of the empire which we visited as *Cornus florida* is in our Middle and Southern States. Indeed, we only saw it in one place among the Hakone Mountains and on the road between Nikko and Lake Chuzenji, where it was a bushy flat-topped tree not more than 18 feet or 20 feet high, with wide-spreading branches. The leaves are smaller and narrower than those of our Eastern American Flowering Dogwood, and the heads of flowers are borne on longer and much more slender peduncles. *Cornus Kousa* also inhabits Central China. It was introduced into our gardens several years ago, and it now flowers every year in the neighbourhood of New York, where it was first cultivated in the Parsons' Nursery at Flushing. As an ornamental plant it is certainly inferior in every way to our native Flowering Dogwood, and in this country at least it will probably never be much grown except as a botanical curiosity. The second arborescent Japanese *Cornel*,

CORNUS MACROPHYLLA, often known by its synonym, *Cornus brachypoda*, is also an inhabitant of the Himalayan forests, where it is common between 4000 feet and 8000 feet above the sea-level, and of China and Corea. It is one of the most beautiful of the *Cornels*, and in size and habit the

stateliest and most imposing member of the genus. In Japan, trees 50 feet or 60 feet in height, with stout well-developed trunks more than a foot in diameter, are not uncommon, and when such specimens rise above the thick undergrowth of shrubs which in the mountain regions of Central Japan often cover the steep slopes which descend to the streams, they are splendid objects, with their long branches standing at right angles with the stems, and forming distinct flat tiers of foliage, for the leaves, like those of our American *Cornus alternifolia*, are crowded at the ends of short lateral branchlets which grow nearly upright on the older branches, so that in looking down on one of these trees only the upper surface of the leaves is seen. These are 5 inches to 8 inches long and 3 inches to 4 inches wide, dark green on the upper surface, but very pale, and sometimes nearly white on the lower surface. The flowers and fruit resemble those of *Cornus alternifolia*, although they are produced in wider and more openly branched clusters; and, like those of this American species, they are borne on the ends of the lateral branchlets, and, rising above the foliage, stud the upper side of the broad whorls of green. *Cornus macrophylla* is exceedingly common in all the mountain regions of Hondo, where it sometimes ascends to 4000 feet above the sea, and in Yezo, where it is scattered through forests of deciduous trees, usually selecting situations where its roots can obtain an abundant supply of moisture. This fine tree was introduced into the United States many years ago through the Parsons' Nursery, but I believe has never flourished here. In the Arnold Arboretum, where numerous attempts to cultivate it have been made, it has never lived more than a few years at a time. Raised from seed produced in the severe climate of Yezo, *Cornus macrophylla* may, however, succeed in New England, where, if it grows as it does in Japan, it should prove a good tree to associate with our native plants.

CORNUS OFFICINALIS, as it was first described from plants found in Japanese gardens, has usually been considered a native of that country. But, although it has been cultivated in Japan for many centuries on account of its supposed medicinal virtues, it is probably Korean. It may best be considered, perhaps, a mere variety of the European and Asiatic *Cornelian Cherry* (*Cornus Mas*), from which the Korean tree is best distinguished by the tufts of rusty brown hairs which occupy the axils of the veins on the lower surface of the leaves. In the botanic garden in Tokio, which includes the site of a physic garden established in the early days of the Tokugawa dynasty, there is a group of trees of *Cornus officinalis*, which appear to have attained a great age. They are bushy plants, perhaps 30 feet high, with bent and twisted half-decayed trunks and contorted branches, which form broad, thick round heads, and in October were loaded with the bright, Cherry-like fruit.—*Garden and Forest*.

Deutzia gracilis is usually thought more of as a plant for pots and the greenhouse, but it is perfectly hardy. When massed together on the outskirts of the lawn this shrub presents a fine aspect at this season of the year. We noticed it thus grouped in the Royal Gardens, Kew, the plants about 2 feet or a little more in height, and covered with the pure white flowers.

Escallonia Phillipiana.—A very noticeable feature in connection with this beautiful *Escallonia*, mentioned on page 535, is its hardness, for frosts sufficiently severe to cut some species to the ground have little or no effect upon this. The pure white flowers are so distinct from those of any other *Escallonia* that it must be given a place in any collection of choice flowering shrubs. In especially favoured districts, another kind—the larger growing *E. montevidensis* or *floribunda*—is a very ornamental flowering shrub, one of the tenderest of the entire genus. It forms a free-growing, somewhat upright bush, that under favourable conditions will reach a height of 10

feet or 12 feet. The white flowers are borne in terminal corymbs, an arrangement very different from that of the better-known kinds.—T.

ORCHIDS.

DIPODIUM PALUDOSUM.

UNDER this name just now is flowering for the second time in Mr. Williams' nursery, Upper Holloway, a very curious plant with somewhat the habit of a very soft-leaved *Vanda*. It was introduced by the Messrs. Veitch, of Chelsea, some few years ago from Borneo, and more recently it was brought home to Europe by M. Regnier, of Paris, from Cochinchina. It was originally discovered by Griffiths in Malacca, and he named it *Grammatophyllum paludosum*, but with this genus it has nothing in common, neither can I believe it has anything in common with *Dipodium*, for we are told that this is a genus of terrestrial leafless Orchids of Australia and New Caledonia, having thick branching roots and stems 1 foot to 2 feet high, furnished at intervals with brown scales, and terminating in large racemes of nearly regular flowers. The plant in question is an erect growing one, having numerous two-ranked leaves, which are soft green in colour and thin in texture, bearing axillary spikes of bloom. Mr. Williams has figured the plant under this name in the "Orchid Album," t. 422. I rather think that this plant belongs to the genus *Waillesia*, and that the two genera ought never to have been merged together, for I can see nothing which could bring them together but the fact of their both being members of the same tribe. The genus *Waillesia*, we are told, consists of epiphytal plants with the habit of *Vanda*, with distichous leaves and lateral spikes of bloom. Here then is a description more in accordance with the plant under consideration, and which I would commend to the attention of Orchid growers, more especially to those who care for the curious species of this order. It is of erect growth and very much resembles a *Vanda*, saving that the distichous leaves are soft in texture, but they nevertheless are persistent. The spike is lateral, bearing from six to twelve flowers, each about 1½ inches across, sepals and petals nearly equal in size, creamy white, dotted with bright purple, lip white, streaked and blotched with rich purple. This plant appeared to require a moister atmosphere than is to be found in any of our plant houses, and for several years it was grown in large Wardian cases in the hottest stoves. The plant, however, has now got better acclimatised, for it grows at Holloway in the open stove. The pots are well drained, the potting material being simply Sphagnum Moss. It likes an abundance of moisture all the year round, but, of course, much less is requisite during the winter. It also likes a fair amount of sun and light.

WILLIAM HUGH GOWER.

Odontoglossum Galeottianum (O. Clarke).—The flower you send is that known as *O. Galeottianum*. It is a plant about which very little is known, and I should think you are very fortunate in getting it instead of *O. Cervantesi* roseum. Reichenbach appeared to consider it a natural hybrid, suggesting for its parents *O. Cervantesi* and *O. nebulosum*, but as all the flowers I have seen of it appear to be exactly alike, I am doubtful about its hybrid origin. You will find it figured in Williams' "Orchid Album," t. 423.—W.

Cattleya Warneri.—This is a very beautiful form of the original *labiata* section, and it more

nearly resembles the typical plant than any other, but its time of flowering is quite different. I have before me two flowers, both sent for my opinion of them. One from Mr. Law-Schofield is a very pretty and a good coloured variety, with a nicely frilled lip of a rich deep purple. The sepals and petals, too, are of a deep rosy purple, but being somewhat narrow do not give the flower such a bold and effective character as some I used to see about thirty years ago. The other flower from Mr. Temple is decidedly inferior, the colour on the lip being very poor.—G.

Odontoglossum Phalænopsis.—A superb variety of this charming plant comes from G. Cunningham asking what I think of it. I must certainly acknowledge it to be the very finest variety that has come under my notice. The flower is nearly 3 inches across and of the purest white, the lip being stained with deep rich and glowing purple, saving the white marginal border. This is a plant I have always succeeded best with when it was kept through the winter in a temperature which did not fall below 60°, keeping the atmosphere moist in the summer months. It thrives well with the other *Odontoglossums*, but it must not be overloaded with soil about the roots, and it will not live unless the atmosphere is kept moist.—H.

Luddemannia Pescatorei.—The genus *Luddemannia* is one whose position in the Orchid family has been the subject of considerable doubt and discussion amongst botanists. It was the subject of a paper given by Reichenbach at the Orchid conference in May, 1885, the genus, as it happened, being represented there by a fine flowering specimen of the rare *L. Lehmanni*, exhibited by Sir Trevor Lawrence. In his paper Reichenbach pointed out the affinity of the genus with *Acineta*, and this is borne out by the habit of the plant and the downward growth of the flower-spike. Bentham, however, had introduced some confusion into the matter by putting *L. Pescatorei* (now flowering at Kew) under *Cycnoches*, to which genus it certainly does not belong. The mystery surrounding the genus is further increased by Reichenbach recording that a plant sent to him by Messrs. Veitch "appeared" the first season to be a new species of *Luddemannia*, and the next turned out to be *Acineta erythroantha*. This led him to suggest that *Luddemannia* might be a sexual form of *Acineta*, or, as surmised by Schlim, the collector, of *Peristeria*. But after all there seems to be no absolutely trustworthy evidence of these plants sporting, nor, on the other hand, have *Acinetas* or *Peristerias* ever temporarily assumed the characters of *Luddemannia*. *L. Pescatorei* was introduced in 1848 by Linden. It is a native of Ocaña, and was first discovered by Schlim at 9000 feet altitude. It appears to have been almost or quite lost sight of until a few years ago, when it was flowered by Mr. Moore at Glasnevin; from his plant the figure in the *Bot. Mag.*, t. 7123, was made. It is certainly a very handsome and remarkable Orchid. The flower-spike, which is as thick as a lead pencil, originates at the base of the pseudo-bulb, and hangs straight downwards for a length of over 2 feet. The flowers, between forty and fifty in number, are crowded on the terminal half. They do not expand to the full extent, and are about 1½ inches in diameter. The lip is shaped like a spear head and is of a rich yellow, the petals being of the same colour. The sepals, however, are brownish red, and dusted over with tiny black specks, the flower-stalks and the rachis of the inflorescence having the same character. It should, like the *Acinetas*, be grown in baskets, so as to allow the flower-spike to find its way through the bottom.—B.

Cologyne Dayana.—Of this species, which was staged so well at the Temple show by Mr. Ballantine, gardener to Baron Schreier, T. Jamieson sends me a portion of a spike bearing five flowers. It much resembles *C. Massangeana*, but its flowers are very distinct. It bears about two dozen flowers upon its long spike; they are white or nearly so in the sepals and petals, and the oblong lip is three-lobed, the side lobes recurved

at the tips, where they are banded with streaks of brown upon a white ground, and blotched on the outside with the same colour. The front lobe also has a belt of dark brown with a marginal border of white. This plant comes from the hottest parts of Borneo.—W. H. G.

Miltonia Warscewiczii.—Flowers of this species come from Mr. Law-Schofield under the name of *Oncidium Weltoni*. This was the name under which Mr. O'Reilly sent it to Mr. B. S. Williams in January, 1868, with dried flowers. Some of these I sent to Reichenbach, and from him I got the correct name. The flowers now before me are past their best and I am unable to express any opinion upon them, but perhaps when the plant blooms again, Mr. Schofield will let me see the flowers before they have faded. The flowers vary considerably, but they all have a shining patch on the lip, as if it had been freshly varnished.—W.

SHORT NOTES.—ORCHIDS.

Oncidium pumilum.—This is an interesting species from Brazil. The plant grows best in a small pan, and bears a raceme of rich yellow flowers densely crowded together. It is very distinct.

Phalænopsis Marie is one of the most beautiful Orchids in bloom now. It is best grown in a basket, and the flowers are of distinctive colour, white, richly blotched with chestnut, the base purple, whilst the lip is wholly of this tinge.

Phalænopsis Esmeralda.—A good form of this beautiful Orchid is in bloom at Kew. The plant is grown in a basket, and bears flowers of a purple-rose colour, the lip, column and side lobes intense crimson. It is a Cochinchina species.

Ionopsis utricularioides is a delicately beautiful Brazilian species which was recently in bloom in the Kew collection. It is quite a small plant, growing in a basket, and bears a short raceme of flowers, which are white, with purple veins at the base of the lip.

Oncidium triquetrum (G. Temple).—It is just 100 years ago since this plant was first introduced, whilst the plant you take it for, *O. pulchellum*, was not introduced for a quarter of a century later. *O. triquetrum* is a native of Jamaica, whilst *O. pulchellum* is found in Demerara and various other parts of America. It is a very pretty and interesting species.—W. H. G.

Cypripedium Curtisi.—I am in receipt of a flower of this charming kind from Mr. Law-Schofield. It is a very nice variety, but I fail to see anything unusual in it. This kind has always been a great favourite with me, the petals being of such a pleasing colour. The flower now before me appears to have a broader white border to the dorsal sepal than many I have seen.—G.

Cattleya Mendeli.—Mr. Law-Schofield sends me a chaste and very pleasing variety of this form. I am very sorry it did not come earlier. The sepals appear to be white, faintly tinged with flesh, and the broad petals delicate satiny rose, the lip pure white, stained with deep orange in the throat, the front lobe faintly tinged with mauve. The name delicate would be very appropriate.—W. H. G.

Odontoglossum vexillarium superbum.—A spike of bloom comes to hand from Mr. Holmes, who has a grand lot of *O. vexillarium* in many varieties under his charge. The variety *superbum* is the best, saving the form recently shown by Mr. Sander at the Temple. This originated, I believe, with Sir Trevor Lawrence, and although Mr. Holmes says he has several plants now in full bloom, it remains scarce.—W. H. G.

Cattleya Gaskelliana.—A very fine flower of this variety comes to me from Mr. Holmes, who has charge of Mr. Hardy's unique collection. It is remarkable for its very fine colour and its large lip; the sepals and petals are soft rosy purple, the lobes of the lip being flaked with a much deeper and brighter purple, whilst the middle lobe is rich amethyst-purple, with a white frilled margin, stained in the throat with bright orange, and

having radiating lines of purple at the base; this is a magnificent form of this summer-flowering *Cattleya*.—W. H. G.

Mormodes luxatum eburneum (W. W.).—This is your flower, and a very beautiful variety it is, pure ivory white, with a brown streak in the lip, and very sweet-scented. The flowers of the typical plant are of a greenish yellow and yield a delicious perfume. I have generally seen this variety appear quite promiscuously, as if the bulbs had been collected when out of bloom, or without having been seen in flower. It is a very beautiful variety, deserving extended cultivation.—G.

GARDEN FLORA.

PLATE 917.

PLAGIANTHUS LYALLI.

(WITH A COLOURED PLATE.*)

THIS is a hardy, free-flowering and beautiful shrub, which, although introduced and flowered at Kew and figured in the *Botanical Magazine* in 1871, and since then noticed occasionally in the pages of THE GARDEN, has not yet obtained that notice from horticulturists to which it is fully entitled. Against a south-east wall at Kew it has grown into a large plant in about four years, and both last year and this it has bloomed with the same freedom and produced somewhat the same effect as a Cherry when in flower. A south-east wall is a trying position for plants of questionable hardiness, the morning sun after a severe frost being fatal. But the *Plagianthus* at Kew did not suffer at all during the severe weather of last winter; indeed, it retained most of its foliage till the spring. The wall is not, therefore, needed as a protection, but as I learn from Mr. Gumbleton that in his garden, where the *Plagianthus* is treated as a shrub in the open, it does not flower freely, the wall is probably needed to ripen the wood and induce a good set of flower-buds.

Mr. Moon's drawing gives an excellent idea of what a spray of the *Plagianthus* is like, and it is easy to imagine the beauty of the plant when bearing scores of such sprays. The flowers are snow-white, with golden yellow anthers. The shoots should be pruned and the young wood laid in as soon as the flowers are over, which is towards the end of June (the Kew plant has still a few flowers upon it). The flowers are produced on the ends of the last season's branchlets. Cuttings of this plant do not strike freely, only a small percentage of a batch put in last autumn having rooted. Probably autumn layering would be the best plan for it.

Plagianthus is a genus of about a dozen species, and belongs to the Mallow family. Three species are found in New Zealand, *P. Lyalli* being one of them; the others are natives of Australia and Van Dieman's Land. Five or six species have been introduced into English gardens, but *P. Lyalli* is the only one that has any special claim to a place in the garden. According to Hooker in the "Hand-book of the New Zealand Flora," it forms a small branching tree 20 feet to 30 feet high in the mountain districts throughout the Middle Island, from Nelson to Milford Sound, fringing the Beech forests. It is said to be deciduous at and above 3000 feet altitude, and ever-

* DRAWN FOR THE GARDEN by H. G. MOON, in the Royal Gardens, Kew, July 1, 1892. Lithographed and printed by Guillaume Severeys.



MAGNOLIA LYALLI

green below that level. In autumn its naked branches and yellow foliage give a peculiar colour to the landscape at the higher elevation. In New Zealand it flowers in January, whereas here it flowers in June. The flower-stalks are fully 2 inches long, and this gives the clusters a graceful appearance, as some of the flowers hang downwards.

P. LAMPENI is, perhaps, the second best species of the genus in a garden sense. It flowered with Mr. T. Smith, nurseryman, Newry, about nine years ago, when a figure of it was published in the *Gardeners' Chronicle*. It is described as a perfectly hardy shrub against a wall, a prodigious bloomer, with sweet-smelling flowers and much superior to

P. PULCHELLUS, noted in THE GARDEN by Mr. Gumbleton in 1880 as having stood two unusually severe winters with him without any protection, and flowered when only 2 feet high. Sir Joseph Hooker makes both P. pulchellus and P. Lampeni synonyms of P. sidoides, which is figured in the *Botanical Magazine* (t. 2753, 1827) as *Sida pulchella*, and is a shrub 3 feet to 4 feet high, with cordate leaves and small axillary whitish flowers. It is a native of Tasmania. Mr. Smith's plant is vastly superior to that represented in the *Botanical Magazine*; so much so, that Dr. Masters preferred to keep it separate under the name of P. Lampeni. Is this plant in cultivation now? W. W.

THE WEEK'S WORK.

ORCHIDS.

THE exceptionally hot weather, which lasted for about two weeks, has apparently passed away, and a few refreshing showers have filled the underground tanks with fresh rain water. We had a good supply left, but on examination it proved to be almost as hard as well water, probably through the cement tanks acting upon the water. Had the tanks been formed of slate or galvaolised iron, the water might have retained its original softness. Allusion was made last week to the Dendrobiums being placed in their growing quarters, and, curiously enough, an amateur wrote lately to inquire why the young growths of D. Paxtoni continually damp off. This never happens with our plants, which are always placed in a heated house and grown rapidly, air being admitted as freely as possible and the house shut up every afternoon with a high temperature. I should say that the cause of the young growths damping is the want of artificial heat and an overmoist, close atmosphere. The plants would also be more liable to damp at a distance from the glass roof and crowded amongst other plants. It is the custom with most Orchid amateurs to remove the plants when in flower from their growing quarters and to place them together at the end of the house, or in some position where they would be most effective, more regard being paid to effect for a time than to the healthy condition of the plants themselves. They should only remain there until they pass out of bloom, and be at once removed to the place from whence they were taken. This removal may sometimes do harm, and cannot be conducive to the well-being of the plants. It affords a good opportunity to overhaul the plants in every compartment to remove all spent flower-spikes, and the leaves should be washed with a weak solution of soft soapy water to clear off any dirt or sticky substance which may have dropped from the flowers. In arranging the plants thus removed, a careful cultivator will place each specimen in the best position to ensure its most perfect development. It is useless to expect the small plants to make good growth if they are farther removed from the roof glass than the large ones. Small duplicates of choice specimens require more careful attention than the parent plant from which they have been removed, and if these large specimens make the

most satisfactory growth and form flower-sheaths more freely within a few inches of the glass roof, the small specimens placed in front of them, nearer the paths and farther from the roof glass, are sure to suffer from lack of light and air. It is better to place plants like these, together with any sickly specimens from which the old potting material has been washed, by themselves, as they require rather more shade from bright sunshine. Recently imported Orchids, too, are by no means attractive to some, and are too often pushed into some corner out of sight, where they are neglected and have a poor chance of ever forming healthy, sturdy specimens. Of course the Orchid fancier who cares for his plants will not trouble much how they look, but will place them in the best position, for nothing delights him more than to see the young growths starting from the base of the more recently formed pseudo-bulbs, and to see the young roots pushing freely amongst the fresh Sphagnum and fibrous peat. Newly imported Orchids are the delight of the Orchid fancier, but those who dislike their appearance and neglect them had far better form their collections with established plants; it saves time and trouble. Now comes a matter of considerable importance, that is, the watering of newly-imported plants. The mistake is often made of giving them too much, and as a consequence, instead of the plants making fresh roots freely, as they should do, they rather lose those they have, and never get a fair start. Every newly-potted plant should have a clean flower-pot to grow in, ample drainage, sweet and fresh potting material, and a thorough watering about every ten days. Lightly sprinkle the surface frequently to encourage the growth of new roots from the base of the bulbs. Newly-imported Orchids should have even more drainage than the established plants. The great complaint this year is of the abundance of insect pests, especially thrips. Fumigating the house with tobacco smoke may do more damage to the plants than to the parasites upon them. Soft soapy water, which will kill green-fly, does little harm to thrips, and if the soapy water gets upon the live Sphagnum Moss it will kill it. Tobacco water, at the rate of about half-a-pint of the liquor sold in the shops to a gallon of water, is an excellent wash for them.

At this season of the year there are numerous, distinct, and beautiful plants in flower. Amongst them *Grammatophyllum Ellisi* is conspicuous, a very nice specimen in rude health having been exhibited before the Orchid committee of the Royal Horticultural Society the other day. The flower-spikes come with the young growth, and is sometimes as much as 3 feet in length. Importations of it sometimes come over in fairly good condition, but as a rule it must be placed with the Orchids difficult to import. If recently imported plants can be obtained at any time, plant them in teak baskets in peat and Sphagnum, well drained, and hang them up near the roof-glass of the warmest house. The young growths have a tendency to damp off unless care is taken to keep water from getting into the centre. The plants are now in growth and require plenty of heat and moisture. Amongst other occupants of the warmest house, *Miltonia Roezli* has passed out of bloom, and may be repotted now as the young growths are starting. I used to repot this in August or September, but it is much better, if time can be spared, to see to it now. It does well on the shady side of the house, but where it can get plenty of light. It is rather dangerous to overpot it, and it does not like too frequent disturbance at the roots. Before repotting see that the plants are quite free from thrips, which is their worst enemy. These plants are never at any time removed from the warmest house. The potting material should be quite half freshly-gathered Sphagnum, washed clean and chopped up. The best fibrous peat should be used with it with a liberal sprinkling of potsherds and bits of charcoal. About a month ago the plants of *Miltonia vexillaria* were removed into the cool house. A considerable number of them are yet in flower, but as soon as the plants pass out of bloom they will be dipped in the tobacco liquor solution already alluded to. Even if thrips cannot be seen

upon them, it is much better to do this as a precaution. Now is the time to pot these plants also, and the treatment that they receive should be the same as already advised for *M. Roezli*. The brilliant *Epidendrum vitellinum majus*, though not yet out of bloom, is also starting to grow.

The cool house must be freely ventilated, damped down frequently, and well shaded, leaving the ventilators open at night. The *Cattleya* house is now kept at a temperature of from 60° to 65° as a minimum with air on at night. The East Indian house temperature is about 70°.

J. DOUGLAS.

HARDY FRUITS.

PEACHES AND NECTARINES.—Never before probably have Peaches been gathered so early from trees against open walls, the variety Early Alexander being exceptionally precocious. Hales' Early and other comparatively early varieties are also commencing their final swelling, in the more favoured parts of the country at any rate, and in any case all ought once more to be gone over with a view to lightening the crops where still too heavy. Those worst placed for swelling to their full size should be the first removed, pulling off two or three dozen fruits from a fairly large tree greatly increasing the size of those left. Wall nails always seem in the way of swelling fruit, and if those dangerously near to the latter are not shifted now it will not be possible to draw them later on without damaging the fruit. If the daily syringings have been persevered with, there will not be much red spider about, the young growths being strong and healthy accordingly. Any shoots liable to break down should be laid in, the whole of them on early trees also being either fastened back with twigs, ties, or shreds and nails. Then if the leaves are further tucked back from the fruit the colouring of the latter should be perfect. Allowing the young wood to set out from the trees another fortnight or three weeks would serve to retard some of the later varieties, and a scrim canvas shading or blinds drawn over the trees during the hottest part of clear days may be desirable where fruit is particularly wanted late in September and till November. Birds are likely to attack Peaches and Nectarines badly this season owing to small fruits ripening and being over unusually early. Therefore net over the trees when the fruits are approaching ripeness. Wasps also are very numerous, though as yet they have not started eating fruit. The nests of these should be taken as much as possible.

WATERING PEACH AND OTHER WALL TREES.—Rainfall has been pretty general, but in but few places has there been enough to well soak the ground about wall trees. Nor is there much likelihood of a sufficiency of moisture reaching the borders, especially near to the walls. Advantage ought, therefore, to be taken of a dull, showery time, or it may be an improved water supply, for giving the borders a good soaking of water, or, better still, moderately strong liquid manure, soot water being a fairly good substitute for well-diluted drainings from farmyards and horse stables. If, on loosening the surface of the border prior to watering, it is found very dry, first well moisten it with clear water before applying liquid manure, this rendering the soil in a fit condition to absorb the manure, fewer risks of injury to tender roots also being run.

PLUMS.—Rivers' Prolific, Morocco and other early Plums are ripening fast on the wall trees, and the second early varieties are also commencing their final swelling. In very many instances the crops are still much too heavy, the thinning out requiring to be more severe this season than has been the case for several years past. If all still hanging are allowed to remain on the trees, the probability is none will attain perfection, and, seeing that half-ripe fruit makes excellent preserve or it can be used in pies, it is a great mistake to neglect still further lightening the crops. Immense quantities of half-ripe fruit makes excellent preserve or it can be used in pies, it is a great mistake to neglect still further lightening the crops. Immense quantities of half-ripe fruit makes excellent preserve or it can be used in pies, it is a great mistake to neglect still further lightening the crops. Immense quantities of half-ripe fruit makes excellent preserve or it can be used in pies, it is a great mistake to neglect still further lightening the crops.

ket growers, and what are left on the trees then swell to a good size, fetching much better prices accordingly. Good care should be taken of any trees against cool walls, as these will carry on the supply to September and later. Cut all the strong growths starting from near the top of the walls cleanly out and thin out the rest where crowded, laying in some of those reserved to their full length wherever there is a blank space to furnish, and shortening the rest back to the fourth or fifth leaf. Curiously enough, some of the trees against quite cool walls are overrun with red spider, and these will greatly weaken them unless checked. A good-sized bandful of flower of sulphur squeezed through a canvas bag into a 3-gallon can of water, and the mixture well sprayed over both the upper and lower surfaces of the leaves, is the best remedy for red spider.

FIGS.—Plenty of strong sunshine is very favourable to the growth of Figs, and this should be a good season for this luscious fruit. As usual, the trees are growing strongly and forming far too much wood, especially about the base of those low stemmed. Much and in many cases the whole of this sucker growth should be cut cleanly away, and the trees ought also to be gone over, foreright shoots, unless no training of young shoots is resorted to, being cut off. Thin out the shoots better placed for training, only enough being laid in to thinly clothe the wall. When the shoots smother each other, they do not as a rule become sufficiently firm to be either bardy or productive, and the crops on the trees do not have a good chance of ripening properly. It is a mistake to top any of the young shoots, the points of well matured wood being where the Figs will be principally produced next season.

GRAPES.—Very rarely do Vines grown against sunny open walls and trailing over the roofs of outbuildings and such like present such a promising appearance as they are doing this season. Unless we have had all the summer weather for this year, the crops should be very heavy and early, the ripening being as perfect as in former days when this class of fruit was more grown in the open than now. The lateral growth being duly stopped at the first or at the most second joint beyond the bunches, and duly fastened back to the walls, all sub-lateral growths should also be prevented from smothering either the wood or bunches. Most of them ought to be cut out, a few, or where there is room for them, being stopped at the first joint. The small cluster varieties may well be allowed to bear as many bunches as they will, but in the case of the Black Hamburgh, a few Vines of which are still to be met with in the open air, and the common Sweetwater or Muscadine, the bunches may be reduced in number, and some of the best of those reserved thinned out with advantage. The berries of the last-named when thinned out will attain the size of Frontignan, and when ripe are very refreshing. In bygone days they used to be retailed in Kent at 10d. per pound, and may once again sell equally well. Mildew is the greatest enemy to outdoor Grapes, and on the first signs of this the affected parts and the bunches generally should be well dredged with flower of sulphur. This will, if persevered with, most probably check the spread of mildew, and can easily be washed off if need be under a tap of clear running water without prejudice to the Grapes.

PRACTICAL

PLANT HOUSES.

PROPAGATION.—This is a part of the necessary work of every establishment, but in none more so than where plants for decoration in small pots are in every-day demand. That this also is on the increase no one can deny who has had an opportunity of observing the tendency of the times in the use of plants. It must be, therefore, far better to provide as useful a stock in succession as possible rather than bewail the condition of plants which through repeated and constant use have become mere skeletons. The provision of a proper

propagating pit has been urged more than once, and need not be repeated beyond saying that it will soon repay for the outlay, at the same time making the raising of small plants a pleasure rather than otherwise. About this time there are many things that can be struck with ease provided a steady fire is kept going or other means employed to secure bottom-heat. Shoots of Crotons in variety can now be taken with clean growth of the current year, not forgetting that exceedingly useful kind of small growth and distinct habit, *C. van Gerstedi*. *C. Countess*, *C. picturatus*, *C. interruptus*, *C. Baronne James de Rothschild*, and *C. Andreanus* make up a capital half dozen of old and well-tried kinds.

The same advice applies to *Ixoras*. If any additional stock be needed of *Allamandas* and other flowering plants, these also should be secured whilst there is yet good time to get the young stock well rooted before the resting season comes round. *Poinsettias* can be struck as opportunity offers for another month, a few at a time being in my opinion preferable to the many, so as to have a nice gradation of height in the plants at the proper time. The same remarks apply to such dwarf growing stock as *Fittionias*, *Cyrtodeiras*, *Sonerilas*, and the useful *Panicum variegatum*. Such winter-flowering *Begonias* as *B. insignis* can still be propagated, allowing nothing in pot room for such a stock beyond $\frac{1}{2}$ -inch pots for blooming; pot them into 6-inch pots, and they would be failures in the majority of cases. Another exceedingly serviceable plant if propagated about this time is *Eranthemum pulchellum*, one with blue flowers it is true, thus not appearing possibly to such an advantage under artificial light. My plan with this plant has been to strike the cuttings in $\frac{1}{2}$ -inch or 3-inch pots, then give one shift only as soon as they are well rooted, keeping them in heat with plenty of light. Such a stock will add to the attractiveness at Christmas-time when blue flowers are none too plentiful. Rather than store too many old plants of *Gardenias*, it will be found better to strike a fresh stock. Branches rather than single shoots of these can be taken with safety if good means for propagation in a rapid manner are at hand. I mean by this pieces of growth with half-a-dozen or more young shoots upon them. These, when struck successfully, are a decided gain in time, the groundwork of a good bushy plant having been secured in the cutting. In every case an excess of moisture will have to be guarded against. This may seem rather strange advice to give during the hottest weather, but as long as sufficient artificial warmth cannot be maintained without too high a temperature, any excess of atmospheric moisture cannot be dispelled in a proper manner.

SEED SOWING.—New seed of this season's harvesting of the choice hybrids of *Amaryllis* is now ripe and in a fit condition for sowing. Before these lines are in print mine will have been sown in shallow pans, each seed being inserted upon its edge. It pays to give extra pains to this little matter—little as regards time, but all-important in securing a good germination. A brisk heat is best until the young plants appear, when less will suffice. Note should be taken of this, sowing in good time; it is thus possible to save a season in the flowering. A sowing of *Cinerarias* made about now will provide one of the most useful lots of plants that can be grown of this showy greenhouse annual. The advantage of such a stock is the absence of the Rhubarb-like leaves, which no plant grower cares to see. Another sowing if made about the end of the month will provide a fine succession for late spring flowering in small pots. The earliest sowing of *Calceolarias* should be made about the middle of the month, these and the foregoing both being kept quite cool and in the shade if possible. Provided the soil be thoroughly saturated before sowing the seed, there will be no need of watering before the seedlings appear.

The earliest ripened seed of *Primulas* will now be fit for sowing, such a stock being the best for seed-sowing as well as for decoration in small pots. A close frame for this will be found the better place, with shading and a covering of glass to prevent evaporation. Another very useful sowing

that can be made now is that of *Mignonette* for autumn flowering and to carry the season on to nearly Christmas. Six-inch pots at the most will be a good size to use for sowing the seed, no future shifting being thought of. These pots will produce plants of large dimensions, smaller ones being used if correspondingly small plants are preferred. These latter, however, will necessitate closer attention to watering. *Humea elegans* has not been grown the last season or two to any extent through a failure in the seed crop. Now is a good time to sow, treating it in the same manner as the *Primulas*, more patience even being needed to secure a good germination.

JAS. HUDSON.

THE KITCHEN GARDEN.

WINTER PARSLEY.—Arrangements for the winter and early spring supply of Parsley now demand attention. Where Parsley is dependent upon a sowing made in early spring, and which has had to be gathered from at all times, it rarely, if ever gives a supply during the winter and early spring. Not only the sowing, but the position and means of protection when the time comes for such to be required must be attended to now. The beds should be formed of the size that will take portable lights, or whatever covering it is intended to apply. Low brick frames which are not now in use may also be put in order for sowing, the lights, of course, not being required until protection is really needed. The borders for sowing should be well exposed as a safeguard from damp, which often plays great havoc with Parsley in winter. The soil for the seed must be fairly fertile and also firm. Where Parsley does not succeed very well, work into the soil some pounded old mortar rubbish or a dressing of freshly slaked lime, as it is on soils where a fair proportion of lime is present that the Parsley succeeds the most satisfactorily. The seeds must be sown in shallow drills drawn 15 inches apart, and if sown in low open frames, the soil must be kept moist by watering. To prevent the surface from drying rapidly, cover with a mat until the seeds germinate.

SOWING IN POTS.—Plants may also be raised by sowing a few seeds in 3-inch pots, and as the plants become large enough they may be placed in shallow boxes or tubs with holes around the sides. These are kept out in the open air until the winter arrives, when they are transferred to frames, an airy greenhouse, or a vinery. Parsley grown in this way comes in very useful in times of deep snow and severe frost, and for small gardens it is a system to be commended.

SPRING CABBAGE.—It is quite evident that too much care cannot be taken in providing for an early supply of Cabbage, as during the past season or two this crop in many gardens has proved a veritable sheet-anchor. With such varieties as *Ellam's Early Dwarf* and *Mein's No. 1* there is no fear of their running to seed or being cut off by frost. It is more than a month too early to think of sowing such kinds as *Enfield Market*, *Nonpareil*, and some other kinds. I have specially mentioned the two above excellent early kinds, knowing their true value, and I daresay there may be others well worthy of attention. In the midlands and more northern parts of the country the middle of the month is the most suitable date. In earlier districts delay sowing another week. There is nothing like having plenty of plants, and as *Ellam's* is a small grower, it may be planted closely together.

RAISING THE PLANTS.—Select an open spot with the soil in a fertile condition, as it is useless to expect good plants from poor soil, and, moreover, if fertile soil is not provided for them they are very apt to be over-run with either fly or club. In my case the seed-bed for Cabbage follows on after early Potatoes, this being in good condition, a forking over previous to sowing being all that is needed. If at all rough after the drills are taken out, fill up with old potting soil. If at all dry, well water the drills previous to sowing, this

being far preferable to watering after the seeds are sown. Nor must coating the seed with red lead be omitted if small birds are troublesome. If club is likely to be troublesome, work in some lime and wood ashes previous to sowing, and as soon as the seedlings appear in the rough leaf, dust over with soot, this preventing the flies from depositing their eggs.

MAIN-CROP CELERY.—The trenches having already been prepared as advised in a previous calendar, proceed to put out the plants, as if allowed to remain too long they are apt to receive a check and cause bolting. See that the balls are in a thoroughly moist state before being disturbed, as if planted dry it is with difficulty that they can be moistened afterwards. Take up the plants with squares of soil, as then they will not receive any check. Also see that the sucker growth and small leaves clustering about the base are removed. After planting give a thorough watering, also sprinkling the plants over in the evening. As the plants commence to root into their fresh quarters plentiful supplies of water are needed, especially if the weather should continue dry.

LATE FRENCH BEANS.—A sowing of this most useful crop should be made now, or in the course of a week, so as to afford a late supply. Take care that the site is open and sunny and the soil rich. Canadian Wonder and Ne Plus Ultra are both good for late sowing. It is also advisable to arrange the rows so that they can be protected in case of early visitations of frost. A. YOUNG.

FLOWER GARDEN.

HARDY FLOWERS—A RETROSPECT.

It must be five or six years since you did me the honour of publishing some remarks of mine under the above head, and since then lovers of hardy flowers have certainly had to complain of no lack of novelties, while the cultivation of many rare and choice things has, it may be hoped, become better understood.

The following notes refer mainly to plants that have come under my observation within the time named, and where other and older things are mentioned it is because I have at length succeeded with them where I had previously failed, or because they have continued to baffle all my attempts to make them grow. Many of the choice alpine *Ranunculuses*, especially the white sorts, remain with me as intractable as ever. The most beautiful of all, *R. amplexicaulis*, fortunately, does well almost anywhere, and *R. anemonioides* also grows strongly here, but many that I have had disappear after the first year, though I cannot quite say this of *R. glacialis*, a plant abundant on the tops of some of the Swiss mountains, and which has lived on for the last two years, though it does little good. I have heard that this has been successfully grown in English gardens in a compost consisting mainly of smashed slate, an imitation of its habits and habitat, which sounds likely enough. I regret much that I cannot get that very beautiful *Buttercup*, *R. montanus*, to flourish. I grew it apparently successfully for a year, and it flowered well, but then disappeared, and a second relay planted in common soil did no good whatever. Another yellow species, *R. graminifolius*, seems easily grown. I do not apparently know how to grow *Anemone palmata*, though both the yellow and white varieties occasionally flower here, but pieces of *A. sulphurea* brought home from Switzerland in the autumn of 1890 have become established and have bloomed. It is not easy to establish this species when dug up and

transplanted from its mountain home, and although I am rather proud of my own success, I do not altogether recommend others to do likewise, as strong seedlings if they can be procured are more likely to succeed. This is one of the most beautiful of *Anemones* and of alpine flowers, and another sulphur-coloured species (of the *Pulsatilla* tribe), *A. albana*, is perhaps one of the ugliest, the pistil and stamens being too large for the corolla, and giving the flower a choked and over-stuffed appearance. Many of the varieties of the *Pulsatilla* *Anemone* appear to be somewhat difficult to establish, or at any rate to obtain in the shape of plants that are likely to grow, and the same may be said for *Adonis pyrenaica*, which is certainly a much finer thing than the commoner *A. vernalis* when doing well.

In the face of the magnificent modern varieties of perennial Larkspur, it is not perhaps a very wise thing for gardeners, especially if space is limited, to trouble themselves about botanical species. *D. Brunonianum*, however (which I do not possess myself), appears to be distinct, and is a handsome plant. *D. triste*, a plant seldom procurable, and probably with a bad constitution, is quite unlike anything else. The yellow Larkspur (*D. Zaili*) is a remarkable plant whether it be in fact perennial or biennial, but it appears to be radically weak in constitution, and is not likely to become common in English gardens. I am now struggling with my second venture—my first having died suddenly—but I doubt if it is alive next year. *D. nudicaule elatius*, sold as a true perennial, is very much the reverse of this latter, like all its sisters, its brothers, and its aunts of the scarlet persuasion. I have had no real opportunity of judging the merits of *Clematis erecta*, for the drought has prevented its doing well at the flowering season, but this has the high recommendation of the Rev. C. Wolley Dod, and I sometimes wonder whether there are not others among these herbaceous *Clematises* that might be worth introducing into select gardens.

A year or two ago I bought several of the species of *Paeony*, but the results hitherto have not been very astonishing; indeed one or two of them are so very much like some plants of single *Paeonies* which I already possessed, that I fancy I must for some time have been entertaining angels unawares. Mr. Ewbank (and I rather think Miss Jekyll also) having pointed out that *P. Wittmaniana* is a plant that "no gentleman should be without," I thought it better to do the right thing promptly and set up with it last autumn, but it has not yet flowered. The price of this species is truly appalling, but I managed to get a good piece from a Dutch nursery at just one-third of the price asked in this country. They seem to manage these things better in Holland.

Among the *Cress* family (*Cruciferae*) the most remarkable introduction, or, more strictly, re-introduction, of recent date is *Morisia hypogaea*, a plant that I have not yet ventured to plant out and expose to the vicissitudes of a Kentish winter. It is said to be hardy, and is becoming commoner, though still a dear plant. The best of the alpine *Alyssums* (and a good many of them are much alike) is one named *A. serpyllifolium*. *A. pyrenaicum*, interesting from its rarity and the inaccessibility of its only known habitat, is a poor grower here, though, being so cheap, it probably grows better in many other places. The *Æthionemas* and pink *Iberis*, lovely things when grown well and in abundance, do not seem to do well here; nor do they seem to be easily raised from seed. *Vesicaria græca* is sufficiently unlike the *Alyssums* to be worth grow-

ing, but I lost it some years ago, and have never succeeded in getting it again.

I do not trouble myself much about alpine *Pinks*, many of which are too much alike, and the best of which, such as *Dianthus alpinus* and *glacialis*, are hard to keep on cold soils and in wet winters. The very beautiful species figured in *THE GARDEN* (Vol. XL, p. 332) under the name of *D. callizonus*, a native of the Transylvanian Alps and said to be hardy, has not yet, I think, got into the market; at any rate, I have not observed it in any list. *Arenaria montana* (or *grandiflora*), a plant of this order, is one of the most beautiful of all white alpine, and one wonders it is not more common. A neat species (*A. tetraquetra*) grows here, but has not yet flowered.

I should like to see an extraordinarily pretty little Greek alpine (*Erodium chrysanthum*) again in M. Froebel's catalogue. I kept this on my rockery for two or three years, which is more than I can say for *E. Richardi*, another pretty little gem of the same order that I must some day set up with again. I am always looking for novelties among the *Pea* family (*Leguminosae*), but not always with conspicuous success. I think the best thing I have at all lately come across in this way is the red variety of the commoner *Anthyllis montana*, a beautiful variety of a beautiful species. The exigencies of a new and altered garden compelled me to move *Orobis roseus*, one of the most beautiful plants of the order in cultivation, and I lost it thereupon, and have never succeeded again in getting a growable plant. *O. varius*, as its name implies, is, perhaps, really variable. The plant that I have under that name, and for which I paid 2s. 6d., is beneath contempt, but it is a good deal praised, and the right thing may exist somewhere.

The beautiful pale lemon *Oxytropis campestris*, so common in the neighbourhood of Zermatt, is growing and flowering well here. I wish I had some more species, but the difficulty of moving and establishing these plants is well known and seed does not germinate freely. The rare and distinct *Astragalus adsurgens* has died here, I regret to say, and a plant for which under the name of *Tephrosia virginica* I paid 1s. 6d. has not even attempted to live. In the appendix to his interesting lecture on hardy flowers delivered before the Royal Horticultural Society, Mr. Wolley Dod mentions *Baptisia australis* as a good plant that will not do in his Cheshire garden. I was afraid at one time that the soil and climate of Mid-Kent were going to have the same effect, but I see my plant is at length doing well. This is a very fine herbaceous perennial when well grown. The little alpine Broom (*Genista humifusa*) is a beautiful free growing thing, and so is the British *G. pilosa*. Still more beautiful it may be, but hard to move, and I fancy difficult to propagate. *Trifolium uniflorum* is a very distinct plant, and apparently very difficult to procure. I saw it in my friend Mr. Ewbank's garden, who tells me he has since lost it, which speaks ill perhaps for its perennial quality. It is, I believe, a native of the Apennines.

An *Oxalis*, given me some few years ago by Mr. Ewbank under the name, I believe, of *O. pulchella*, is a gem of rare beauty; it has only one fault (which some people may perhaps think a virtue), viz., it flowers in October at a time

When the rotten woodland drips,
And the leaves are stamped in clay,

and when, in fact, one does not want it. Of all the new plants I have seen this year, another *Oxalis*, *O. enneaphylla*, has attracted me

most—lovely white flowers and still more lovely glaucous green foliage. Mr. Ewbank tells me this is hardly in the Isle of Wight, but I learn on equally good authority that it is not so at Kew, and I fear Kent must take its cue from the latter and not the former locality. It comes from the Falkland Islands.

Some twelve or fourteen years ago I bought a dwarf brick-red Poppy under the name of *P. spicatum*, a name which, for all I know, may be authorised, but which certainly rather "savours of Sweet," not to say of the nursery gardener. This has since been named by the Kew authorities *P. rupifragum* var. *atlanticum*, and still more recently (judging from a label I saw on the Kew rockery last spring) *P. lateritium*. The peculiarity of my plant is that while it never reproduces itself by seed, it appears to become habitually hybridised from pollen of the common *P. orientale*, and has produced a remarkably good strain of garden Poppies, dwarfer and more floriferous than the male parent, having bright scarlet petals without any blotch and almost blue anthers. Another good Poppy is *P. pilosum*, which should be more largely grown, for it is very easily raised. The Himalayan *Cathartia villosa* has eluded me, nor have I ever succeeded in piloting the blue and yellow *Meconopsis* (*M. Wallichii* and *M. nepalensis*) between the Scylla of a cold winter and the Charybdis of a dry spring. The Chinese *Eomecon* (figured Vol. XXXV., p. 76) grows strongly with a wild and weedy growth. It is worth having, though less beautiful than its American cousin, *Sanguinaria canadensis*. It is needless to say that *Romneya Coulteri* is hopeless in such a garden as mine in the open, but it appears to be quite possible to grow this in large pots and keep it through the winter in a house. At any rate, I have done this with success during the last winter, and have bloomed it during the present summer. As I believe the flowers are produced solely upon young shoots, the plants need never become unmanageably big. This is a thing worth any amount of trouble.

A few years ago I had quite a good collection of *Cistus*, but these were all killed by the winter of 1890-91 except two, the variety known as *C. formosus* and *C. alyssoides*. As these two were both sent to join the majority by the short sharp frost of last January, I am not perhaps entitled to suggest that they are essentially hardier than others. The latter species roots at the joints as it spreads, which affords a ready means of propagating it, but it is inferior to most of these things in point of beauty. *Helianthemum tuberaria*, one of the few herbaceous rock Roses, is rare in English gardens; it is a beautiful thing and worth growing, and probably easy to keep through the winter in a cool house, for it has, I believe, no pretensions to be considered hardy in this country.

I never seek composite flowers, and seldom come across any new plant in this colossal order that much interests me. The *Inulas* of the Caucasus (*I. glandulosa*, for instance) are among the most beautiful and most distinct of the summer-flowering plants of the order. *Centaurea ruthenica* is also a graceful plant and very distinct, so much so, that I cannot help wondering if there are not other species (over and above what we already have) among the long list of the genus which might be worth growing in choice selections. These things attract me more than the Michaelmas Daisy tribe. The biennial Mexican Thistle (*Erythrolena conspiciua*) I hope to flower next year. I have not seen it myself in any garden as yet. The rigour, not to say coarseness of growth, of the great majority of this order of plants is well

known, but it is noticeable, nevertheless, how extremely difficult to transplant and establish some of the alpine species are found to be, while many even of the strong growing Daisy flowers appear to be especially agreeable to slugs. *Celmisias* are distinct, but lack hardiness, I believe. They are New Zealand plants, I understand. I doubt if I have as yet succeeded in establishing *Ostrowskia magnifica*. I started this year with a decent plant, but it has gone under rather prematurely, I fear; however, it may come up again next year. This is finely grown by a neighbour of mine, who gives it the protection of a little manure and ashes during the winter. The New Zealander (*Wahlenbergia saxicola*) I had in abundance last year, for it seeded all about my rockeries, but this year there is not a single plant to be seen from which I am disposed to infer that here, at any rate, it is simply an annual, and the entire absence of rain for the last four months has prevented the seed germinating for this season. It is not of much value, being far inferior to most of the alpine *Hairbells* even when the blooms are open, which they seldom are for more than an hour or two during the day. I bought *C. Raineri* (vera), but I am not sure even now whether I have got the true thing. My plant gets smaller rather than larger, and has sickly yellow foliage like the hybrid *G. F. Wilson*, both which peculiarities no doubt speak well for its authenticity, but it certainly does not correspond with some description of this species which I read not long ago in THE GARDEN. The blooms of my plant are much like those of the common *C. carpatia*, and I cannot see that they are in any respect more beautiful—at any rate, this is not a species about which collectors need make themselves unhappy.

It may possibly be from some want of tone in my moral nature, but ever since I have interested myself at all in hardy flowers I have always had "gentian on the brain." Any sort of dog-Latin adjective attached to the word "gentiana" by way of a specific name attracts and tempts me at once. This is not an altogether desirable craze to have, for anyone acquainted with the culture of alpine and such things must be aware that the death rate is higher in this than in almost any other family. Some time ago (Vol. XLI., pp. 185, 240) there was a discussion in these pages about *G. verna*. I took no part in it myself, but I was inclined to agree at the time with Mr. Ewbank, who, if I recollect right, held a brief for the optimists in this little controversy. My own experience is that this species can be successfully grown up to a certain point, and, as far as I can see, it does far better in common soil than in any sort of compost that can be made for it; indeed, it has always disappeared at once with me when planted in any mixture of peat, while the finest plant I ever had grew in a dry border slightly raised. I am inclined to doubt, however, whether the same plant can be successfully grown for any great length of time; certainly here it seems to reach a zenith, after which comes a more or less rapid decline. Two or three years ago I had the common blue, the white, and the red-purple varieties all growing and flowering side by side, but the last is gone, and I fear the second will have followed it by next spring. Of the common *G. verna*, I observe that Irish plants flower considerably later than those hailing from Swiss habitats. Next to the common *Gentianella* (*G. acaulis*), by far the most vigorous *Gentian* in my garden is *G. bavarica*. A piece which I brought or sent home myself in 1890 spreads strongly and

flowers freely and continuously. I planted it originally surrounded with white sand, and occasionally give it a dressing of the same material, and during the recent drought I kept it surrounded by damp *Sphagnum Moss*. If this loveliest of alpine will grow in my soil and climate, there seems no reason why it should not do well anywhere. I took a hint from Mr. Ewbank last year, and made a sort of sunk bed with cement sides and bottom. In this several *Irises* and some six or seven summer and autumn *Gentians* appear to be doing well, though the prolonged drought of the spring and summer has been much against them. Among those apparently growing well and likely to live (besides *G. septemfida*, which remains, as far as I know, the best summer-flowering *Gentian* that we have) are *G. tibetica*, *G. Wallichii*, much like *G. septemfida*; *G. alba*, apparently a robust and genuine perennial; and *G. angustifolia*. *G. oregana* also seems likely to grow and thrive. Many others have failed—some, like *G. saponaria* and *G. ornata*, after flowering once; others, like *G. calycosa*, without even making any attempt to live. I have never succeeded in establishing permanently any of the choice varieties of *G. acaulis*, though I have had plants of the white and sky blue sorts that have flowered. There are, however, few alpine plants that show less inclination to accommodate themselves to English climatic conditions than *G. acaulis* when imported direct from its mountain home. One of the most distinct and remarkable summer-flowering *Gentians* that has ever been introduced is the American *G. sceptrum*. Some years ago there was a very fine specimen of this growing in the bog at Kew, and I should very much like to know what became of it. It has certainly disappeared long since, and I am pretty sure it was gone the next year after I saw it in bloom. I have no personal knowledge of how these things are managed, but as it is hardly to be supposed that a rare and choice perennial of this sort would be rooted out if once established, I assume that it must have succumbed either to the English winter or more probably to some want of perennial quality. The Chatham Island Forget-me-not (*Myosotidium nobile*) is one of the most beautiful blue flowers ever introduced, but as far as my experience goes, it will not grow in the open and dies in a house—a sort of vegetable sea serpent. The green-fly and other pests (all other pests, I think) are always with it.

Onosma albo-roseum is a choice and interesting plant. It is not a biennial (as I have seen stated somewhere), and it is not capable apparently of being permanently cultivated in the open. I had a very fine specimen under a hand-glass up to the end of last December, but it was turned into a black mass in one night. It broke again from the roots in the spring and has a second time grown into a good plant. I hope to raise it later on and keep it through the winter in a pot under glass. The name, though fairly descriptive, is, I admit, very shocking, but we shall not improve it by translating it into the "Whitey-rosey Asses'-sniff"; and as for the Silver Dropwort, the white is not at all silvery, while the name ignores the pink edge of the corolla.

The papers on hardy *Cypripediums* and *Orchises* contributed occasionally by your correspondent Mr. Webster are models of what such articles should be, for one may learn from them not only how these things may best be grown, but which of the species are the most and which the least likely to be successful. I at any rate have taken the hint to be cautious in these matters, and have only

lost one species (*C. candidum*) out of the few I have tried. The three yellow species (*C. Calceolus*, *C. pubescens* and *C. parviflorum*) are all growing vigorously here, the first in chalk, the two latter planted, according to Mr. Webster's plan, on decayed logs sunk about 9 inches in the earth. *C. spectabile* anyone apparently can grow. Kent, on the chalk formation, is the headquarters of English Orchises. I have never been guilty of the vandalism of digging up any species of *Ophrys*, but I have on one or two occasions tried to grow the great Butterfly Orchis (*Habenaria bifolia*) and the finest of all, the great brown Orchis (*O. purpurea*), said to be confined to Kent, but which is to all intents and purposes the same (except for some infinitesimal botanical distinction) as *O. militaris*, said to be confined to S. Oxfordshire. Neither of these, however, has ever done well, and if they come up at all, always disappear the second year. The *Cephalantheras*, or *Helleborines*, do better, though they lack the beauty of the Orchises above named.

Now that the horticultural public has either finally embraced "pan-purpurism" or else has sadly acquiesced in the conclusion that there is no such colour, I would suggest the "interesting plant" as a theme for an autumn controversy. What is an "interesting plant"? Gardeners of the "robust" type probably regard a plant said to be "interesting" much as some of us regard a young man said to be "very good," that is to say, as one to be avoided as far as possible. I confess for myself, however, to having a distinct weakness for plants—especially N. American plants—that will not grow in English gardens, and I suppose it will be admitted that for a plant to be "interesting" it should be difficult or next to impossible to grow. There is, for instance, the Pine Barren Beauty (*Pyxidanthra barbulate*), of which a kind American friend has sent me boxes—hopeless! There is my old friend *Rhexia virginica*, on which I have spent a small fortune, but have never seen in my own or anybody else's garden. There is *Aletris farinosa*, which I suppose somebody can grow, for it remains pretty cheap. However, if any of your readers have got this established I shall be interested to hear of it. There is *Polemonium confertum*, which, I am aware, is successfully grown by your correspondent Mr. Wood, but which I have never yet succeeded in making permanently happy in any soil or situation, though a morbid craz; for blue flowers has induced me to buy it about half-a-dozen times.

I fear I must reckon a plant I bought in the early part of the present year under the name of *Dasystoma flava* among "interesting" failures. Why this should have failed to grow is not quite obvious to me, for the piece sent me was apparently healthy and vigorous. The prolonged drought, which has made life to unestablished plants difficult, if not absolutely impossible, may perhaps account for it, but *Dasystoma* is, I believe, closely allied to *Gerardia*, a genus which has never taken kindly to English climatic conditions, and which I have never met with anywhere successfully grown.

The plant in my garden which at present, I think, affords me the greatest satisfaction is *Clintonia Andrewsiana*. This has not yet flowered here, but I have at last, I hope, got it permanently established in a shady position on the rockery growing in a little peat with a good deal of grit. As far as my experience goes, unestablished plants of this species are especially liable to damp off in early spring even when grown in pots, but there seems no reason to

doubt its hardiness when once established. I saw this (and I have never seen it elsewhere) in Mr. Ewbank's garden at Ryde in 1889, and although I do not say it is "the finest hardy plant in cultivation," as some anonymous enthusiast is said to have called it, it is beautiful and exceptionally distinct. It is a liliaceous plant, and the flowers are very dark red, something the colour of our own Figwort, the leaves rich green and glabrous.

Hesperochiron punilus, given me many years ago by Mr. Wolley Dod, I have managed to keep, though for a year or two, if I rightly remember, it gave up flowering. I now grow it in a small pot permanently sunk in the rockery. The pot, of course, merely protects the tiny roots from being washed or scratched out of the ground, for the plant itself is perfectly hardy. It never increases, and I get about six or eight flowers yearly; these are not unlike *Oxalis Acetosella*. It has no value as a garden plant, and I am extremely proud of it and take everyone



Group of Canterbury Bells (*Campanula Medium*).

who comes to see my flowers in late April to see it. The name of *Scolopus Bigelowi* is itself much in its favour. I had it for years before it flowered, probably because nursery-men's plants take some time to grow into flowering size, but it bloomed well in March of last year and failed to flower in the recent spring. I cannot at all tell why. It comes among the very early spring flowers long before the *Trillium*, to which it is allied. *Galax aphylla* never did well here and has disappeared. *Jeffersonia diphylla* continues to live, but has not flowered for some years. The last time it did so, the sparrows, or some small birds, knocked the blooms all to pieces. My third (or it may be my fourth) plant of *Shortia galacifolia* is at present in a pot. I have lost so many, that I have not the courage to put it out, though probably plants strongly grown in pots have the best chance of success. I have seen this apparently growing well in the open in the gardens of one or two of my friends this summer, but I know no one who has as

yet satisfactorily established it and bloomed it in the open. *Lancea tibetica* is a very dwarf plant, something like a purple Musk. Mr. Wolley Dod tells me he finds its weedy growth objectionable, but here at any rate, perhaps owing to the impossibility of anything growing this year, it has maintained the habits of good society. I like it. It is said to be the only species of the genus. The white variety of *Ramondia*, which flowered here this summer, is worthless so far as I can judge at present.

Mid-Kent.

J. C. L.

ANNUAL AND BIENNIAL HARBELLS.

The *Campanulas* comprise annual, biennial and perennial species—an interesting and beautiful family, adapted for all kinds of situations and differing greatly in expression. The little *C. fragilis*, that spreads its growth over the rockwork, is different from the gay and gaudy Canterbury Bells represented in the accompanying illustration. A rock garden well planted with the Bellflowers is a mass of colour at this season, and obtained at little expense.

A very distinct section of the genus is that comprising the annual and biennial kinds. Annual flowers, we are afraid, are having a poor time this season, and where the rainfall has been practically *nil* since March last the seedlings are making slow progress. We were looking at an important collection of *Campanulas* recently, and the annual kinds had scarcely moved; but they must not be judged from their behaviour in a phenomenally hot season, when everything is hanging its head in the fierce sunshine. The most important annual species is *C. macrostyla*, which ranks amongst the finest of hardy annual flowers. A coloured plate was given of it in THE GARDEN, May 3, 1879, about two years after its introduction from its home at Lake Isauria, near Mount Taurus, in Asia Minor. It is remarkably distinct, possessing a character peculiarly its own and unlike all other members of the family. The habit of growth is

rigid, and it grows about 1 foot high, whilst it assumes a candelabrum-like form, the much-branched, wiry stems embellished with very small leaves. One wants to see a good mass of it, and this applies to annuals in general. They are effective when in bold clumps or colonies. The distinguishing feature of this species is the style; hence the origin of the name, and it is remarkably developed, standing out erect from the flower, which is quite flat, salver-shaped, and the leaves and stem are ciliate. In the month of July this fine annual *Campanula* opens its handsome flowers, which are veined with blue on a white ground and shaded with purple. There is a variety named *roseiflora*, which, as suggested by the name, has rose-coloured flowers. One does not often see this *Campanula* in gardens, but it is worth growing for its distinct flowers. Another good annual kind is *C. Loreyi* and its variety *alba*, which are pretty kinds, easily grown, and last almost throughout the season. *C. Loreyi*, sometimes spelt *Lorei*, has been long

in English gardens. It is synonymous with *C. ramosissima*, and was introduced from Mount Baldi, in North Italy, in 1824. The plant grows about 1 foot in height, and has small shining leaves. The deep blue flowers are freely produced, and make a good show when one has a good mass of plants, as previously advised. This annual is not very common in gardens, but it is worth a place in the border, especially where there are other kinds. There are varieties of *C. Loreyi*, and the chief is named *alba*, the flowers of which are greyish white, and also *C. L. fl.-pl.*, besides a form called *stricta*, in allusion to the upright character of growth, the flowers light blue in colour. These are the best of the group, but a few others may be named. *C. Loefflingi* is quite a dwarf species from Spain, where it colours the cornfields with its flowers, which are solitary, funnel-shaped, produced in panicles, and of a blue colour. It is useful for the rockery, but is very dwarf, only a few inches in height. A good patch of it is showy, and the seed is easily raised. We may add *C. strigosa* and others, but the most important have been described.

Many *Campanulas* may be treated as biennials, but the chief biennial kind is *C. Medium*, a favourite old plant that is superb in masses, owing to the varied and splendid colours. It is the most useful of the family, showy either in the border or in pots, and there is much diversity of character in the several varieties. Cross fertilisation has done much, and amongst the large number of varieties are some very charming forms. We much prefer the ordinary singles to the duplex and double types. There are many good strains as they are called, and a mixed packet of seed will give many fine things. The plants bloom with the greatest freedom, each shoot heavily weighted with the stout bells, and when in perfection are perfect mounds of blossom. A glance at the illustration will show their freedom, but one need not describe such a lovely subject, which should be in every good garden, grown in masses to get effect from the flowers. Another point is that the plants even when in bloom may be lifted and potted for the greenhouse, conservatory, or to form groups in the house or at the exhibition. The *calycanthema* varieties are those in which the calyx has by selection assumed a very broad sancer-like character, and it is this type that gets coarse when too large, wanting in the refinement and beauty of the ordinary forms. The plants, it must not be forgotten, should be put into bold groups in large gardens, and the effect is finer if the colours are kept distinct, not mixed, these being very poor in comparison. Get a good blue, rose, purple, white, and try grouping them in distinct colonies, and we think that the result will be pleasing. There is plenty to select from, the colours varying greatly and the seed is easily raised. Keep the fading flowers picked off to promote continuous blooming. Get the young seedlings in position before autumn is far advanced. A succession of seedlings should be obtained, otherwise there will be a blank in the display.

C. persicifolia, *C. pyramidalis* and their respective varieties, besides many others, especially the trailing kinds, may be mentioned; but these have been often noted in THE GARDEN. Of biennials, the Canterbury Bells hold first place, and the interesting annual kinds add to the beauty of the garden in the summer months.

Eryngium alpinum.—Amongst hardy flowers nothing attracted so much attention at the recent Richmond show as did a cluster of heads of *Eryn-*

gium alpinum shown by Mr. Prichard, of Christchurch. It is said to have been introduced in 1507. Certainly it is one of the most beautiful of the perennial Thistles. The heads are large, bluish silver in hue, the bracts much larger than in giganteum, softer, indeed almost silky-like in texture, most elegantly lacinated and interlined with blue. Most certainly do we owe the rescuing from oblivion of large numbers of beautiful plants to the movement in favour of hardy flowers.—A. D.

Exhibiting hardy flowers.—I observed that at Richmond one trade grower followed the vicious example so fearfully set at the Temple show and elsewhere of setting up in bewildering profusion and confusion literally everything that a hardy garden could furnish—good, bad, and indifferent—without regard to the effect of such a show on the minds of sightseers. Did trade growers but limit their collections to the best and leave the rubbish at home, they would very materially help to attract the attention of visitors at shows, who want the best only. The two collections of twenty-four bunches, distinct, set up in a class by Mr. Prichard and Mr. Sage, were worth many of the ordinary trade collections. How much shows and gardening would gain were in these things trade growers much more self-denying and discriminating.—A. D.

Kempfer's Iris.—Unless in close proximity to water, Kempfer's Iris is this year by no means up to its usual standard, for even where the plants have been freely watered the foliage is wanting in colour, while the flowers are not so numerous as they are in most seasons. It is essentially a water-side plant, and though during a dry summer a good deal may be done (if they are planted in a sunk bed) by watering whenever necessary, it has been this year insufficient to maintain them in a satisfactory condition. Where too dry, the foliage is very quickly attacked by insect pests, especially red spider and a large black form of thrips. These last shelter themselves at the base of the leaves, where they are closely adpressed together, and from whence it is impossible to dislodge them. This Iris is sent here in great numbers from Japan during the winter months, mostly in the shape of small clumps containing about half-a-dozen crowns, that are well protected against damage by the stiff clayey soil in which they have been grown. If planted under suitable conditions these clumps of Iris can as a rule be depended upon to flower well the first season, and very beautiful varieties can be found among them. Many have the flowers splashed and flaked in a curious and striking manner. These are admired by some, but I prefer the self-coloured blossoms, two particular forms of which crop up as a rule pretty freely among these imported clumps. One is of a deep rich purple, just lit up with gold at the base of the petals, while the other is pure white. Both are very large flowers and have a double row of expanded falls, so that they form what is usually spoken of as double blossoms. These imported clumps afford a good opportunity for anyone anxious to commence the culture of these beautiful forms of Iris. From the adhesive nature of the soil and the shaking about they have undergone, the balls of earth are nearly as hard as a brick; consequently I prefer to loosen them somewhat with a pointed stick before planting.—H. P.

Lilies.—I have rarely seen in any one garden of such moderate dimensions such a collection of Lilies as Mr. Herbst has in his garden at Richmond. Like so many others, he does not find that Lilies have much of permanence. Still, bulbs are purchased by the hundred so cheaply, that a supply is easily maintained. In Mr. Herbst's garden I found *Lilium testaceum*, about 4 feet in height, blooming finely, the flowers pendent and of a sulphur-cream hue. This is said to be a hybrid between *L. candidum* and *L. tigrinum*. Wonderfully fine from last year's bulbs are growths of *tigrinum*. *Thunbergianum* had bloomed well and was over. *Crocium*, one of the hardiest of garden Lilies, was still flowering well. *Browni* was dwarfer than usual and the flowers imperfectly developed. *Longiflorum*, *eximium*, and *Harrisi* had all done

well. Various forms of the lancifolium section were about to bloom capitably, for these in clumps of three would form later a telling feature. *Auratum* was not in strong force, as it is seldom so satisfactory as some other varieties. The soil is a fairly deep-holding loam well prepared, but rarely are any of the Lilies good for much after the second year. Mr. Herbst has a capital collection of Irises—German, Spanish, and English; also good sorts of Gladioli. His garden is one in which many things are found that are far from being common, and there is in it more of bloom than may often be found in one of large area. Roses are in great abundance. Hybrid Perpetuals, Teas, Noisettes, Chinas, Polyanthas, &c., are all very beautiful. Limited as is the area, some good vegetables are grown too, and some standard Morello Cherries are carrying wonderful crops. The collection of Ivies is an excellent one, and they are encouraged to grow in all sorts of ways.—A. D.

THE CARNATION AND PICOTEE.

As a cultivator of the Carnation and Picotee for over thirty years, I have obtained considerable knowledge of the way in which the changes in the seasons act upon the plants.

In a hot, dry season like the present the rapidity of growth during the past month has been surprising. Those unacquainted with the action of excessively hot weather upon the blooms, whether the plants are grown in pots or planted out in the open borders, may be surprised that the flowers are much smaller than usual. When the weather is cool, especially at night, the petals expand slowly, but in hot weather the flowers open with astonishing rapidity, and the petals do not expand to their full size. Our garden is nearly full of Carnations; hundreds are grown in flower-pots and many hundreds more in the open borders.

The want of rain has been very much felt, especially with the border Carnations, green-fly gets upon the foliage, and the active little insect—the thrip, sadly mars the beauty of the flowers. Some persons may say, "Why do you not destroy these pests?" The answer to this is, "With so much work pressing and all hands at the pump, for we have had no rain to speak of since February, more than our usual share of sunshine, and now it is the 26th of June, there has not been time to do the work as it should have been done." The pity of it is that beautiful seedling varieties flowering for the first time become so disfigured, that it is impossible to say whether they should be propagated and grown on for another year. I have so frequently advocated the growing of seedling Carnations and Picotees, that no more for the present need be said on that point. At the present time, June 26, most of the border Carnations, seedlings included, have flowers fully expanded upon them; they will not be fully in flower for another week, but this is quite three weeks earlier than usual.

The flower-trusses have not been thinned out, and the seedling plants are quite laden with flowers and buds. When the plants began to show the effects of the dry weather, I had the entire surface of the ground amongst the plants dressed with manure obtained fresh from stables where peat litter is used for bedding the horses. I have used this in previous years and found it very effectual in promoting growth, but this season, after giving a thorough soaking of water over the manure, the effect was almost magical in promoting vigorous growth, and as the plants were well watered overhead with a hose, the insect pests were kept down better than might have been expected. The named varieties were treated in the same manner as the seedlings, and where large blooms were expected for exhibition, the flower-buds were reduced to three or four upon one stem. All the trusses have been tied to neat sticks, and the effect of the whole is exceedingly good, the masses of colour in the seedling beds having the best effect at a distance, and they are very interesting because of the daily development of the new seedling varieties of merit, expanding their flowers for the first time.

Many amateurs may have to purchase their seed, and it cannot be expected that a packet of seed sold for 1s. 6d. or 2s. 6d. can have all been saved from the best varieties after the most careful fertilisation, nor must the amateur expect, even when he has carefully fertilised the flowers of the best varieties, that the seedlings will all be good. My experience this year has resulted in the production of an unusually large number of plants producing single blooms merely, and this may be partly owing to the season hurrying them on too fast, but more, I expect, because the seed has been saved from rather thin, but well marked flowers in the bizarre classes. The result is interesting and sometimes amusing, the variety in form and colour being so varied. The removal of several barrow-loads of single flowered varieties has given more space for the development of the plants of the better varieties, and their ceasing to extract moisture from the ground will save watering to some extent. I alluded some time ago to the fact that the best purple self Carnation yet raised, named Purple Emperor, was produced by me from the purple-edged Picotee Her Majesty, crossed with another light purple-edged variety. We have a considerable number of plants this year from light purple-edged Picotees, and the result is a considerable number of purple Carnations amongst them. To many amateurs this may be a source of disappointment, but amongst them there will doubtless be a number of varieties in the class intended to be improved. No class contains flowers of such good colours or so perfect in form that further improvement is impossible. Every raiser of seedlings should set himself a high standard of excellence, and never rest satisfied until he has worked up to it.

I have given a good deal of attention to the production of yellow ground Carnations from seed, and in this class the variations of colour presented by the seedlings raised even from the same parents are truly surprising. The yellow Carnation and Picotee are no doubt accidental productions from the white ground varieties. The question has been asked, When or how was it produced? We do not know more than this, that the yellow Carnation was grown in England before the year 1597, as Gerard mentions in his "Herbal" that a merchant in London named Nicholas Leat obtained a Carnation with yellow flowers from Poland and gave it to him, and he cultivated it in his garden in London. Early in the seventeenth century the yellow ground varieties became popular, as Parkinson informs us in his "Paradisus," published in 1629. I have raised in some seasons and bloomed upwards of 600 seedling plants from yellow ground varieties, and amongst them many plants produce flowers with white grounds, also self-coloured border Carnations, rose, red, maroon, and scarlet. I was informed of one seedling raiser who produced 300 plants from seed obtained from the yellow self Pride of Penshurst, and the result was one variety with yellow flowers; the remainder presented every shade of colour but yellow. The time has now arrived to fertilise the flowers which are to produce seed, and the amateur must promptly decide what class he intends to operate upon. If self-coloured border Carnations are desired, choose a bright-coloured variety with well-formed flowers as the pollen parent. The seed-bearer should be of vigorous sturdy habit, producing stout flower-stems of moderate height. These are essential, and the results will be all the more satisfactory if the flowers are of as good colour and form as those of the pollen parent. Choose a fine day to fertilise the flowers, as the pollen is more potent and in the condition of a fine yellow powder. The stigma is in the centre of the flower in the form of two horn-like processes. Collect the pollen from amongst the petals with a fine camel's-hair brush, with which it is applied to the stigma. If the pollen has taken, the flowers will collapse in twenty-four hours. If they do not, the process must be repeated; but never use the pollen when in a sticky condition. Do not mix the classes. Cross self-coloured varieties with selfs, bizarres with bizarres, flakes with flakes, Picotees with Picotees, and yellow ground varieties with flowers

of the same colour. The seed will take two months or more to ripen, and this stage can be ascertained by the capsule assuming a yellow tinge and opening at the apex. Gather the pods and lay them out on clean paper in a dry place. The time to sow the seed is from the middle of March to the middle of April. I generally sow it about the 1st of the latter month. The plants for this year are now of large size and ready to set out in the open ground. They should be planted in June, and they like rich deep soil to grow in. Plant them 18 inches asunder, this giving ample space for the development of the plants. They do not require such careful preparation of the soil as rooted layers of the named varieties, which are not generally planted until the end of September. The plants in pots were all placed in a glass house about the middle of June, and in this position they were easily fumigated with tobacco smoke to destroy the thrips and green-fly. The flowers are much better developed and of surpassing purity when thus freed from insect pests, sheltered from the inclemency of the weather, and protected from too much sunshine by light, movable shading. Some weakly constituted varieties which will scarcely live out in the open borders will thus produce their flowers in very fair condition; moreover, in our uncertain climate seed can seldom be produced from plants grown out of doors, the shelter of glass being absolutely necessary to ripen the seed well and prevent the pods from decaying by damp before the seed is ripe. When the plants are grown under glass they should have ample ventilation.

J. DOUGLAS.

Early-flowering Gladioli.—Judging by the numerous examples of the early-flowering Gladioli that are to be met with this season, they are advancing considerably in popularity. This need not be wondered at, for the markings of the flowers are in some very bright, and in others very chaste and delicate, as may be seen by reference to a coloured plate in THE GARDEN, December 22, 1888. In a cut state their light and slender spikes fit them for purposes where the large massive ones of the *gandavensis* section would be inadmissible. Where a greenhouse or conservatory has to be kept gay with flowering plants at all seasons, these Gladioli will be found extremely useful, and for such a purpose the purple-flowered Colvillei, and more particularly its white variety *albus* or The Bride, has been grown for a long time. Gladioli of this section are largely grown in Guernsey, from whence considerable numbers are distributed every year. When needed for greenhouse decoration, the bulbs should not be potted singly, but about half a dozen in a 6-inch pot.—H. P.

Layia elegans.—Amongst annuals that are blooming fairly well this season is this charming kind. This class is remarkably good, considering the season, at Syon House, and we made special note of the *Layia* as an annual none too common in commons. *L. elegans* is much like *L. heterotricha*, the flowers produced very freely, and yellow, with a broad white margin. It is very dwarf, not unlike a Daisy, and charming for cutting. A large mass of it in the border at Syon is very beautiful.

Lilium testaceum.—This Lily is in colour totally distinct from any other member of the genus, the flowers being of a clear nankeen tint, while the anthers are bright orange. It is supposed to be of hybrid origin, the parents being the scarlet Turk's cap Lily (*L. chalcedonicum*) and the Madonna Lily (*L. candidum*). In growth it more nearly resembles this latter, while the flowers, which are as large as those of *L. candidum*, are prettily reflexed. The bulb is very much like that of the Madonna Lily, which is the earliest of all the Lilies to start into growth. *L. testaceum* comes next, or rather it appears above ground at much the same time as the pretty yellow-flowered *L. Hansonii*; while these two are closely followed by the scarlet Turk's cap (*L. chalcedonicum*). Though this last commences to grow so early, it is among the later blooming Lilies, as July is often

well advanced before it flowers. *L. testaceum*, on the other hand, usually blooms towards the latter part of June, though this year, in common with all outdoor subjects, it is earlier than that. The perfume of the flowers is very pleasing. *L. testaceum* will grow in a light sandy loam better than many other Lilies. Besides the above name it is also known as *L. Isabellinum*, *L. peregrinum* and *L. excelsum*. This last name is very suggestive, as when thoroughly established it is really a tall and stately Lily.—H. P.

ROSE GARDEN.

ROSES AT UCKFIELD.

IN such a season as the present one, June is truly the month of Roses, but during recent years a visit to a large Rose garden or nursery during that month would hardly have been repaid. Probably not within the memory of the majority of Rose growers has there ever been such a display during the last fortnight of June as there has been this year. It was in anticipation, therefore, of seeing many old favourites in full beauty, and perhaps of making the acquaintance of some new candidate for popularity, that I spent a day among Roses in East Sussex, and the centre of their cultivation there is the nursery of Mr. G. W. Piper at Uckfield. Here the pride and beauty of the Rose family, the Teas, find a congenial home, and I noted with special satisfaction that Mr. Piper entertained no erroneous notions on the score of tenderness, but inclined to the view that the Teas are as hardy as the Hybrid Perpetuals.

The two great families in any case were about equally balanced here, and the plants on all sides gay with flowers. But the season has been a trying one, and characterised by extremes which are sure to leave their mark; and whether one sees plants by the score in private gardens or by the thousand in nurseries, heat and cold and drought have all contributed to make them fall short of the usual standard of merit. Hot days and cold nights are most trying, and Mr. Piper pointed out to me flowers showing undoubted traces of having been touched by frost when the buds were but embryos on the growing shoot. After great heat by day the glass on several mornings in June went down to freezing point at 4 feet from the ground, and this would mean actual frost among dwarf Roses. All these things are factors of evil, more or less, and one has to remember them, nor fails to do so when it is seen how they spoil the good intentions of the best growers. The good old reliable kinds, Teas as well as Hybrid Perpetuals, were here in number, as, for example, Rubens, one of the earliest, yet still one of the best among Teas, with Alfred Colomb and Captain Christy in the Hybrid Perpetual section. These in fine form are always beautiful, but those who care for Roses know them and what they are. Mme. Hoste is a fine Tea with Mr. Piper, and I think with anyone who will give it a fair trial, it is certainly the best pale yellow for out of doors. Certain Roses require special years to bring them to perfection, and this has been quite the year for Jean Ducher, Francisca Kruger, and others, bringing out their full flowers in a matchless variety of tints. I am afraid Mme. Pierre Guillot will also have to be included among this lot. It came from the noted raiser M. Guillot with Ernest Metz in 1888, but whilst this latter kind has already made its name for fine form, freedom, vigour, constancy—in short, all the essential qualities of a first-

rate Tea—its twin sister, which from the name it bears must have been good in its raiser's estimation, has shown us but few flowers. Here were some of the brightest and best I have seen, and when good there is no denying that it is a taking Rose with a brilliant centre of rich rose colour, but externally coppery yellow, shading to white at the edges of the petals. Roses that make good plants and fail to flower regularly, or that open fine flowers freely, as in the case of Cleopatra, which I saw in good form, and fail to make a plant, are ever doubtful and not to be generally recommended. Dr. Grill is a growing favourite at Uckfield. It was hardly known till figured in *THE GARDEN*; our trade importers had overlooked it; yet it is hardy, vigorous, free, and constant, most charming in groups. Another sport from Catherine Mermet seems likely to come forth and take its place with those that have preceded it as the lovely offspring of a lovely parent. There are already The Bride in one direction, white, and Waban in the opposite extreme approaching red. This new sport originated with Mr. Piper, and has all the qualities of Catherine Mermet, the essential point being its distinct colour. It is intermediate between the parent and The Bride, white, or almost white, externally, but with a pink-coloured centre, the tint pronounced upon the edges of the petals in the half-opened bloom in the same way as characterises the lovely Souvenir de Paul Neron. The plant that produced the sport last year has given another shoot from the same place and with similarly coloured flowers this year, so that there is no doubt as to its origin and distinctness.

Kaiserin Friedrich, among Dijon Teas, looked very promising, and among Hybrid Perpetuals I saw nothing so fine as Gustave Piganeau, though in truth it must be admitted that it is of uncertain growth, and through this will fall short of the great destiny it otherwise deserves. I saw a good proportion of blooms on a row of plants, and it impressed me much more favourably than last year, when I saw it in another nursery and thought the flowers rather dull in tint. Probably then I did not see a fresh flower, but with Mr. Piper it was grand, the flowers of large size, full, well formed, and of a clear bright carmine-red colour. A word of praise must be given to Susanne Marie Rodocanachi, although it is not new. It has a dreadful name, but it is one of the brightest Roses, so clear and decided in colour; there is no mistaking it anywhere.

Having looked through Mr. Piper's Roses, he kindly led the way through pleasant fields for a couple of miles to the Framfield Nursery of the noted Waltham Cross firm, which is in charge of the veteran Mr. Ironside. Here, however, the aim is plants, not flowers, the latter being sacrificed for the plant's benefit. There is pleasure, however, in the sight of large breadths of the first rate kinds in rich and vigorous growth, fine stock for autumn distribution. Maresfield, too, is only two miles from Uckfield, and here Messrs. Wood and Son grow many fine Roses. The Teas, I believe, from some peculiarity of situation, are not grown, but Hybrid Perpetuals and other old garden Roses are plentiful. A. H.

Rose Gustave Piganeau.—This Hybrid Perpetual is in fine character again this season. It has been already shown well, and seems likely to prove one of the best exhibition Roses of the year. The flowers are too large to please everyone, and they are not free from coarseness, but the crimson

colour is decided, the petals large, and composing a full, handsome bloom. Last year it won many silver medals offered for the best H.P. flower in the exhibition. It is quite a Paul Neron in size, but more refined.

Polyantha Roses.—Too much praise cannot certainly be bestowed upon this charming race of garden Roses. Two or three years since I saw hundreds of pretty little standards of the Polyantha Rose growing in 5-inch pots for conservatory decoration. The stems were about a foot in height. Arranged with other plants in the conservatory they produced a charming effect.—A. YOUNG.

A splendid single Rose.—Not one Rose of the hundreds we have, whether species or varieties, single or double, has given such a delightful picture during the last few days as has a kind that came to us under the name of *moschata nivea*. Probably very little is known about it and few grow it, which is a pity, as, like many more of the single kinds, it has only to be planted and left alone. *Rosa moschata*, or the Musk Rose, according to Mr. W. Paul's "*Rose Garden*," is a very old introduction and the kind named *nivea* is a variety.



Flowers of *Rosa rugosa*. Engraved for *THE GARDEN* from a photograph sent by J. McWalters, Armagh.

Now more attention is being given to the singles, it is to be hoped that this will receive its due share. It produces flowers in clusters of from three to fifty, according to the vigour of the shoots. The clusters that crown some of the strong growths that spring up from the base of the plant are immense—often a foot in diameter. It has a splendid constitution, otherwise it could never have done so well with us, as the plants were placed in clay on a bank against a fence, upon the chance that they would just screen the fence, as we had no idea what a fine thing it was. The great bushes are covered with bloom, and the flowers are large, though so numerous. In the bud state they are of a pretty pink colour and shaded with that tint on a white ground. Still more commendable is its delightful odour.—A. H.

Rose Gloire des Rosomanes.—This is an old French Rose, now almost forgotten, but, happily, grown and much cherished in a few gardens, where we hope it will long remain. The place for it is in the shrubbery, as it can well take care of itself. It is sure to attract attention from its vivid rich crimson-red colour, and probably no sweeter Rose ever came into English gardens. In hot summer weather the flowers are fleeting,

but it goes on blooming even till well into the autumn.

Rose M. Furtado.—This is a Rose that very few grow, but I recollect seeing a large quarter of it in Mr. Prince's nursery some years ago, and was reminded of it by a first-rate flower in a splendid box of twenty-four kinds of Tea Roses that was shown at the Drill Hall. Mr. Prince says that with him it is an excellent Rose, fine, free, and very constant, the colour a clear sulphur-yellow.—H.

SINGLE ROSES.

DURING the last few years many of our older single Roses have again become very popular. I have never seen our own native Briers prettier than they have been this season. They have indeed been handsome. Throughout the early part of June the plants of our largest single white variety on the banks of a stream in my neighbourhood have been clothed with bloom. Then, again, how many different shades

do we find in the common Sweet Brier. The great drawback to single Roses is their lasting so short a time. Against this we must put their extreme freedom of flowering. The forms of *Rosa rugosa*, the Japanese or Ramanas Rose, represented in the accompanying cut, are probably the most free-flowering of all. These are so distinct from all others, so hardy and free from disease, that no collection should be without them. They are among the earliest to flower, and are invariably the last. From a fair-sized plant one may be certain of blooms from the end of May until the end of November during an ordinary spring and autumn. No sooner is one bloom over than another opens upon the same truss. But with *Rosa rugosa* and *Rosa pomifera* the interest is not confined to the flowers alone, as they are well worth growing on account of their handsome foliage, in which nestle large bunches of fruit, that have a very attractive and showy appearance. *R. rugosa alba* has deep orange-coloured berries, while those of *R. rugosa rubra* are deep scarlet when ripe. These two varieties have been intro-

duced to this country for upwards of ninety years. *Rosa ferox*, another name for them, is very appropriate, as they possess an enormous number of long thorns; perhaps more so than any other Rose. It seems quite immaterial to them what soil they are grown in or what aspect they have. In the border they are the most constant and showy flowering shrubs we can have, and are beautiful for long after the majority of deciduous shrubs are bare.

Among other single Roses we must not fail to mention the Hybrid Sweet Briars of Lord Penzance. His lordship, by careful and persistent hybridisation, has succeeded in getting a highly coloured strain, a very fairly representative plate of which was given in *THE GARDEN* for January 21, 1893. Turning to the Austrian Briars, we find in Austrian Copper and Austrian Yellow two of the most useful, as well as oldest of our single Roses. The date of their introduction is not known, but they were grown in this country by Gerard as far back as 1596. The Austrian Copper has also been figured in *THE GARDEN*, December 27, 1890 (p. 600). The two Austrian Briars are single, while the Persian Briars, viz., P. Yellow and Harrisoni, are semi-double. Bardou Job, one of the Hybrid Teas sent out by Nabonnand in 1887, is a sweetly pretty Rose, and will almost rank as a single variety, scarcely coming under the term semi-double. Hébé's Lip, one of the Hybrid Sweet Briars in commerce, is white, with an edging of purple, in the style of a Picotee. *Rosa rubrifolia* is of very vigorous growth, the flowers being a pretty soft rose, while the wood and foliage both possess a very deep and beautiful shade of red. Other single Roses of great merit are *Rosa Brunonis*, *moschata*, *Rosa lucida*, *Rosa multiflora* (syn. with *Polyantha simplex*), and the Bramble-leaved or Prairie Rose (*Rosa setigera*). R.

OLD-FASHIONED ROSES.

I WAS glad to note "S.'s" note on Rose Aimée Vibert (p. 525). It is almost impossible to over-praise it. Probably "S." and most of your readers are aware there is a climbing and a common variety alike, which is often not the case unless in this broad distinction: that the one grows so much faster than the other. The clusters of blossom are of the purest white, and charming for the clothing of arches or pillars. This Rose, being perhaps the very hardiest of all Noisette Roses, also forms very rich furnishing for the tops of high red-brick houses and walls. I never remember to have seen William Allen Richardson so many and richly hued as this year. It would be quite impossible to describe the series of metallic tints covering all the ground between deep copper and rich gold, resting on the softest yellows that distinguished some of them. William Allen Richardson also seemed to enjoy the drought, for it seemed not only abnormally beautiful, but exceptionally crimson. Unique Jaune and Rêve d'Or were other coppery or metallic-coloured Roses that showed deeper tints than usual, and, in fact, the same was observable in the copper-coloured Austrian Brier. It is somewhat singular that though such colours are so popular, such Roses are very seldom grown and yet more rarely grown successfully. In most old-fashioned gardens the single and double yellow and several golden-coloured Roses will be found; but how seldom any bronze or Briars, or even Sweet Briars for that matter. Comparatively recently no rosery was considered complete without one or more plants of Sweet Brier, and many had the best of all fences for a Rose garden—a Sweet Brier hedge. Now the hedges, writing in general terms, have disappeared, and it is seldom one finds Sweet Brier in quantity either in beds or borders. It is hoped that Lord Penzance's seedlings will reverse all this.—D. T. F.

— I have now upon my desk a copy of "Hogg on the Carnation," which also includes some few pages on Roses. This book was published in 1839, and was then in the 6th edition. The classification of Roses was then very far removed from what it is at the present day. I note that the following distinctions were then made, viz., white Roses in seven kinds, Moss Roses in six, Scotch Roses in eight, blush Roses in twelve, red Roses in thirteen, bright red in eleven, dark Roses in twelve, purple in ten, yellow in two, red and white in three, and Sweet Briars in seven. I note, moreover, that English names were chiefly employed then, names easily remembered and as easily written. I was particularly interested in the fact of so many as seven kinds of Sweet Briars being described, most of which I doubt not are very scarce now. These were as follows: Semi-double Sweet Brier, double Sweet Brier, Manning's Blush Sweet Brier, Royal Sweet Brier, Monstrous Sweet Brier, mossy Sweet Brier, and double tree Sweet Brier. The introductory remarks upon the Rose in the following words very well express present day opinion: "To say anything in praise of the attractive beauty and sweetness of the Rose would be not only to insult the good sense and good taste of my readers, but absolutely to imply the want of both; suffice it then to say that the Rose is a universal favourite." Mr. Lee, of Hammersmith, and Mr. Loddiges, of Hackney, are therein given as two of the chief Rose growers. It is further more interesting to read the cultural notes; suffice it to note that layering is specially recommended as a mode of propagation, a fact that seems to be lost sight of in the present day rapid reproduction. I have myself, however, proved that it is a satisfactory mode of increase, and one that might be adopted even in these go ahead times. Layers, for instance, of the vigorous-growing Hybrid Perpetuals will strike root freely and make good plants in due course. But a few years after this edition was issued some of the oldest of present-day Roses were introduced from France, and thence onwards very rapidly have new kinds been raised and sent out, some to quickly fade into oblivion, others to remain, and that rightly so, for an indefinite time. Of these older sorts, when shall we see the last of the fine old Bourbon Souvenir de la Malmaison, the Hybrid Bourbon Charles Lawson, the Hybrid China Juno, still one of the sweetest scented of all Roses. La France cannot now be considered other than an old Rose, seeing that it was grown in this country as long ago as 1868.—ROSA.

— The stands of these, generally composed of large and striking bunches, were objects of much interest at the recent Rose show at Earl's Court. The stands being well furnished with bunches, in most cases having several expanded flowers, and being in addition fresh and bright at the time they were judged, illustrated to an extent seldom seen the great variety of old and some new-fashioned Roses suitable for garden decoration. The date of the show was just fitted to have them at their very best, and they must have appeared to many as a revelation of beauty and adaptability largely, if not entirely, previously unknown. The old Provence or Cabbage Rose, the type of which is supposed to have been introduced some 400 years ago, was represented by the red and the white, both having large and handsome blossoms, and also by the pretty Maiden's Blush with its light blush blossoms, all perfectly hardy and deliciously fragrant, and thriving best, it is said, when grown upon their own roots. Under the general head of striped Roses, the most prominent were York and Lancaster, *Rosa Mundi*, often called York and Lancaster, and considered the best striped red; and Perpetua, with bright red stripes on a white ground. Moss Roses were well to the fore, among them Blanche Moreau, pure white, extra fine, the buds well mossed; Celina, bright crimson and purple, very showy; the common Moss, very pretty in the bud; the Crested Moss, bright rose, large and full; the White Bath, a charming variety; Carné, pale flesh, large and full, the buds well mossed; and Luxembourg, a very old Moss Rose, in colour purplish crimson, a fine pillar Rose because of its vigorous habit of growth. The Austrian Roses

being early bloomers were nearly over before the 14th, owing to the earliness of the season, but the single yellow and copper and the double Harrisoni especially should find a place in every garden where old fashioned Roses are cared for. Of the evergreen Roses there were charming bunches of *Félicité-Perpétue*, with its small and full creamy white blossoms; and *Myrianthes Renoncule*, blush edged with rose, small, and fully double. Among the species of climbing Roses, *macrantha* was prominent, its large white flowers with yellow stamens being very showy.

The charming white H.P. *Boule de Neige* is a delightful garden Rose. It is of the purest white, the flowers produced in bunches, and it is of a vigorous habit of growth. That it has something of the freedom of the Noisette class there can be no doubt. The white and red forms of *rugosa* were also to be seen, but the habit of hiding the flowers among the leaves detracts from their value as garden Roses. Perpetual Moss Salet, bright rose with blush edges, is a good garden variety also.

Of the Noisette Roses, there were charming bunches of the old *Aimée Vibert*, probably unsurpassed as a summer-blooming pillar Rose, the flowers pure white, large and full and produced with marvellous profusion; *Lamarque*, a grand garden Rose on a warm south wall, the pure white flowers having shaded yellow centres; *l'Idéal*, singularly novel in colour, a mixture of metallic red and golden yellow; and William Allen Richardson, with its striking orange-yellow or apricot colour.

Of the China Roses, the common and old crimsom were very good, and they are also fine autumnal bloomers. Of Hybrid Tea-scented Roses, Bardou Job is almost single, but has finely formed petals of a bright crimson colour, and the deep carmine *Reine Marie Henriette* was very striking. On a south wall this Rose blooms with remarkable freedom. *Homère*, which is not included among the Hybrid Tea Roses, was represented by bold bunches of light rose flowers, suffused with deeper rose, and *Triomphe de Pernet père* makes a good garden Rose also, the colour red, the buds long and tapering, while it is remarkably free blooming.—R. D.

Roses from America on own roots.—The Americans rely chiefly upon own-root Roses, and rightly so, we think, after considerable experience and much vexation with grafted and budded plants. Messrs. Siebrecht and Wadley, New Rochelle, N.Y., recently sent us a large consignment of own-root plants, and we are agreeably surprised at their strength and vigour of growth. The kinds sent are chiefly Teas, such as Catherine Mermet, The Bride and Perle des Jardins—a trio of the highest merit, and whilst the trade growers of this country tell us they cannot get strong plants on their own roots, those now sent us, especially the two first-mentioned kinds, are stronger than any that we have ever succeeded in growing upon their own roots. It is the true way, and such Roses are imperishable. There is no doubt that the budded plants are often much worried by their stocks, not merely with suckers, but in other subtle ways. The strong stock results in a rapid growth, but we have found our best kinds go back and get weaker after two or three years, which they should not do. The own-root plant may be a little slower at first, not much, however, if started in the right way. It is certainly the healthiest and longest lived where the soil is warm enough for it and in other ways good for the plant.

Banksian and Noisette Roses.—Please say what constitutes a Banksian Rose and what a Noisette Rose? What is the time to prune *Aimée Vibert*? I have one which has grown very freely, but it has only produced flowers on shoots from the root late in the summer.—H. F. W.

* * * Your two questions are rather difficult to answer in the way I imagine you require. Banksian Roses are so called after their introducer; so, too, are the somewhat large class of Noisettes. The first Noisettes were strong growers and flowered in trusses. Miss Glegg, *Aimée Vibert* and others of

like habit may be taken as examples. But at present we have this class and the Teas approaching one another so closely that they are now usually classed together. There are but two varieties of the Banksian Rose, yellow and white. These grow very strongly, are almost evergreen, require a warm situation, and very little summer pruning. They usually flower in trusses, but I have sometimes seen a plant of the white variety produce solitary flowers. All of these extra strong growers, including Aimée Vibert, are best pruned in the summer. As they all produce their main crop of flowers upon wood matured the previous season, such growths are of little service after the crop is secured. They may, therefore, be removed, and so afford more room for the more useful growth. In the spring it is only necessary to cut away the foot or two of growth from the tip if immatured or frost-bitten, and to tie the shoots out a little from one another, so as to avoid undue cramping of the young lateral growths.—P.

NOTES OF THE WEEK.

Syringa japonica has flowered splendidly here this season. This is quite a different shrub from *Ligustrina amoorensis* and *Ligustrina pekiensis*.—V. LEMOINE AND SON, *Nancy*.

Azolla.—A Correction.—Kindly allow me to say that careful examination and comparison with Strasburger's and Campbell's figures make it almost beyond doubt that the species alluded to on p. 535 (last vol.) is *Azolla filiculoides*, not *A. pinnata* or *caroliniana*.—GREENWOOD PIM.

Potentilla nitida is a charming alpine plant in bloom now at Kew. It is quite dwarf, not more than 2 inches in height, and has an abundance of small silvery leaves, the flowers delicate rose in colour as a rule, but varying from white to deep red. This little gem is easily grown and should be on every rockery.

The scarlet Elder.—There is now in Clogher Park, Co. Tyrone, a fine specimen of the scarlet Elder. It is more than 15 feet high and wide, and literally covered with bunches of crimson coral-like berries. It is also interesting, as though more than ten years planted, it never fruited before, presumably the effect of this fine season.—E. M.

Strawberry Crimson Queen.—Till this year I was under the impression that Noble was the earliest Strawberry, but I found Crimson Queen was some few days before it. At Bridehead House, near Dorchester, Mr. Birkenshaw gathered good fruit of Crimson Queen at the end of the first week in May. This was very early to obtain Strawberries from the open air.—DORSET.

Calceolaria andina is a rare Chilean species of exceptional freedom. It is in full bloom at Kew in the hardy plant house, and worth noting by all who care for this class. The leaves are not large, but the comparatively small bright yellow flowers are produced with great freedom on the slender stems. Quite small plants are attractive, and they remain in beauty over a long season.

Erigeron speciosus superbus.—This fine plant is arranged in large masses in the Broxbourne nursery of Messrs. Paul and Son. The flowers are large, lavender-blue in colour, and produced with great freedom. For several weeks they have been in perfection, uninfluenced by the severe drought. In hot and wet seasons this *Erigeron* is alike happy, and should be planted freely in all gardens.

Chiswick Garden flower show.—On Tuesday, July 11, the Royal Horticultural Society will hold a special flower show in the Chiswick Gardens, which are close to Acton Green, Turnham Green, Gunnersbury, Chiswick, and Kew Bridge stations. The fruit, floral, and Orchid committees will meet at 11 a.m. precisely. Lady George Hamilton has kindly consented to distribute the prizes in the afternoon. The band of Her Majesty's

Royal Horse Guards (Blues), under the direction of Charles Godfrey, R.A. Mus., will perform during the day. The exhibition will be open to the public from 1 to 8 p.m. The Fellows of the society and special subscribers will be admitted at 12 o'clock noon.

Sambucus racemosa serratifolia is a lovely and interesting shrub, desirable both as to its tint and habit of growth. The shape of the leaves is graceful, but what I particularly wish to note as its distinguishing feature is that it is much more apt to berry well here than *Sambucus racemosa*, the ordinary scarlet-berried Elder. The latter flowers profusely with me. I suppose the blossoms get nipped by spring frosts, as I seldom find any fruit on the bushes.—M. A. R., *Liphook*.

Calandrinia umbellata we noticed in bloom a few days ago in the hardy plant house at Kew. It is a fine Chilean species. The flowers are of an intense shade of shining rose-purple and produced freely on the branching stems. In the evening the blooms close, and are fully open in the early morning, when the lovely satiny colour has a rich glow. This *Calandrinia* is a perennial, and easily raised from seed. A good tuft of it is very rich when the flowers are fully expanded.

Mutisia decurrens is very bright now against the wall of the museum facing the pond in the Royal Gardens, Kew. It is a Chilean plant, and has a fine effect during the summer months. The flowers are intense orange in colour with a touch of apricot in them and of large size, whilst the leaves are narrow and glaucous in colour. It succeeds well against a warm wall and in moderately dry soil. Against a plant house would be a suitable position, and this climber is of sufficient beauty to justify freer use being made of it.

Aeclepias tuberosa.—This pretty flower comes to us in good condition from Mr. Prichard, Christchurch, Hants, with other fresh and beautiful hardy flowers. It is curious that this plant, introduced so long ago and so much distributed, is seldom seen. We suppose it must die out frequently. In America it rejoices in the hot sandy barrens, and only in our warm Surrey soils does it get anything like the same conditions. Mr. Prichard also sends us the graceful white Jacob's Ladder, and a large and striking seedling form of *Chrysanthemum maximum*, to which he does not affix a name.

A new Bourbon Rose in the nurseries of Messrs. W. Paul and Son, Waltham Cross, is full of promise. It is named Lorna Doone, and several rows of it which we saw a few days ago show that the plant is vigorous in growth, with fine robust leafage, and the flowers full, quite of exhibition character, the colour intense crimson. Then they are deliciously fragrant, and in these days those who raise new Roses should not overlook this important point. Unfortunately, many new Roses are practically without scent, and therefore bereft of their sweetest charm. This Bourbon variety should become popular if it maintains its present high character.

Phyllocactus J. T. Peacock, which we recently saw in full bloom at Kew, is a fine example of a splendid genus. The flowers are very large, the outer segments crimson and the inner ones shot with a lovely pellucid satiny purple shade—a superb contrast of colour. Many of the *Phyllocactuses* are quite as handsome, and they are not difficult to cultivate in an ordinary plant house. We hear that this genus is getting popular, but there is no difficulty in purchasing fairly large specimens at an absurdly low price. Considering their easy culture, showy flowers, and freedom, it is strange that they are not more seen in private gardens. In the gardens of Alton Towers, the Earl of Shrewsbury's residence, *Cactuses* of the showier types are grown largely.

Seedling Gaillardias.—A very charming collection of seedling *Gaillardias* is in bloom in the nursery of Messrs. Paul and Son at Broxbourne. The flowers range through many shades of colour, sometimes self-yellow, then primrose and crimson, whilst one notices the same diversity in habit of

growth. We like those of compact habit, especially one seedling, which is smothered with flowers of bright crimson with a very narrow yellow margin. At this season of the year few things are more useful for cutting than the *Gaillardias*. They are free, easily grown, graceful, and bright in aspect. The wholesale naming of varieties is a mistake, and some kinds approach dangerously to those already in catalogues. At Broxbourne there is quite a pink kind, a relief from the prevailing tones of yellow and crimson.

Early Apricots.—To gather ripe Apricots from the open walls at the end of June, all, I think, will agree is an unusual occurrence. I gathered eighteen good ripe fruits from the open wall on June 26, and shall be able to keep on gathering from this wall for many weeks to come. I never saw the trees so thickly set with fruit as they were this year, and they look in the best of health. Our trees are growing in a raised south border, every inch of which has to be cropped twice each year. I have this year given the border three or four good soakings of water, first throwing a good sprinkling of guano over the soil. I observe it has had a good effect on the trees in causing them to make a good growth, although they are carrying a heavy crop.—J. C. F.

Nemesia strumosa.—Referring to the letter of J. C. Tallack on the above plant, we would point out that the flowers he saw at the Temple show were forced at an unusually early period under glass in order that they might be seen at that show. The range of colour was not so great as it was last year, doubtless owing to the weather and early season of flowering, which you are aware influence colours a good deal. Those who saw the flowers at our nurseries or at the Drill Hall last July will remember what an astonishing range of colour there was then, and which was admired by the many visitors who saw them. We saw only this morning a most exquisite bouquet of these flowers which we had photographed. We will send you on a copy in the course of a week or two.—SUTTON AND SONS.

The Sea Hollies.—The colour of the *Eryngiums* is very fine this year, although the plants are dwarfer than usual. It is the various shades of silvery grey that one admires so much in this class. We recently noticed a group of the several kinds on a hot, dry border, the common *E. maritimum* spreading out into a broad silvery mass. *E. giganteum* and *E. planum* were noteworthy; also *E. alpinum*, perhaps the finest of all, but a weak grower. When in full perfection the various Sea Hollies are remarkably beautiful, and *E. planum* in particular is attractive to bees. This was not in bloom in the border, but *E. giganteum* was in perfection. *E. Oliverianum* is another fine kind, which we noticed grown in a large mass in Mr. Paul's nursery at Waltham Cross. The *Eryngiums* are not grown sufficiently in gardens. They should be planted in colonies or masses to get the effect of the steel-blue bracts. In large gardens groups of them might well be formed in the more conspicuous positions.

The early season.—I thought it might be interesting to some of your readers were I to give a short account of the effects of the abnormally early season on flowering plants grown in the Botanic Gardens at Oxford. When last term began (April 20) the high stone walls in the gardens facing south-west were a mass of Roses. I particularly noticed *Reine Marie Henriette*, W. A. Richardson, *Ilomère*, *Mme. I. Perière*, and *Cheshunt Hybrid*. These Roses had quite fifty blooms apiece, some carrying twice as many. *Pancratium maritimum*, *Clove Pinks*, *Pæonia Moutan*, and actually some Spanish *Iris*es enlivened the border at the foot of this wall. Here also were *Tea* and *H.P. Roses* grown as dwarfs, which came into flower a fortnight later. The magnificent collection of tuberous *Iris*es in the gardens was coming into bloom and continued in flower all through May. By the 1st of June the following *Lilics* were in flower: *Pardalinum*, *Martagon*, *chalcedonicum*, *testaceum*, *croceum*, and *dalmaticum*. The English *Iris*es were also in bloom. A magni-

scent Wistaria on a north-west wall came into bloom early in May. Its branches are trained horizontally along the wall, and extend over 40 yards. So early a season is almost unprecedented at Oxford.—R. A. JENKINS, *Brasenose College*.

Carnations from Claremont.—We have some beautiful self-coloured Carnations from Claremont, and remarkably well grown, among them being Countess of Paris, Mrs. Reynolds Hole, Murillo, and Mickleham. Mr. Burrell writes:—

These have proved fine border varieties, vigorous in habit, of good constitution, very free bloomers, and practically non-splitters, only Mrs. Reynolds Hole offending a little in that respect. I have had a good few more on trial, but they have been discarded. In my opinion no border Carnation should be sent out that does not possess the qualifications above-named; nine-tenths of them are worthless, except it may be for size, symmetry, or colour of flower. One or two good sorts not yet out are Raby, Ketton Rose, and two more seedlings. The blooms of Countess of Paris are only second-rate; this was the first out with me, and is now nearly over. I had a job to get these; we have had some very fine flowers. Touching constitution and habit of this particular variety, I should say "a little miffy," but decidedly superior to many sent out as good border kinds. I have sent fairly long bloom-stalks to let you see it is not a question of "one flower on the end of a stick." Most of our plants are throwing five, six, and seven good strong flower-stalks.

Early Apples.—The extraordinary heat and drought which we have had and are still experiencing have told on fruits of all sorts outdoors, and although such fruits as Peaches, Plums and Apricots have been gathered from the open, it strikes one as being more remarkable to have ripe Apples in the open garden and orchard. At the Clifton show last week, Mr. W. H. Bannister staged a dish of Red Astrachan Apples apparently quite ripe, gathered, it was said, from an orchard tree, and although they were small, as might be expected, they possessed their usual characteristic bloom and colour. In these gardens we have two trees of the variety Gravenstein. The fruits of this already show signs of ripening. The powerful scent pervades the air for some yards round and the fruit has already attracted the attention of the birds, which are driven by sheer necessity to the devouring of ripening fruits of all sorts, but it is very unusual for them to attack Apples by the end of June, as they have done this year. Beauty of Bath, another early August sort, too, is also showing signs of ripening; some fruits are falling, of course, somewhat prematurely from the dry state of the ground and its over-heated condition. Watering and mulching are quite out of the question, or they would have been practised as a relief to the strain upon the trees, which in most cases are carrying good crops. Our ordinary water supply is cut off, and we are dependent on a well of only moderate depth for everything, so that watering any outdoor trees is impossible. The oldest workman on the estate cannot remember such a short supply of water as that we now have. In many respects the crops are fully a month earlier than usual, but in the case of Apples it is even more so, because the Red Astrachan under notice were shown on June 28, and they are not usually in season till about the middle of August. The Juneating and other very early sorts must, I should imagine, be over. What is the experience of other fruit-growing contributors respecting early Apples this year?—W. STRUGNELL, *Rood Ashton Gardens*.

The weather in West Herts.—The past week was the twenty-fourth unseasonably warm one that we have had in succession. On Sunday the highest shade temperature reached 83°, and on Monday 81°. On the other hand, during Friday night in last week the exposed thermometer fell to 37°. The temperature of the ground at 1 foot deep now stands at 69°, and at 2 feet deep at 66°. On the same day last year the readings at these depths were respectively 64° and 62°. During the last four months rain has fallen on but twenty-five days, and to the total depth of only 2½ inches. There is but one other instance, during the thirty-

eight years over which the Berkhamsted rainfall records extend, where the total rainfall for any consecutive four months has been as small, and that was in those ending January, 1880, when it was exactly the same as this year. The average fall of rain for these four months is 8½ inches, and the average number of rainy days fifty-two. When digging up some Potatoes in my garden recently, the ground in which they were growing was found to be dust-dry to the depth of 17 inches.—E. M., *Berkhamsted*.

SOCIETIES AND EXHIBITIONS.

NATIONAL ROSE SOCIETY.

CRYSTAL PALACE.

JULY 1.

THOSE who attended the exhibitions in and around London during the past week or two could not fail to note that each succeeding one fell short of its predecessor. It was no surprise, therefore, to find that this, the chief Rose show, was also far behind its usual standard. The competition was not nearly so keen as usual. This is easily accounted for in the case of those whose water supply is all too limited for the garden to receive that amount needful in such an extraordinary season as the present one. Others situated in forward localities would, no doubt, be far past their best standard. The best show of Roses that we have seen this year as regards quality was the early show in the Drill Hall under the auspices of the Royal Horticultural Society. The Tea-scented kinds, which mainly comprised the exhibition on that occasion, were really grand in quality; since then there has been a marked falling off, save in a few special cases. On Saturday last some of the exhibits bore traces of the storm of a few days previous. This could hardly be avoided; the delicate colours always suffer if not protected from heavy rains, and protection in such a season could scarcely be entertained. Those who took the precaution to mulch their Roses early have had no cause to regret it.

Nurserymen's Classes.

In the large class for seventy-two distinct kinds in single trusses, Messrs. Harkness and Sons, Grange Nurseries, Bedale, Yorks, worthily won the first prize with a magnificent exhibit, which also carried with it the challenge trophy in this section. This exhibit also included the best H.P. in the trade classes, a fine bloom of Horace Vernet, other good ones being Mrs. J. Laing, Mrs. Reynolds Hole, Victor Hugo, General Jacqueminot, Exposition de Brie, A. K. Williams, Mme. Charles Crapelet, Dr. Andry, Comte de Raimbault, Auguste Rigotard, Ulrich Brunner, Charles Lefebvre, Gustave Piganeau, Duc de Montpensier, Beauty of Waltham, Viscountess Folkestone, Mme. M. Verdier, Dupuy Jamin, Mme. G. Luizet, Earl of Dufferin, Mme. Victor Verdier, Merveille de Lyon, La France, Prince Arthur, Ernest Metz, Souvenir d'Elise Vardon, Cleopatra, and Mme. C. Kuster. The flower of Horace Vernet, already alluded to, was large in size, perfectly formed, and exquisitely coloured. Colour is always a strong point with these growers, and it always stands them in good stead. Mr. B. R. Cant, who took the second prize, also showed well, as he has already done this season on more than one occasion. He also secured the N.R.S. silver medal for the best Tea in the trade classes with a lovely flower of The Bride. His other best blooms were Duke of Teck, Mme. Lambard, Duchesse de Morny, Innocente Pirola, Fisher Holmes, Jean Souper, Mme. de Watteville, Thos. Mills, Crown Prince, Mme. Cusin, and Paul Neyron. For forty-eight trebles, Messrs. Harkness and Sons were again placed first, showing in addition to several kinds already noted Mme. Willermoz, Comtesse de Nadaillac and Margaret Dickson, the same features characterising this exhibit as in the larger class. Mr. F. Cant was successful in gaining second place, he also showing well, the

finest blooms being Viscountess Folkestone, Mrs. J. Laing, Alfred Colomb, Horace Vernet, Gustave Piganeau, and Mrs. Reynolds Hole.

For forty-eight single trusses Mr. H. Merryweather, Southwell, Notts, was first with an extra good exhibit. Here were to be noted Catherine Mermet, Fisher Holmes, Ernest Metz, Earl of Dufferin, Duchess of Bedford, and J. S. Mill as specially good. Messrs. Burch, Peterboro', were a close second with fine blooms of Her Majesty, Anna Olivier, Niphetos, Innocente Pirola, Antoine Ducher, and Duke of Wellington. With twenty-four singles Mr. W. H. Frettingham, Beeston, Notts, was first, showing well, the finest blooms being those of Lord Macaulay, A. K. Williams, Louis van Houtte, and Ferdinand de Lesseps. Mr. John Mattock, Headington, Oxford, was second with fine blooms of La France, Sir Rowland Hill, E. Y. Teas, and Charles Lefebvre. In the class for twenty-four trebles Messrs. Burch were first, having in addition to kinds already noted Marchioness of Dufferin and Marie van Houtte, Horace Vernet and A. K. Williams also being prominent flowers. Mr. W. H. Frettingham was second, Baroness de Rothschild here being noted for the first time, and Her Majesty in good condition. In the Tea and Noisette division, for twenty-four single trusses, Mr. B. R. Cant won the first place with a very fine lot of flowers, the best being The Bride (extra good), Ethel Brownlow, Souvenir d'Elise, Mme. Hoste, Luciole, Mme. de Watteville, and Francisca Kruger. Mr. F. Cant followed closely with blooms nearly as fine, the best here being Mme. Lambard, Jean Ducher, Ethel Brownlow, and Innocente Pirola. With eighteen distinct kinds Mr. Merryweather won the first prize against Messrs. D. Prior, Colchester, the former having fine flowers of Souvenir d'Elise, Rubens, Souvenir d'un Ami, and Francisca Kruger. For twelve single trusses of any Tea or Noisette (Maréchal Niel excepted), Messrs. D. and W. Croll, Dundee, N.B., were first with fine blooms of Rubens; Messrs. Burch second with Innocente Pirola, and Messrs. R. Mack and Sons, Catterick Bridge, Yorks, third with Souvenir d'Elise. Mr. B. R. Cant was again first for eighteen trebles with Comtesse de Nadaillac, Souvenir de S. A. Prince, Souvenir d'un Ami, Catherine Mermet, Marie van Houtte, and Mme. Cusin as his finest selections; Mr. Mount, of Canterbury, showing well for second place with similarly good kinds.

Amateurs.

In the trophy class for forty-eight distinct trusses, Mr. E. B. Lindsell, Hitchin, repeated his previous triumphs and won with remarkably good flowers, including the finest bloom of an H.P. in the section, one of Ulrich Brunner, a splendid flower. His other best kinds were Ethel Brownlow, J. S. Mill, The Bride, Abel Carrière, Merveille de Lyon, Caroline Kuster, Horace Vernet, Maréchal Niel, Dr. Sewell, Alfred Colomb, Mrs. J. Laing, Prince Camille de Rohan, and Innocente Pirola. Rev. J. H. Pemberton, Havering-atte-Bower, Essex, was a good second, Ernest Metz being his finest flower, other good ones being those of Earl of Dufferin and A. K. Williams. In the next class, that for thirty-six kinds, Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, was first, his finest half-dozen being Souvenir d'Elise Vardon, Ethel Brownlow, Maréchal Niel, Lord Macaulay, Horace Vernet, and Duke of Wellington. Mr. W. Drew was a good second in this class, Louis van Houtte, Earl of Dufferin, and Eugène Verdier being the finest blooms. Mr. Gurney Fowler, Woodford, Essex, was first for twenty-four kinds, showing excellent flowers of Victor Hugo, Duke of Connaught, Chas. Lefebvre, Fisher Holmes and Black Prince. Col. Pitt, of Turkey Court, Maidstone, was second, showing well. With sixteen distinct in three trusses Mr. E. B. Lindsell was again first, this exhibit being a very fine one, Fisher Holmes (extra good), Duke of Wellington, and Horace Vernet being the best blooms. Mr. H. V. Machin, Worksop, was a fairly good second. For twelve trebles Mr. W. Drew, Ledbury, was first, Horace Vernet and A. K. Williams being the best. With twelve single trusses of any H.P., Mr. Drew was first with Mrs. J. Laing, the rest being only medium exhibits.

In the next division of the amateurs' section, with a limit of 2000 plants, Rev. H. Berners, Harkstead, Ipswich, was first for twenty-four kinds, with fresh, but rather small flowers, the best being Prince Arthur, Horace Vernet and Mme. Hoste. Mr. Slaughter, Steyning, was second here. Mr. Whitton, Bedale, came first in this section for eighteen kinds, showing remarkably well, Duke of Wellington, Dupuy Jamain and Viscountess Folkestone being all first-class flowers. Mr. Parker, Oldfield, Herts, taking the second prize. Mr. Ough, Hereford, was first for twelve kinds, his finest being Sir Rowland Hill and Camille Bernardin, the former extra good. Rev. H. Berners was first for twelve trebles and also for nine blooms of one kind of Hybrid Perpetual, with Merveille de Lyon. In smaller classes for growers of lesser numbers, the most successful were Mr. O. Orpen, of Colchester, and Mr. C. J. Grahame, Croydon. Mr. Conway Jones, Gloucester, Mr. Hodgson, Croydon, and Mr. Parker, Headington, also showed well in various classes, as did Mr. Bateman, Archway Road, N., for Roses grown within eight miles of Charing Cross, Mr. Rivers, Langton, being second in this class, the finest flowers in the two exhibits being Ulich Brunner, Marie Rady, Cleopatra and Ethel Brownlow. In what are termed extra classes for amateurs, the most successful exhibitors were Mr. Arthur Bryans, Foot's Cray, and Miss E. B. Denton, Stevenage, who had a fine bloom of Charles Lefebvre.

In the Tea-scented and Noisette division of this section the trophy class was the most important one, and here Rev. A. Foster-Melliar was first, with very superior flowers, which included the best Tea or Noisette, a very fine bloom of Mme. Cusin. Other first-rate flowers were those of Ernest Metz, Maréchal Niel, Marie van Houtte, Caroline Kuster, Souvenir d'Elise, Comtesse Panisse, Hippolyte Jamain, and Souvenir d'un Ami. Mr. O. Orpen also showed well in this class. For twelve distinct kinds, Rev. H. Berners was again successful, Ethel Brownlow, Jean Ducher, Mme. Hoste, and Marie van Houtte being his best flowers—Col. Pitt, Maidstone, being also a worthy antagonist. In the class for twelve trebles, Rev. A. Foster-Melliar won again, taking the piece of plate offered as a first prize by the Hon. Mrs. Townshend-Boscawen, with similarly good blooms and varieties as in his previous exhibits. For nine single trusses, Rev. H. Berners was again first with an even hox. In the limited classes, Mr. Orpen was first for twelve kinds, Maréchal Niel and Catherine Mermet being included amongst the best. Rev. J. H. Pemberton came in first for nine sorts, showing a very superior lot of flowers, Mr. Orpen being again the most successful exhibitor in smaller classes.

Open Classes.

In the schedule several open classes are provided for specified varieties or colours; these usually create a large amount of interest, although, on the whole, the trade growers have matters their own way. The finest Maréchal Niel were shown by Messrs. D. Prior and Son, who have previously shown them remarkably fine; the next came from Mr. Mount. For any other yellow, Mr. B. R. Cant won with Mme. Hoste, and Messrs. Croll with Marie van Houtte. For Niphetos, Messrs. Burch were first, and Mr. Mount second, and for any other white, Messrs. Mack & Son won with Merveille de Lyon, Messrs. Harkness following with the same variety. For twelve blooms of Marie Baumann, Mr. Mount was first, and Mr. F. Cant second; and for the same of A. K. Williams, Messrs. Mack and Son won, Messrs. Perkins, Coventry, following. For any other crimson Rose, the English Fruit and Rose Co., Hereford, were first, and Mr. Mount second with Fisher Holmes. For dark crimsons, Messrs. Prior and Son were first with the last named kind, and Mr. F. Cant second with Xavier Olibo. For blooms of Her Majesty, Mr. B. R. Cant was first, and Messrs. Burch second. The finest flowers of Ernest Metz were those from Mr. B. R. Cant, and the next best from Mr. F. Cant. Mr. B. R. Cant won again with Ethel Brownlow, Mr. Mount following. For twelve trusses of any H.P. not named, the

finest were from Mr. F. Cant, of Fisher Holmes, the next best being the same kind from Mr. Geo. Mount. A class was provided for Catherine Mermet and The Bride collectively, in which Mr. Mount was first and Mr. B. R. Cant second. For twelve trusses of any new Rose, Messrs. Harkness and Sons were first, with grand flowers of Gustave Piganeau, Mr. F. Cant and Mr. B. R. Cant following with the same variety. For twelve new Roses, Messrs. Paul and Son came to the front, showing the following Hybrid Perpetuals: Dowager Duchess of Marlborough, Marie Magat, Gustave Piganeau, Duke of Fife, Violet Queen, Charles Gater, Paul's Early Blush, Bruce Findlay and Frère Pierre, with Bourbon Mrs. Paul, Noisette Gustave Regis and Tea-scented Waban.

For twelve trusses of any seedling Rose or distinct sport, Mr. Chas. Turner was awarded a gold medal for Crimson Rambler, which has been frequently alluded to in these columns and which loses none of its well-deserved popularity. Messrs. A. Dickson and Sons also received two gold medals for new Roses in this class; one called Marchioness of Londonderry, a white variety, rather loose, and Mrs. Sharman Crawford, a bright rose-pink, of good shape and with reflexed petals. For thirty-six bunches of garden Roses, distinct kinds, Messrs. Paul and Son were first, the best flowers being Reine Olga de Wurtemberg, Rêve d'Or, White Pet, Perlet d'Or, Mrs. Bosanquet, Beauté de l'Europe, Mme. Pernet, Ducher, l'Idéal, Mme. Alfred Carrière, Mme. Pierre Cochet, and Gustave Regis. For eighteen bunches of the same, Mr. Alfred Tate, Leatherhead, was first, and Rev. J. H. Pemberton equal second with Mr. H. Machin. For twelve bunches in varieties Mr. C. E. Cuthill, Dorking, was first, the best being of the Polyantha section. A capital class was that for twelve varieties of button-hole Roses in bunches, the best coming from Mr. John Mattock. The finest were Catherine Mermet, Mme. de Watteville, Ma Capucine, Niphetos, Comtesse de Nadaillac, Innocente Pirola, The Bride, forming in all a fine box of well coloured and suitable blooms. Messrs. Keynes, Williams and Co., Salisbury, also showed well in this class. A very fine miscellaneous group of Roses was staged by Messrs. W. Paul and Son at one end of the building; these comprised the best and most serviceable kinds, forming in all a magnificent group, to which a special award was made. Miscellaneous groups of other than Roses were contributed by Messrs. J. Laing and Sons, Messrs. Cannell and Sons, Messrs. Cheal and Son, each firm exhibiting their specialities in their usual good style.

A full prize list is given in our advertising columns.

Royal Botanic Society's fete.—A very successful fête was held as usual at Regent's Park on Wednesday evening last. Fortunately, the weather was perfect for an affair of this kind, and the gardens and lake were illuminated with thousands of fairy lamps. The attendance, we think, was smaller than on previous occasions, doubtless owing to many counter attractions in the metropolis. There were the usual displays of cut flowers, and in the tent Messrs. W. Paul, of Waltham Cross, had a splendid group of Roses, Messrs. Cheal and Son Dahlias and Violas, and Messrs. Barr and Son, Long Ditton, hardy flowers.

The late Lord Calthorpe.—The name of Lord Calthorpe, who died lately, is associated with one of the earliest of the Birmingham public parks. His lordship's father in 1857 dedicated to the public use 31 acres of ground situated between the Pershore Road and the River Rea. Calthorpe Park was opened by the Duke of Cambridge, and was maintained as little more than a field until 1871, owing to the tenure not being such as to justify considerable expenditure of money by the corporation. Ultimately a grant of the park to the corporation was executed by Lord Calthorpe and his two brothers, the Hon. A. Calthorpe and the Hon. Somerset Calthorpe, who were next in succession. So far as they were

legally able to do so they divested themselves of all interest which they had in the land in favour of the corporation. The council were then able to undertake the outlay, which has rendered the park an extremely attractive place of recreation.

Sowing Canna seeds.—The advice to file hard seeds to assist germination is often given, but I am not in favour of such a mode of treatment, as the same end can be attained by soaking in water previous to sowing, and there is not the risk of injuring the embryo which is liable to be done in filing. Among the seeds for which filing is recommended are those of Cannas, yet if soaked in water and placed in the stove for forty-eight hours previous to sowing, all further trouble is obviated. The principal points to be considered with regard to seed treated in this way are that it should be sown as soon as it is taken from the water, and on no account must the soil be allowed to become dry afterwards, otherwise the delicate embryo will very likely suffer. Treated in this way I do not experience any difficulty with many hard seeds.—H. P.

Salvia cacaliæfolia.—"G.S." sends a specimen of this plant which I have not seen for about thirty years. In the colour of its flowers it reminds me very much of *Salvia patens*, which was sent out many years ago by Mr. T. Jackson, then a nurseryman at Kingston. It comes from Mexico, but I do not know from what part of that country. It was, I believe, introduced by M. Linden, of Brussels, and it is well deserving of cultivation, on account of its rich deep blue flowers.—W. H. G.

Araucaria bearing cones.—Is it uncommon for the *Araucaria* to throw out cones? I have a tree with seven, each about the size of a small sugar basin and quite round.—J. THORPE, *Argyllshire*.

The white Camellia.—"Fleur" will find a poetical description of the white Camellia under that title in W. H. C. Nation's "Prickly Pear Blossoms," recently published by Eden, Remington and Co., 15, King Street, Covent Garden.—READER.

Insects on Peas.—Can you tell me of a remedy for a pest that all my Peas are covered with to such an extent that the crop is entirely crippled? It is not unlike a little red thrip, and attacks the haulm and pods alike.—G. B.

* * Please send specimens of the insect.—ED.

Names of plants.—*M. V. Charrington.*—We cannot name florists' flowers.—*Indus.*—Not recognised.—*F. Telmur.*—Send better specimens.—*Anon.*—*Calycanthus floridus.*—*S. H. B.*—*Justicia lucida.*—*C. A. L.*—*Spiraea arifolia.*—*West Highlands.*—*Azalea procumbens.*—*E. Semper.*—*I.* *Lysimachia clethroides*; 2, *Veronica subsessilis*.

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"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

STOVE AND GREENHOUSE.

THE MALMAISON CARNATIONS.

PLANTS that were propagated from layers something like twelve months since will this season have flowered fully a fortnight or three weeks earlier than usual. One large grower has just told me that his are all past their best. I have noted also from remarks made in a contemporary that others have experienced the same thing, the flowering being hastened without doubt by the conditions of the season. This does not matter materially, for we have the old Clove now in full beauty with other kinds as well. In some respects it is an advantage, for it allows of the propagation by layering to be attended to all the sooner. This in itself is a great advantage if a large stock has to be secured, and should not certainly be lost sight of. Propagation by layering is still the best course to pursue; it is the safest, as it is also the quickest, involving no more labour in the end. Where two-year-old plants are still in hand, these will make capital stock for propagation in this way, simply because the growths are longer, thus admitting of more effectual layering than in the case of yearling plants; besides which these latter will make fine plants for the earlier flowering next season. A good method to pursue is that of either planting out the old stools or plunging them in a frame. For instance, a frame that has been cleared of either early Potatoes or Carrots, and still is lying idle, will do well for the purpose. First level the soil and add a little fresh around the old ball if necessary as the planting is being done. Then give it a thorough good watering, and after that surface the soil all over with cocoa fibre to a depth of about 3 inches, this also being watered. The layering should then take place in the usual way, the layers being pegged into the cocoa fibre for rooting. This material is a first-rate rooting medium, keeping a regular moisture around the layers, encouraging thereby a speedy root-growth.

After the layering is completed, the fibre should be made firm and a sprinkling of silver sand be added as a surfacing, with another watering as a finish. The lights should then be placed over them, but do not keep them closed so as to cause a too damp atmosphere. Such a condition will only tend to engender fungoid growth and cause green-fly. Close if needful during the daytime, more especially when an easterly wind is blowing or the sun very bright and warm. This latter advice may seem an anomaly, but it works out well, shading being employed at such times as a matter of course. This latter should be removed as soon as the sun declines, and then air may be given, or if very quiet the lights can be left off entirely until the following morning, so as to have the full benefit of the dew. Being layered in the fibre, but little watering will be needed, and this will be found all the better. By adopting this plan the layers will be fit for potting in a month or five weeks' time, and this will allow a good interval for the young plants to become

well established before winter sets in. This fact is an all-important one in the future well-being of the plants. Late propagation, with a consequently late period before sufficient roots have been formed to carry the plants safely through the winter, means that a closer course of treatment has to be adopted. This is not at all congenial to the Malmaison or any other Carnation, for it must not be lost sight of that it is a hardy border plant and not a tender greenhouse one in any sense of the term. I am disposed to think that this is a point in the cultivation of this fashionable flower that frequently escapes notice. Anything approaching a close or stuffy atmosphere during the autumn and winter is decidedly injurious to the plants, as indeed it is at all times. It is of no use to attempt to make up in this way for time lost in layering.

The yearling plants afore alluded to, if not wanted for propagation, should at once receive a shift into one size larger pots. In doing this do not hesitate to make use of about half and half good peat and turfy loam. If the loam be at all close and wanting in fibre, then employ more peat. In fact, I would not hesitate to pot in peat altogether rather than use inferior loam. Add to the peat a little bone-meal or lime rubble and sand; this will make a very good mixture. Firm potting is quite essential, less watering being afterwards required. Stopping the plants frequently with water will cause them to go off at the base. Should any wireworm or other grub trouble the plants at any time, dust them over at once with soot in a light manner, leaving it to be watered in. This not only acts as a check, but as a preventive also, beyond which it is also a manure in which Carnations delight. These plants should have all the light and air that can be given them, but be screened from easterly winds and from the intense heat of the sun during the day in very hot situations. This can be easily managed with ordinary shading. Plunging the pots in a season like the present is a good course to pursue; it saves watering, too much of which is not beneficial at any time. During a wet period, on the other hand, the plants would be better not plunged, being merely stood upon a bed of coal ashes or upon bricks, so as to prevent worms from entering the pots. Just sufficient staking should be afforded after potting to prevent the shoots from breaking down; in doing this do not crowd the growths together, but rather draw them out. In the case of the young layers it will sometimes happen that an adventitious flower-spike will push up; rather than stop this, I would encourage it, for one good flower upon a dwarf plant is a pretty sight during the winter months. It is hardly necessary to allude to varieties now beyond saying that Mme. Arthur Warocque, of which such a good opinion was formed, is rarely seen in good form. If it were grown satisfactorily, we should, no doubt, see it shown beside the other fine varieties.

SOUTHON.

Campanula pyramidalis in pots.—This fine and showy species of Campanula, which was quite a fashionable plant some sixty years ago, can now be seen in fine condition at Gunnersbury House, Acton, where Mr. J. Hudson grows it largely in pots for decoration. Plants are raised from seeds sown at midsummer or a little earlier, and in a year from the time of sowing they are strong subjects in 6-inch and 8½-inch pots, and a few will blossom, though it is best for them not to do so until the second year, by which time they will have made very fine specimens. If the plants flower one year from seed, they do not make such fine specimens in the second year, when they can

be had in large pots with twenty or more spikes of bloom if they have not previously flowered, and are then well adapted for both indoor and out-of-door decoration. The Chimney Campanula, as it is termed, continues in bloom for a considerable time up to the autumn, and if the plants are to be grown on for another season they should be housed when they go out of flower. One remarkable feature about the plants at Gunnersbury House is the singular variation seen in the leaves, as they differ very widely, and it might be expected the flowers would, therefore, vary in colour. As soon as the plants are advanced enough they are stood out of doors upon a bed of ashes, and well looked after with water. A fairly light, rich soil and good drainage are essential. At present the shades of colour in the Chimney Campanula appear to be limited to blue and purple, with the addition of the white.—R. D.

Canna Comtesse de l'Estoile.—This, which has made its appearance in most of the various groups of flowering Cannas that have been somewhat largely exhibited this season, is one of the best of the spotted flowers, which by some are greatly admired, whilst by others the self-coloured blossoms are preferred. It is a bold growing variety, with foliage of a glaucous green tint, whilst the flowers are large and of a bright clear yellow, thickly spotted with red. With such a list of varieties as we now have a selection is absolutely necessary, and this can be depended on as a superior spotted form. When this class of Cannas first became popular, many of the new varieties had dark coloured foliage, but of late nearly all the newer forms had green leaves, and there seems to be a wider range of colour in the flower than there is among the dark-leaved varieties. The variety Comtesse de l'Estoile was raised by M. Crozy, and sent out in 1892.—H. P.

Hibiscus schizopetalus.—This is a great favourite of mine and a very striking plant when in flower, though it is not met with nearly so often as it was a few years ago. It does not possess the large gorgeously coloured blooms of most of the forms of *H. Rosa-sinensis*, but is so distinct from anything else, that it is sure to attract attention when in flower. It is of a loose open habit of growth, and will not flower freely if kept dwarf. As a roof plant this *Hibiscus* is just at home, for the pendulous blossoms are borne on stalks 6 inches or nearly so in length; consequently the flowers are in this manner seen to the best advantage. The individual blooms are about 3 inches in diameter, and remarkable for the curiously cut and slashed petals, which are of a bright red colour, marked towards the centre with yellow. As in many of its relatives, the long projecting stigma forms a prominent feature. It is of very easy culture, for cuttings strike with the greatest freedom, and if potted off as soon as rooted, they grow away quickly. *H. schizopetalus* is usually regarded as a stove species, but it will grow and flower in a very satisfactory manner in an intermediate temperature, and in this way it is less subject to insect pests than in the stove.—T.

Himalayan Rhododendrons.—The flowering season of the various Himalayan Rhododendrons is spread over a lengthened period, for the stately *R. argenteum* or *grande* will open its blooms quite early in the new year where protected by a greenhouse or conservatory, and the different species will maintain a succession till midsummer, or nearly so. The last to flower, as a rule, belongs to a group upon which numerous names have been bestowed, but between all the members of which there are really but few points of difference. Thus the plants to be met with in this country under the names of *R. Jenkinsi*, *R. Maddeni*, *R. calophyllum*, *R. tubulatum*, and *R. virginale* are at the most but slightly removed from each other, and the names are often used indiscriminately. The usual habit of this section of Rhododendrons is to form a freely-branched, yet somewhat loose-growing bush clothed with oblong lanceolate leaves, deep green above, and thickly studded with ferruginous scales underneath. It flowers freely, but there are seldom more than

half-a-dozen blooms in a cluster. The individual flowers are funnel-shaped, about 3 inches or 4 inches long, and as much across the expanded mouth. They are when fully opened pure white. The form to which the name *R. calophyllum* is usually applied is of more sturdy growth, with rounder leaves, which are also of greater substance, while the flowers are at times somewhat larger. This sturdier type will often bloom in a smaller state than the looser-growing form. Seedlings of this section of *Rhododendrons* can be raised in quantity, and it will be found as a rule that there is a certain amount of variation among the progeny, though I have never raised the sturdier form from the more slender one, or *vice versa*. These *Rhododendrons* strike root far more readily from cuttings than most Himalayan species. There is no hair or wool on the stems, and this I have invariably found influences the production of roots, for not only in the case of *Rhododendrons*, but also most other plants, those with smooth stems strike root with greater certainty than the others. The *Rhododendrons* above alluded to are essentially conservatory plants, as they are far more tender than most of the Himalayan species, and unless in especially favoured localities it would be useless to plant them out of doors.—T.

The Cape Coast Lily (*Crinum giganteum*) (*C. Marendaz*).—The large bulb you received last season from Dahomey, West Africa, and of which you enclose a flower, is certainly the plant named above. It is said to occur in many parts of the west coast, and to make bulbs as large as a good football. The flower before me, pure white on the inside, tinged slightly on the outside, measures upwards of 6 inches across. I do not detect any perfume. The anthers are of a deep purplish black. It has long been known in England, but not much grown.—W. H. G.

Plumeria lutea (*G. Bacon*).—This appears to me to be your flower, but it seems to have more yellow in it than is usual. You say some stems were sent you from Brazil, but I do not think it is a native of that country. The plant was introduced by M. Linden, of Brussels, many years ago from Peru. The flowers are deliciously sweet, but the plants are ugly-looking and cannot be brought into any reasonable shape. I would not recommend any of the genus to the amateur with limited space.—W. H. G.

Anthurium flowers (*H. Bertrand*).—These are really very fine standing in water above some flowers of *Lælia purpurata* and have a very fine effect. There is, first of all, *A. Andreanum*, which is the parent of all these large-spathed kinds. It is very brilliant in colour. To my mind it cannot compare with the smooth spathe and deep colour of *A. Archiduc Joseph*, which is of a rich crimson. The spathe of *Reine des Belges* are of a delicate rose colour, the two latter varieties being very fine. Of *A. Scherzerianum* there also come some fine forms, one called *Marie-Eugénie* being extremely rich deep crimson with a long yellow spadix. A very fine form of the variety called *Rothschildianum* named *andegavense* has a large spathe, the front creamy white, regularly and profusely blotched with crimson-carmine, whilst behind it is wholly reddish scarlet, with a few freckles and dots of white, the spadix yellow. I am told this is a robust grower and a free bloomer. There is a form marked *giganteum*, but which exactly resembles the form called *maximum*, sent out some years ago by Mr. Wm. Bull, of Chelsea. The spathe is oblong in shape, nearly 10 inches long, pointed at the end, 4 inches across, thick and fleshy in texture, and vivid scarlet. This, I think, accords with the kind named *maximum*, and whilst anxious to see these *Anthuriums* gain popularity, I do not wish to see a multiplication of unnecessary names.—W. H. G.

Show and regal Pelargoniums.—Now that the show and regal types of *Pelargoniums* are again being prominently brought before the public, it would be well if growers were to name the most distinct and beautiful amongst the newer varieties. Out of a dozen of the best kinds purchased last season *Empress of India* is a splendid variety, the

colour being better described as salmon-scarlet. This variety is very free, with a good habit. *Duchess of Fife* is another beautiful variety; so also is *Fair Rosamond*, this latter being of dwarf habit, the flowers pure white, the two top petals slightly spotted with pink. Amongst those described as show *Pelargoniums*, *Martial* stands out conspicuously, the lower petals being scarlet, the top ones deep maroon. I can also say a good word for *Jubilee* and *Dorothy*, as described in *THE GARDEN* (p. 510).—A. YOUNG.

Diplarrhena Moræa.—This uncommon Irid is a near ally of the genus *Marica* or *Morea*, for the different species are known under both generic names. It forms a tuft of dark green rigid leaves, while the flower-scapes which well overtop the foliage produce a great number of blossoms. The individual flowers are about a couple of inches across and of an ivory-white tint, but, as with several of its immediate allies, they only remain in perfection for a single day. This is, however, counterbalanced by the fact that each scape produces a considerable succession of blossoms, so that a specimen of it will be an object of beauty for some time. This *Diplarrhena* is a native of the southern portion of Australia and Tasmania, and in common with most plants from that region it needs the protection of a greenhouse in this country. A near ally of the above and a native of much the same region is *Patersonia longiscapa*, with long narrow iris-like leaves and violet-blue blossoms, borne on scapes sometimes a couple of feet high. It frequently flowers at Kew, but I have not met with it in any of the nurseries.—T.

Azalea indica.—The saying "when doctors differ, who shall decide?" is as applicable to gardeners as to any other body. At a recent meeting of the Kingston Gardeners' Association a member read a short, but very concise and practical paper on the culture of the Indian *Azalea*, and stated that at certain periods of growth it was his practice to feed his plants by giving them twice a week liquid manure made from cow manure. He stated that the best results followed from this course, and other members conversant with his plants, many of them large bushes, corroborated him. Other members, especially some old plantmen, deprecated the employment of manure of any sort whether liquid or artificial, and said some of the finest specimens ever seen had been grown without the aid of any stimulant whatever. Then, again, with regard to repotting, the reader of the paper said that he never reduced the balls of his plants when repotting so as to remove any roots. Others agreed that was the right course, but then it was said by other members that many first-class growers of *Azaleas* would cut the large balls of roots hard down in repotting, so as to keep the plants in pots of moderate dimensions and yet obtain the very best results. Here is some excellent room for discussion as to the best methods of treating *Azaleas*. Whilst one occasionally sees in gardens plants so admirably furnished with leaves and flowers that nothing can be better, it more frequently happens that plants in a comparatively starved state are found root-bound, soil-exhausted, and badly needing complete renovation. No doubt at the outset very much of the future welfare of the plants depends upon the nature of the compost employed in potting.—A. D.

Propagating Javanese Rhododendrons.—It is now pretty generally known that these *Rhododendrons* strike root readily from cuttings, that is, if they are taken when in good condition and carefully treated afterwards. The present is a very suitable time for increasing them in this way, for the best cuttings are furnished by the current season's shoots taken when they are in about a half-ripened state, that is to say, soon after they have lost their succulent character. Most of the shoots of the present season will now be in just such a state, while another advantage of summer propagation is that the various appliances that are needed are less occupied than is the case during the spring months. Pots 4 inches or 5 inches in diameter are very suitable for the increase of these *Rhododendrons*, and to prepare

them for the cuttings they should be about half-filled with broken crocks; then the soil should be put in and pressed down very firmly to within half an inch of the rim of the pot. When a layer of clean silver sand is placed over this the pot is then ready for the reception of the cuttings. If the shoots are not more than 4 inches, or in some cases 5 inches long, the cutting may consist of the entire shoot, and this is an advantage, as that portion of the shoot close to the older wood produces roots more readily than any other part. Where the shoots are too long for such a purpose, it will be found an advantage to form the base of the cutting with a sloping cut, as a greater surface for the formation of roots is thus ensured. The cuttings must be dibbled in firmly and well watered afterwards. When this is done a good place for them is in a close propagating case in an intermediate house, thus carrying out a good general rule to put cuttings in a temperature a little (but not much) higher than that in which they have been grown. In two or three months they will be nicely rooted, when they must be hardened off, and as soon as sufficiently established potted into small pots, using for a compost sandy peat. In putting in the cuttings it is a very good plan to put from four to six around the edge of the pot, as when rooted the ball of earth can be conveniently divided up without injuring the delicate hair-like roots.—T.

Zephyranthes carinata.—This has flowered with me during the present season about a month earlier than usual. It merits more extensive cultivation, for though the flower-spikes do not exceed a foot in height and are often less, yet the blooms are nearly as large as those of the Scarborough Lily (*Vallota purpurea*). They are, however, borne on single stems, but as the bulbs are small, several can be grown in a pot of medium size. The flowers, which are 3 inches or more in diameter, are of a rich deep rose—a very pleasing tint. The colour of the blooms depends to a considerable extent upon the conditions under which the plants have been grown, for where fully exposed to the sun the flowers are brighter in tint than when in a partially shaded position. Like the *Vallota* and many other bulbs of this class, the *Zephyranthes* dislike being disturbed at the roots, and flower much better when they are quite pot-bound. Such being the case, a compost that will remain sweet for years should be chosen, and good yellow loam with a liberal admixture of sand will just meet the requirements of the *Zephyranthes*. They need greenhouse treatment, or at all events the protection of a frame from whence frost is excluded during the winter.—H. P.

Sandersonia aurantiaca.—This is a splendid plant, allied to the *Gloriosa*. I used to grow it in the stove, placing it when in flower in a warm greenhouse. I have not seen it for a long time until I noticed it recently at Sir Trevor Lawrence's, under the care of Mr. Bain. The flowers are of moderate size, bell-shaped, and of a deep orange colour. It is a native of Natal, and should be potted in equal parts of loam, peat, leaf-mould and decomposed manure made sandy. Drain the pots well, for the plant likes a good supply of water during the growing season. In the winter the tubers are dormant, and should be kept cool and dry.—W. H. G.

Pelargonium Ardens.—This is usually regarded as a true species of *Pelargonium*, but it is said to be of hybrid origin, though raised so long ago that little is known concerning it. The parents are said to be *Pelargonium fulgidum* and *P. lobatum*. It is certainly wonderfully bright and effective when in flower, as the blooms, though not large, are of a rich glowing crimson tint. Another somewhat in the same way is *P. Schottii*, whose flowers are of a velvety crimson-purple, shaded on the upper petals with blackish maroon. *Pelargoniums* of this class, that is to say the original species and hybrids but once removed therefrom, are very seldom met with, and may be sought for in vain in nurseries. Still a collection of them, or rather a selection therefrom, would form a very attractive feature far more in-

teresting to many, I should say, than the commonly cultivated forms which are everywhere met with. The rugged, spiny-stemmed *P. echinatum*, with pure white flowers feathered in the upper petals with maroon, is very distinct and pretty, and so are some of the forms raised therefrom, such as *Ariel* and *Pixie*, with rosy coloured blossoms. The scented-leaved forms again yield a considerable amount of variety, the flowers of some being very attractive. Many of them are very useful for cutting, especially where the old-fashioned nosegay is required, while as specimen plants they will please many. Some large specimens of scented-leaved *Pelargoniums* that were exhibited at some of the principal shows last year by Mr. Hudson attracted a considerable amount of attention.—H. P.

CARNATIONS AT EDENSIDE GARDENS.

A FEW yards from the station of Great Bookham, in Surrey, is Edenside Gardens, where Mr. James Douglas, of Ilford, has a large house filled with the best kinds of Carnations. For many years Mr. Douglas has raised and shown Carnations, not a few of the finest kinds in gardens appearing first at Great Gearies. At present only one house has been erected, 100 feet by 18 feet, but two other structures of the same dimensions are to be built to accommodate the various florists' flowers, *Auriculas*, *Calceolarias*, *Cinerarias*, &c., that are to find a home here. The Carnations are in pots, and, arranged in the well-constructed house, are of more than ordinary interest. There is a wealth of new varieties as well as of old favourites, and the show, for such we may call it, is of importance to the lover of Carnations. Mr. Douglas has secured the finest seedlings raised by Mr. Martin Smith, even the recent *Malmaisons*, which have created a new interest in this section. The collection is rich in selfs, and the following new kinds we made especial note of as worthy of culture. It is gratifying to see that the protests made from time to time in *THE GARDEN* against "pod-bursters" are bearing fruit. Very few of the varieties mentioned possess this evil trait, and their decided colouring would tell well in gardens grouped in distinct masses, the best way, as we have frequently pointed out, to get the best effect from the flowers. We have given in each case the raiser's name, and amongst the selfs are several lovely things. *Hayes' Scarlet* (Smith) is a brilliant scarlet flower, full, the petals stout, smooth and handsome, the plant of strong growth. There are no signs of the objectionable split calyx. The *Carnation* raisers of the present day are working in better lines than those of old, and getting really fine varieties of distinct colours and robust habit. *Duke of Orleans* (Smith) is a yellow *Carnation*, a very lovely flower, a great improvement upon *Germania*, deeper in colour and stronger in growth. A great fault in this section, as a rule, is the poor constitution of the plants, and this kind is an advance. A yellow flower of clear colour, full, and well shaped is a decided gain. Another of Mr. Smith's yellow Carnations is named *Corunna*, the flower remarkably handsome and stout, but without an element of coarseness. Each variety is represented by a quantity of plants, and one can judge of their rich effect in the garden. The *Hunter* (Smith) reminds one strongly of the variety *Mrs. Reynolds Hole*, but the beautiful apricot colour is richer and the flowers keep quite intact. We could not discover a split bloom. Carnations that split and lack fragrance are not of great value. *Louis Philippe* (Smith) is a good yellow self, very distinct, the petals quite short, wavy at the margin, and composing a handsome, dense, effective bloom. It is exceptionally free, and in all respects a good *Carnation*. *Oriflamme* is a new scarlet flower raised by Mr. Douglas. It is a very brilliant colour, the petals stout, smooth, and held well together in the firm calyx. This variety, it will be remembered, secured the first prize offered for twelve bunches of a border *Carnation* by Mr. Martin Smith at the exhibition of the National *Carnation* and *Picotee* Society in 1892. The colour is as bright as in any

kind known to us. A large group of plants is to be seen of *Niphetos* (Smith), the flowers exceptionally pure, very little split, and remarkably free. It will be much valued, we should think, for cutting. The finest rose self is *Lady Gwendoline* (Smith), the colour clear and rich, the form of the flower neat, full, and pleasing. Like all the other kinds that have been mentioned, it is a good grower. Every colour almost is represented in the self Carnations. *Abigail* (Smith) is carmine-rose, a fresh charming tint, the petals broad, firm, and the calyx not split. *Water Witch* and *Mephisto*, both Mr. Smith's seedlings, are acquisitions. The former is a delicately coloured flower, blush-white, full and broad, bearing something of the *Malmaison* character, whilst the latter is deep maroon-crimson, an intense shade, the flowers large and not in the least split. A fine lot we noted of *King of Scarlets* (Douglas), one of the brightest kinds in the whole collection, the petals stout and the calyx perfectly unbroken. We should like to see a group of it in the open, where it would create an effect in the garden. Two varieties very similar are *Alice Newman* (Smith) and *Mrs. Louisa Jamieson*, raised also by Mr. Smith. The flowers in each case may be described as dull red, a distinct colour, but not so bright as one could wish for. Each bloom is of bold character, full, and of splendid form. A very pleasing variety, one of the gems of the collection, is *Ruby*, raised by Mr. Douglas. The compact, full, sturdy flowers are clear shining rose—a striking and welcome shade, whilst the plants are vigorous in growth and free. Splitting of the calyx quite spoils the kind named *Royal George* (Smith), which produces a very large flower of splendid rich purple colour.

The above are the names of the best selfs in this fine house of Carnations, and certainly we have here a precious collection, in which the colours are striking and the flowers bold in form, sweet and not split, except in one instance. Not many years ago such a place would scarcely have been given to this type, which is the chief feature of beauty, although there is a wealth of bizzars, flakes and so forth. We may mention yet another named *Midas*, which is very pale rose in shade and one of Mr. Douglas' seedlings. The colour is peculiarly soft.

The collection is rich in *Picotees*, and very beautiful are the following, which represent the highest type of this cherished flower: *Mrs. Sydenham* (Douglas) is a yellow ground, very pure, with a well-defined red edge, a full, handsome kind, the plant vigorous in growth. Mr. Douglas has devoted much attention to this class, as shown by his superb seedlings. Another fine acquisition is *Lily Henwood*, a yellow ground kind, heavily flushed with red, the habit of the plant conspicuously dwarf and compact. One of the most charming is *Ganymede* (Douglas), a heavy red-edged flower, full and rich in colour, a pleasing type. We saw a large group of it and were much pleased with the fine shape and decided colour of the flowers. A lovely new *Picotee* is *Melpomene*, a light rose-edged flower, the ground very pure white. It was a mass of delicate bloom and was amongst the novelties shown by Mr. Douglas last year. Another of Mr. Douglas' seedlings deserves mention. This is *Desdemona*, not a large flower, but, so to say, dainty, very free, light rose-pink shade, exquisite against pure white. No split blooms occur. We may also mention, amongst other *Picotees*, *Mrs. Sharp*, heavy rose edge; *Brunette*, heavy red edge; *Thomas William*, rose edged; *Baroness Burdett Coutts*, purple edged, and *Muriel*, bright purple, heavy edged. Then, of course, one gets here a rich selection of bizzars and flakes. The success of Mr. Douglas in these particular sections is well known, and the beautiful things he has given us are sufficient proof. A charming rose flake is *Lady Marie Currie*, the flower of fine shape and the flakes very distinct and clear, whilst the plant is a strong grower. Very beautiful is the variety *Charles Henwood*, a purple flake, bright and attractive, the flowers of the largest size, rich in colour, and the growth robust. It deserves praise. Not a few of the bizzars and flakes are objectionable in colour, but not such kinds as we here mention. *Mrs. Constance Graham* is a fine

type of the scarlet flake. This is one of Mr. Smith's seedlings, the colour most brilliant and the flake thoroughly well defined—a fine kind for colour. A scarlet flake that may be mentioned is named *Dregorinus* (Douglas), not a very pleasing name for a pretty flower, the flake excellent and the flower of fine size with smooth, stout petals. Amongst the pink and purple bizzars we made note of the variety *Harmony* (Douglas), which was represented by a coloured plate in *THE GARDEN*, December 21, 1889. The plate shows well the beauty of the flowers in both form and colour. The growth is vigorous for a bizzar, and we were pleased to see that all the newer kinds and novelties were of robust habit. *Phoebe* (Smith) is another fine pink and purple bizzar—a lovely flower, full, the colours bright and clear.

It is needless to mention old varieties, which of course, are well represented, nor to refer at greater length to novelties. The *Carnation* is shown in its various phases, from the *Picotee* division to the *Malmaisons*, which we need not further refer to, as they were described recently in these pages. In winter the house will be gay with the best tree kinds, and in the future we shall expect many prizes from the 2000 seedlings for trial that are soon to be planted out. Upwards of 4000 plants are in the house, and when this home for flowers is in full working order, each season of the year will have its treasures—Carnations, *Cinerarias*, and so forth. We may mention that a number of beautiful seedlings are in bloom under numbers, and therefore could not be described.

Richardia Elliottiana.—Apart from its beautiful golden coloured blossoms this is a very distinct *Richardia*, for the leaves are much thicker in texture and of a deeper green than those of any of the others, though while spotted with white they are less so than those of *Richardia alba maculata*. The foliage, too, of *R. Elliottiana* is blunter than any in of the others. A very notable feature is, however, furnished by the leaf-stalks, which, especially toward the lower part, are mottled with green, brown, and white, after the manner of some of the *Alocasias*. This *Richardia* is altogether a firmer plant than the commonly cultivated forms, and it appears to be of slower growth, so that with the limited number sold at the time of its distribution, and the fact that it will take a good while to work up a stock, we shall probably see it realise a good price for some time. It is, however, said to come true from seed, so that the holders of the strong flowering plants will have the advantage.—H. P.

Mitraria coccinea.—Discovered on the island of Chiloe (which is situated a few miles off the mainland of Chili) in the year 1848, this gesneraceous plant promised at one time to become popular. Like a good many other things, however, discovered and introduced about that time, it almost entirely disappeared from cultivation until within the last few years, when a desire to grow these old greenhouse plants appears to have re-arisen. *Mitraria coccinea* is an evergreen plant with small deep green leaves and slender, woody, semi-scandent branches, altogether of very pleasing, graceful habit. The flowers are tubular, somewhat inflated, and of the brightest scarlet. A specimen planted in a corner of a peat bed in the greenhouse at Kew is flowering freely at the present time. Although Darwin, who visited Chiloe when voyaging in the *Beagle*, describes the native home of this plant as one of the moistest on the habitable globe, it is one that enjoys abundant sunlight; this season appears to suit it perfectly. It is easily increased by cuttings.—B.

SHORT NOTES.—STOVE AND GREENHOUSE.

Schubertia grandiflora.—This plant is flowering freely with Mr. Bain at Burford Lodge. It is in a small pot trained upon a trellis, the large umbels of white fleshy flowers being very sweet. I was not aware that this plant, which was figured in *THE*

GARDEN, July 30, 1887, could be so easily grown in pots.—W. H. G.

Tillandsia xiphioides (G. Schneider).—This plant has a greenish tomentum covering its leaves and an erect spike, which is remarkable for its pure white fragrant flowers. If the plants are kept clean and in good health, they will be found very interesting.—W. H. G.

Vriesia Duvaliana (G. Schneider).—This comes for a name. The leaves are smooth at the edges, sheathing at the base, and pale green on the upper side, with a tinge of purple beneath, spike erect, dense, clothed with distichous bracts, which are green on the upper part, deep red beneath, the stems also being furnished with scales of the same colour; it is these bracts that constitute its beauty.—W. H. G.

Scutellaria Mocciniana.—Mr. Riches, in sending a beautiful raceme of this asking its name, says it is rather a straggling plant, though very fine when in flower. The straggling habit can easily be remedied by pinching out the points and striking them, thus keeping up a stock. The raceme before me has forty-six flowers, each about 2 inches in length, of a rich deep scarlet, and the limb deep yellow.—W. H. G.

Cleome pungens is certainly not a stove plant. I have grown it for years under ordinary greenhouse treatment raised in heat in early spring. Last year two plants put out in June on a raised bed of very sandy soil grew most vigorously and showed flower-spikes, but the cold nights coming too soon, they never quite perfected. It is worth growing for its palmate foliage. To save seed, the pods require watching and careful handling, as they suddenly burst and the contents are lost.—J. M., Charmouth, Dorset.

NOTES OF THE WEEK.

Spigelia marylandica.—This pretty old flower, so seldom seen, comes to us in bright bloom from Mr. Prichard, The Nurseries, Christchurch, who, we are well pleased to see, is forming a nursery of hardy flowers in Hants.

Rose Gloire Lyonnaise.—We have a lovely photograph of this fine Rose from Mr. Grahame, Croydon. We have grown it several years now, and find it a great Rose, hardy, free to bloom, handsome in its Willow-like shoots, and most distinct in habit and flower.

Sweet-scented Lily.—I have brought you a stem with two flowers and one with two buds of *Lilium odorum japonicum*. If you smell it in the evening, I think you will agree that it is the sweetest of all Lilies. I have a clump with fourteen flowers.—G. F. WILSON, Weybridge.

The Peruvian Lilies, or *Alstroemerias*, brighten the borders in the nursery of Messrs. Paul and Son at Broxbourne. The chief kind grown is *A. aurantiaca*, which produces during the summer months a profusion of orange-yellow flowers, which are remarkably effective when the plants are in broad clumps. Too little attention is given to the *Alstroemerias* in gardens, the impression being that they are tender. This is true of some kinds, but not of *A. aurantiaca*, the handsomest of the family. The great point is to get it well established, and then leave it alone.

A fine dark Rose this year is *Louis van Houtte*, which still remains one of the best of its class, although sent out many years ago. This fine variety was raised by Lacharme, who distributed it in the year 1869, mentioning that it was a sport from the well-known *Charles Lefebvre*. It is a splendid Rose, very deep in colour, and, like the majority of the richly shaded varieties, very sweetly-scented. We have not seen it so much at the exhibitions this year, as is sometimes the case, but in several nurseries and gardens the plants have been in full beauty.

Spirea Anthony Waterer, so finely shown by Mr. Anthony Waterer, of Knap Hill, Woking, at the meeting of the Royal Horticultural Society on

Tuesday last, is one of the most beautiful new shrubs that has appeared of recent years. It is a lovely thing for colour. It is a form of *S. Bumalda*, dwarf in habit, compact, strong in growth, perfectly hardy and blooms from early summer until frosts occur. The heads of bloom are intense crimson, and the plant is a picture of strong colour throughout the best part of the year. It is well adapted for pot culture, for which, as is well known, the type is largely used, but this eclipses it for its superb depth of colour. There is no doubt that it will be very largely grown in the future.

Funkia Sieboldi is the finest of the family. We were pleased to see a few days ago a border composed of this Plantain Lily alone in the Broxbourne nursery. A large specimen of it is remarkably handsome, and in THE GARDEN of July 19, 1890 (p. 69), particulars are given of an example in Ireland no less than 9 feet across and 5 feet in height. When in robust health the leaves are very striking, heart-shaped, and of a pleasing silvery glaucous tone. Even without flowers it is worth a note. The plants of *F. Sieboldi* were in full bloom, the creamy white spikes or racemes of flowers rising gracefully from the base of foliage. It likes a little shelter from very keen, searching winds. This year the display was not so long-lasting as usual.

Oenothera macrocarpa or *O. missouriensis* is one of the principal plants in full bloom at Broxbourne. It withstands the heat remarkably well, and a break of it is charming, the flowers very large and rich yellow in colour, whilst the stems are prostrate. When well placed the plants bloom with great freedom, creating a patch of yellow in the border or rockery during the summer months. A good mass on some rocky ledge is attractive, although it may be planted in the front of the border with advantage. A sunny spot and warm soil are most conducive to a robust growth. We have before remarked that to get the full beauty of a plant it should be massed together, and this principle is well carried out in this nursery.

Mauve tints under artificial light.—At the exhibition held at Earl's Court on the 28th ult., in relation to some centre pieces for table decoration, the question arose as to whether *Ceanothus Gloire de Versailles* with its charming silvery mauve-coloured flowers would show up well upon a dinner-table under artificial light. It is sometimes thought, and I think erroneously, that these delicate tints do not display themselves to advantage, but Mr. J. Hudson, who is a reliable authority upon the matter, informs me that *Erigeron grandiflorum*, which he grows largely for cutting, is an excellent subject under artificial light, and as its silvery-mauve tint is very similar to that of the *Ceanothus*, I think there can be no doubt as to the value of the latter for the same purpose.—R. D.

The hardy Gladioli of the *Lemoinei* race are getting more popular each year, and the reason is not only that they are hardy, but the newer varieties are a great advance upon those raised earlier. Recently we noticed a group of them in full bloom. These had remained out during last winter with no protection except a slight covering of cocoa-nut fibre refuse. This is evidence, if any were needed, of their hardiness, but there is an impression that they are tender. The soil should be deep, warm, and not too heavy. Amongst the varieties we noted as of good colour were *Cleopatra*, light red; *Marie Lemoine*, pale yellow, the lower segments blotched violet-purple; *Masque de Feu*, crimson, a deep, showy colour; and *La-fayette*, yellow, crimson in the centre. These hardy hybrids are very easily grown, and the flowers may be cut for decoration with advantage.

Hæmanthus Katherinæ.—There are very few stove plants, either now or at any season of the year, which excel in beauty this noble South African bulb. A fine example now flowering in the Palm house at Kew makes a very conspicuous and striking object. The habit is quite different from that of *Hæmanthus sanguineus* (the well-

known Blood Flower), and is more like that of a *Crinum*, the large bulb having a long neck and being surmounted by broad, deep green, Eucharis-like leaves. The flower-stem, upwards of 3 feet high, is as thick as a man's finger, bearing at the top a huge rounded umbel of closely-packed flowers that measures 10 inches across. The flowers are each $1\frac{1}{4}$ inches in diameter, the six segments of the perianth being narrow and of a bright red. The long stamens (which are also bright red) and the yellow anthers add considerably to the effectiveness of the inflorescence.—B.

Nelumbium luteum.—I note in your number for June 3, in an article on the Egyptian Lotus, that the writer supposes that *Nelumbium luteum* has disappeared from Jamaica. I beg to inform you that it still grows here. After I first came here in January, 1887, I searched for it without success where it was once known, in swampy ground between Kingston and Spanish Town. I was informed that it had not been seen in that locality for the last forty years, but in 1889 the seed-vessel was sent for identification from swamps in the parish of St. Elizabeth, and later on I received flowers. In 1886 I saw it growing in great abundance on an island in the Mississippi, near Davenport, Iowa. Possibly the difficulty found in growing it may be attributed to its having too much water. Try it with the ends of the roots in water only, and dry it off occasionally.—W. FAWCETT, Gordon Town P.O., Jamaica.

A note on Carnations and Picotees.—These are in perfection much sooner this year than usual. A very large collection is grown in Messrs. Paul and Son's Broxbourne Nursery, many of them raised here. We noticed several rows of that fine vigorous Picotee named *Redbraes*, and a large break of Mrs. Reynolds Hole, a variety much esteemed for its distinct colour. The flowers were not so split as usual, and this is as a rule their great fault. Mary Morris was in perfection, and the rosy flowers are welcome. Conway is of the old Clove class, the flowers not large, but produced very freely and sweet scented. In no case were the flowers large, owing to the dryness of the season, but they were not split. The most promising kind was called *Fireball*, the colour intense scarlet, the calyx not in the least split, the petals broad, stout in texture, and composing a large bloom. This is the type that is wanted in gardens.

Erythrina crista-galli.—This well-known plant, now grown in almost all tropical and semi-tropical countries under the name of the Coral Tree, was introduced to British gardens in 1771, and was therefore amongst the earliest of Brazilian plants to be cultivated here. It is useful both for the greenhouse and for flowering out of doors, its large, brilliantly red blooms being most effective in either case, especially in bright seasons like the present, when the flowers are unusually numerous and highly coloured. It is a plant of very easy cultivation, every year making long, semi-herbaceous shoots from a woody stool, to which it is annually cut closely back. If kept permanently for indoor use, the plants should be grown in pots, starting them into growth in a warm greenhouse as soon in spring as buds appear on the stools. When fairly started they should be kept cooler, an ordinary greenhouse temperature sufficing. They flower, as a rule, in July and August, but this varies according to the treatment they receive. After flowering they should be ripened off out of doors in full sunlight, and for the winter may be stored under the greenhouse stage, keeping them without water. In sheltered nooks in the southern counties, especially when planted against the south wall of a hothouse, it has proved capable of withstanding ordinary winters if well protected with litter during severe frost. In most cases, however, it is necessary to take up the stools and store them in a cool, dry place till spring, when they can be started in the same temperature as the pot plants and given their outdoor position when the late spring frosts are past. A coloured plate of this Coral Tree appeared in THE GARDEN for December 5, 1891.—B.

FLOWER GARDEN.

MARGUERITES FOR FLOWER BEDS.

The illustration which accompanies these remarks speaks for itself as to the effectiveness of Marguerites for bedding. They are not, one feels compelled to admit, nearly so much used in this way as they might be, and that with decided advantage. There is one good point in their favour which frequently escapes notice: it is that of their being fit for planting out extra early without that attendant risk so common to many plants. They are perfectly safe out of doors by the end of April either in pots or planted out, *i.e.*, speaking generally of the average English climate. A few degrees of frost will not hurt them nearly so much as it would the bedding Geraniums. We have had our plants outside by the end of April for some years past, and no injury has come to them thus far. On the other hand, there has been a marked advantage with respect to the fly and the attendant grub which buries itself in the foliage. I have noted repeatedly that where the

may be seen by taking note of the illustration. True, a pleasing combination may be obtained by mixing the white and the yellow varieties together. Or if an edging is really deemed desirable, then use something that is in character therewith. *Agathaea celestis*, for instance, cannot be surpassed for this purpose. The use of scarlet Geraniums and white Marguerites is so common, not to say vulgar-looking, that I would always avoid this mixture by all possible means; the contrast is so sharp and garish-looking, affording nothing restful to the eye. Supposing the plants are planted in poor soil or to have in a measure exhausted its properties, after a time a weak solution of sulphate of ammonia will greatly assist them, this exciting stimulant being also good for pot or vase plants. It is hardly necessary to enter more fully into cultural detail. The Marguerites are not fastidious as to the soil in which they are grown; what is most needed is generous treatment both as to the soil and in watering. Young plants of the same spring striking will be found the best for planting out after one or two stoppings to procure a bushy base. By lifting these plants in the autumn,

At the nurseries of Messrs. Robert Veitch and Son, Exeter, *Heuchera sanguinea* also gives most satisfactory results planted in heavy soil fully exposed. The most brilliantly coloured flowers of this handsome species I noticed a few days ago in the gardens of Mr. Coulthurst, Southhill, Torquay. There it occupies a dry space in the rock garden, the soil being a red-coloured heavy loam exposed to the full sun all day long. The flowers are not only produced in the greatest profusion, but are of a larger size and deeper colour than I have ever seen before. It is possible that a lighter soil would suit this plant equally as well, but plenty of sun and sloping ground seem to be necessary to obtain plenty of flowers.—F. W. MEYER, *Exeter*.

—“W. R. B.” should try this plant in loam in his flower border. He can also try it in heat, in which it is said to do well. I have in a loamy border facing south a clump of about forty plants, which flower freely. *Heuchera sanguinea* is not a plant that will thrive if left alone for more than two or three years. After that time it requires division, which, I find, is best done in the spring.—G. H. C., *Brookfield*.

Pulmonaria saccharata.—What a delightful hardy summer ornamental plant this is, and it grows freely in any soil and position. During summer the large green leaves are so handsomely spotted with white as to appear as if inlaid with silver, and they are remarkably handsome. In early spring its shot-silk blossoms are equally delightful.—R. D.

A note on Canterbury Bells.—The large conservatory at Syon House is gay with Canterbury Bells, and it is interesting to notice that the range of colour is extensive, varying from pure white to deepest purple. The most pleasing of all is the rose-coloured form, a delicate shade, most acceptable in cut flower arrangements. Some of the flowers were of huge size, but we do not care so much for these as the smaller types.

Varieties of Spanish Iris.—In a large collection of this Iris we recently noted as of special beauty the varieties Louis Philippe, the flowers of a yellowish shade; Venus, yellow; Alice, the standards blue and fall white, and Satisfaisante, in which the standards are blue and the falls yellow. They are all of distinct and attractive colours.

Mulching Carnations.—These plants have had a hard time, especially in light soils. I lately saw a quantity of plants in a sad state. These had been planted on a slope in front of fruit houses and were nearly all dead. I have found Carnations did much better even in the most favoured places if a mulch was given. I employed decayed leaf-mould that had been stacked for two years and found it of great assistance. Of course, it may not be considered the best mulch on light soil, but every bit of manure or litter was in request for vegetable crops, and so far the leaf-mould answered admirably. Spent Mushroom manure is also a good mulch where it can be obtained. A good grower told me it was the best thing one can use. When these plants get a surface-dressing in this way, a thorough soaking once a week will keep them growing freely, and though it would well repay the grower to damp over more frequently, the mulch will retain the moisture for some days and keep the plants growing vigorously. The ground was thoroughly dressed before planting to get rid of wireworm, which, I hear, has been troublesome this season.—G. WYTHES.

Forms of our native Water Lily.—In our rockery pool we have the two forms of our native Water Lily described at page 16. The pink form is remarkably beautiful, and I never remember to have seen the pink tint so decided as this year. These plants were gathered five years since from a large lake, 30 acres in extent, in a distant part of this estate, where they grow in great profusion. No exotic Lily could be more lovely than our



A bed of Marguerites. Engraved for THE GARDEN from a photograph by F. Mason Good.

plants had been badly troubled with this pest in the houses, they did in a large measure grow out of it when fully exposed. It is this pest undoubtedly that is the greatest deterrent to a more extended system of culture in the case of the Marguerites. Hand-picking has to be relied upon largely, but this involves a lot of labour. Syringing with soot water, with a weak solution of soft soap, or with water strongly impregnated with quassia chips are all good remedies. Some of either of these remedies should be kept available for the purpose; then it is not much trouble to damp the plants overhead once at least every day. Rendering the foliage distasteful to the insect prevents further ravages to a large extent, and is, all things considered, about the best course that can be adopted. By planting out early in the beds, say the last week in April, the plants soon take a hold of the soil. This also aids them in a large measure to stand against these insects. The beds also are thus filled in good time and give a relatively early yield in flower. Being so very distinct and flowering so very profusely under favourable conditions, it is no surprise that the market growers have a large demand for them in the spring. When planted out in beds in masses, there is an absence of that strict uniformity common to many plants, as

good pot stuff for another year will be secured if large ones are desired. PLANTSMAN.

Carnations at Syon House.—We have seldom seen Carnations in finer health than in the gardens at Syon House, Isleworth. Mr. Wythes has in one portion of the kitchen garden double rows of Raby Castle, whilst outside there is a row of Gloire de Nancy, the white Clove. The old crimson is flowering with great freedom, and its sweet, deeply-coloured flowers are always in request. Every Carnation is a picture of health, and the white Clove is remarkably strong, the growth sturdy, and the stems abundant, each carrying a wealth of bloom. These varieties where they can be made thoroughly at home are very useful, being of a type greatly in demand. Raby is a pretty flower, rose-pink in colour, fringed, and very free. It does not split, a common fault with so many otherwise good varieties.

Heuchera sanguinea.—In THE GARDEN, July 1 (p. 11), “W. R. B.” complains of being unable to flower *Heuchera sanguinea*. My experience with this plant is that it does best on sloping ground fully exposed to the sun. In the rock garden at Broadlands, Newton Abbot (recently illustrated in THE GARDEN), there is a large batch of this lovely perennial now in full bloom. It grows there in somewhat heavy loam sloping towards south-west, and it flowers most abundantly

native form, and where there are pools or lakes, means should certainly be taken to establish it. The rockery pool in these gardens is rather large of its kind, the bottom being cement concrete. The plants were procured just as they commenced to grow. Two or three were fixed in rather large wicker baskets, some good loamy soil being provided for them to root into. After being fixed in position, some large pieces of sandstone were placed around them, again filling up with soil. Some years ago I also established some in the large lakes at Holme Lacey, and this after attempts had been made for twenty years. The mistake which was always made was in procuring pieces whilst in full growth. I procured pieces just as fresh growth was starting and tied them round wicker baskets, filling in some good soil. These were placed at the edge of the pools at first, the crowns being just covered. As they commenced to grow freely, they were pushed into deeper water.—A. YOUNG, *Abberley Hall*.

The Madonna Lily.—In answer to the query in THE GARDEN as to the behaviour of *Lilium candidum* in other places, I may say that in this district, especially in the village of Great Whitby, it has been beautiful. There is hardly a cottage garden in which it is not growing to perfection. The natural soil is sandy loam on the old red sandstone formation. I have also seen it growing with extraordinary vigour on the chalk along the south coast. In this garden, although in the same district, it will not thrive at all well, the soil being a very cold limestone clay; consequently the bulbs lie too cold during the winter and perish. In some seasons the Madonna Lily is not nearly so satisfactory as in others, but I can confirm what you state as to its doing well in wet and dry seasons alike, as during the wet summer of 1888 it was equally as good as this season. In cottage gardens the bulbs are never disturbed.—A. YOUNG, *Abberley Hall, Stourport*.

FLOWERS AT SYON HOUSE.

THE flower garden facing the large conservatory at Syon House, Isleworth, is worthy of note, as the various beds are planted with a true eye to effect without undue formality in the arrangements. Rich colour is imparted by a judicious contrast of various things, and the rugged framework, so to speak, of this garden brings out the beauty of the plants. Standard Roses are a conspicuous feature, and when in luxuriant health, as they are here, crowded also with flowers, this type is effective. It is the weakly, miserable, mop-head specimens that are an eyesore and disgrace. A bed entirely of Fuchsias will soon be in full perfection, and we see with pleasure greater use being made of this fine flower. *F. gracilis* is disposed round the edge, and the centre is filled with *F. corallina*, the edging *Sedum Sieboldi*. The most original contrast, and one that those who have much of this kind of work to accomplish should think of, is the silvery *Centaurea candidissima* mixed with *Tropeolum Vesvius*. The contrast is splendid, the small dark coloured leaves and brilliant flowers of this *Tropeolum* in rich association with the *Centaurea* leafage. We have never seen this mixture before, but it is very appropriate and not too stiff. One bed filled in the centre with Henry Jacoby Pelargonium has outside this a line of tufted Pansy Countess of Hoptoun, a pure white flower with a yellow eye, dwarf, compact, and free. Again, *Centaurea candidissima* is well used as an edging. In all bedding arrangements the great thing should be to get novelty. We noticed in one large bed the white Canterbury Bell used as a centre, alternated with the variegated Abutilon. Colour is therefore obtained early in the season, and when the Bellflowers have faded the Abutilon takes its place. In this bed Henry Jacoby Pelargonium is used to advantage, and the pretty *Cerastium tomentosum* forms the margin—very rich against an inner line of the Lobelia. Mr. Wythes plants the tufted Pansy Bluebell freely. It has flowers of a pleasing shade of blue and blooms profusely over a long season, hence in the London parks it is

more planted than any other kind. A very fine contrast is obtained by mixing it, as at Syon, with the yellow-leaved Pelargonium Beauty of Lauderdale, the brightly variegated Flower of Spring in the centre. In another arrangement the centre of the bed is the white Snapdragon, which is remarkably fine at Syon, edged with tufted Pansy Bluebell. It would be well if this beautiful white *Antirrhinum* were more used in gardens. Its flowers are of the purest white, produced very freely, and a succession is maintained for a considerable season. When in perfection a bed of this plant is a beautiful picture, and few things are more easily raised. Tuberous Begonias are made good use of and enter into various beds, either massed or planted in conjunction with appropriate subjects. Although little has been written of the various beds so well laid out without a rigid system of arrangement, inartistic and objectionable, we have pointed out a few of the more important contrasts of colour.

FLOWER GARDEN NOTES.

THE best things in the flower garden just at present (July 3) are decidedly border Carnations and seedling Petunias, and as a good third Ivy-leaved Pelargoniums. Two large beds are planted sparingly with varieties La France and Mme. Thibaut on a carpet of variegated *Mesembryanthemum*, with occasional plants of *Grevillea robusta*. Anything of trailing habit as these Ivy-leaved Pelargoniums and the succulent that covers the ground quickly is likely to make the earliest and best show in a season like the present. Individual blooms of the double Ivy stand a long time, and in this matter are decidedly superior to the single zonals; the majority of them are also very free. Very large beds can be thoroughly well filled with these Pelargoniums, irregular pyramids and raised clumps being formed with the strong free-growing varieties, and the remainder of the bed carpeted with dwarfier sorts. Half a dozen plants of one of the large-leaved *Solanums* will complete the arrangement. Each succeeding year sees these Ivy-leaved Pelargoniums used more frequently for window boxes and vases. Planted at the edge and allowed to trail over, they come quickly into flower, and last in great beauty all through the season. Large vases can have the centres filled up with Fuchsias that would form a pleasing contrast to the different colours of the Pelargoniums. General Roberts and Mrs. Marshall are two good vase Fuchsias. Writing of Fuchsias reminds me that Dunrobin Bedder has quite come up to the expectations formed. It is a very dwarf variety of compact habit and wonderfully free. It has been employed, as a rule, in straight lines or patterns, but is not seen at its best in this way; it is too formal, too hedge-like. I like it associated sparingly with some nicely contrasting Viola. Tom Thumb Dahlias do not seem to be as yet generally known. They answer well for large-sized beds, and as there is now considerable variety in colour, charming combinations can be obtained. Those growing them for the first time must remember that to secure a continued and unfailing supply of flower, prompt removal of seed-pods is quite as essential as in the case of Violas and Sweet Peas. Probably the advisability, or shall I say necessity, of deep tith for Sweet Peas has never been so fully manifest as in the present season. On herbaceous borders, where they were sown in clumps in shallow-dug ground, they are looking decidedly the worse for wear, although they have been watered and mulched and seed-pods promptly removed; but on a border that was heavily manured and bastard-trenched, they are doing well. The summary of new varieties in a recent number is interesting, but, as pointed out in a previous note, it is not everyone who can invest in novelties. A very nice combination of colour can be made with Mrs. Sankey, white, Princess Beatrice, pale pink, and Scarlet and Blue Invincible. I have always found a good strain of

the last-named one of the most vigorous of all the Sweet Peas.

A feeling of envy is engendered on reading the note on page 18 touching herbaceous borders at St. Anne's House, Clontarf. Everywhere in this neighbourhood, unless owners are blessed with a deep holding soil and have been able to mulch and water, herbaceous plants have for some time felt the effect of the prolonged drought, and have suffered severely. They bore up bravely until the end of May, but since that time the report must be premature and indifferent flowers and withering foliage. I referred last week to the early flowering of Starworts and Erigerons, and this week must chronicle a similar experience with *Zauschneria californica*, usually a late summer flowering plant. I have it close to a big clump of *Funkia ovata*, and as both are flowering at the same time the effect is very pleasing. Work for the past week in the flower garden has been the removal of seed pods and stalks from Violas and Pelargoniums, watering as much as possible, and lightly staking the Sweet Tobacco, *Humea elegans*, and *Gaultonia candicans*. "Such things should not be staked," is sometimes the verdict, to which I reply, "That all depends on the season." Such plants may sometimes go through a season without requiring support, but I have often seen them dashed to the ground in a few minutes when quite at their best if they have had to encounter without stakes a very heavy storm. A spell of excessive heat and continued drought must be recorded for the opening day of July, and to mulch wherever practicable (as well as water) will be sound advice. As soon as time permits, we shall mix up compost for Viola cuttings and for border Carnations layering. In both cases a similar compost will be advisable, viz., three parts leaf soil and one of common red sand; one or two barrowloads of old potting soil may also be added. Any *Daffodils* it is thought advisable to shift should be lifted as soon as possible. I find a few in different varieties ranging in season from the Tenby to the double poetical, so useful for quick cutting that they are close to hand on a slip border, and their numbers will be increased this year. Any lifted may be stored in trays or boxes for early autumn planting.

Claremont.

E. BURRELL.

Dry weather annuals.—It was possible in looking over a large collection of annuals to note specially early in July what sorts or varieties seemed to thrive well in spite of the great drought. The minor *Convolvulus* are most beautiful, and even on a dull sunless day opened the flowers abundantly. The variety *sub-cerulea* is charming, having flowers of a pale or lavender blue. For a really true and superb blue nothing could excel a big breadth of the lovely *Phacelia campanularia*, one of the most glorious of hardy annuals. All the sturdy dwarf *Godeitis* stand drought well and bloom profusely, Lady Albemarle especially being effective. For a bright yellow nothing in annuals could well excel *Bartonia aurea*, quite a mass of flower, whilst a striking contrast is the dwarf and most beautiful *Linaria maroccana*. *Eschscholtzias* also all do well in the drought. These are but a few hurriedly noted out of many annuals, but they serve to show what may be relied upon for a dry season. Many others were late because the drought had checked germination, but under more genial influences now had made good growth, and will bloom abundantly a few weeks later.—A. D.

Three noble Irises.—The Iris family grows larger and more bewildering in numbers of both species and varieties, but I may safely select a trio of fine kinds and recommend them for general cultivation. They belong to the taller types—in fact, are some of the tallest, and of a decidedly ornamental aspect before and long after flowering by reason of their ample and graceful leafage. They should be planted in bold groups in sunny situations, preferably in a soil inclined to be moist. Associated with shrubs they are handsome, and it is the bold beauty of these three kinds flowering among Azaleas in a large bed that suggests this

note. Their names are Monnieri, aurea, and ochroleuca. In leafage they are somewhat alike, having long, narrow, rich green leaves. Their flowers are quite distinct from each other. Those of ochroleuca are white and yellow, the falls being margined with white, but orange-yellow in the centre and at the base, the standards being white also. It is tall and stately, and on account of this is called *Iris gigantea* by some, but I believe there is a form of ochroleuca named *gigantea* which grows more than 6 feet high, and is taller altogether than the type. This is a fine species for naturalising in a wet spot. I saw a group quite recently among Sedges and Rushes in a rather open clearing of a wet Oak wood. The effect was magnificent, the plants appearing quite at home and flowering freely. 1. Monnieri has flowers of a rich soft yellow colour borne on stems quite 4 feet high, and is sweetly scented. 1. aurea is of a very rich shade of deep yellow and quite self-coloured. Its flower-stalks are taller than those of the two preceding species, about 5 feet in height, the flowers being thrown up high above the rich leafage. They bloom nearly simultaneously, but aurea is a little the latest of the three.—A. H.

Lilium Martagon dalmaticum in London.—This dark coloured form of the Martagon Lily, often called the black Martagon, is just as satisfactory in London as the white variety alluded to on p. 16. I planted half a dozen rather poor bulbs in the autumn of 1890, and the first season there was, as is usual with most of the Martagon Lilies, but little show above ground. Last year, however, they flowered well, and this season have improved very much. The strongest spike has produced forty-seven beautiful blossoms, all prettily reflexed and arranged in a very symmetrical manner. Their perfume is, however, by no means pleasant. The unfolding of the flower-buds in this Lily very interesting, for when first visible they are arranged in a close, compact cluster, which is drooping, so that the flower-buds then really hang head downwards. As the stem lengthens the flowers expand and the stem gradually straightens, so that by the time most of the flowers are open they form an erect pyramidal-shaped head. The buds are covered with a white woolly substance, which gives them a very singular appearance, but in this respect individuals vary, as they do in the colour of the flowers, for some are very much richer tinted than others; indeed, under the head of dalmaticum may at times be met with every gradation in colour, from a few shades deeper than the ordinary Martagon to the richest tinted of all. To the palest forms of *L. dalmaticum* the varietal name of *Cetaneæ* is sometimes applied.—H. P.

Carnations at Maiden Erleigh.—In common with all gardeners who have to furnish large supplies of cut flowers, Mr. Turton grows very many Carnations out in the open ground, and of these I noted, not only doing wonderfully well in quantity, but flowering freely, that grand scarlet Rowena, one of the very best; Mrs. Reynolds Hole, so much favoured; W. P. Milner, a good white; Governor, creamy white; Colonial Beauty, a primrose ground, richly streaked with scarlet, very charming; and a crimson seedling of rich hue and a capital grower.—A. D.

Petunias.—These are revelling in the warmth and drought, indeed rank amongst the very best of dry weather tender annuals. The variety now found under the head "Petunia" is marvellous, though many of the flowers are of such surprising dimensions that they attract more by their size than beauty. Whilst the doubles come from seed generally wonderfully true, bloom very early and profusely, it is no doubt best when thus obtained from seed to propagate these from cuttings if it be specially desired to preserve particular varieties. The white-throated singles are really giants in flower, and when grown as pot plants in the greenhouse are beautiful. The striped forms, especially those having blooms of moderate dimensions and profusely borne, are the best bedders, and for small beds or edgings none are more pleasing than is the dwarf, compact growing dwarf rose, the flowers much excelling in form and colour those of the

old Countess of Ellesmere. Petunias are quite easily raised from seed if sowings be made in a gentle heat towards the end of March or early in April. I have raised great quantities from sowings made in a cold house or frame in April, but, of course, growth is slower, and when springs are cold, it is hardly fair to the small seed, whilst a little warmth ensures germination. Petunias when planted out do not require rich soil, and if employed for bedding, it is rather better to have the soil poor than otherwise. It not unfrequently happens in a dripping season that rich soil produces only growth and no bloom.—A. D.

NOTES ON HARDY PLANTS.

It sometimes happens that plants with which some find a difficulty are well grown and flowered by others, and even in the same garden a plant which will not succeed in one place will do so in another, even though there is apparently little difference either in the soil or the situation. Even such a common plant as *Saxifraga oppositifolia* I have found impossible to grow in some places, but at last by placing it on a small rockery, which seemed in its conditions to be like the others, I have found it to do well.

Verbascum olympicum.—This grand Mullein is worthy of a place in any garden, but it will be especially at home where shrubberies of any size are present. It attains to a height of 8 feet to 10 feet, and is profusely covered with its bright yellow flowers. Unlike those of the common Mullein and some others of the family which only open a few flowers at the time on each flowering stem, this species has a large number open at one time, and may well be described as a golden candle-brush of flowers, so that I was not a little amused at the observations of the "Gloucestershire Parson" recommending the growth of the common Mullein; not that I object to growing some of our native plants, which are really very beautiful; but whether for foliage or flowers this species so transcends our common ones, that I think it is useless to attempt to grow such a weed. I find that seedlings vary considerably both in the character of the flowering stem and in the foliage, the former being in some individuals much more branching and erect than in others, and the leaves, which are 3 feet in length, are in some specimens much more woolly than in others. There are other species which are also well deserving of cultivation, such as *Celsia cretica*.

Cypripedium spectabile.—I have been much interested in the remarks made in recent numbers concerning this beautiful N. American Orchid, but more especially in the paper entitled "Cypripedium spectabile at Home." In a depressed part of my small rockery, which I have filled with peaty soil, I have had a clump of it for the last thirteen or fourteen years. It is vigorous in growth and flowers very freely. Sometimes there are two flowers on a stem, of good size and colour. Close to this and in the same situation I have a good plant of

Orchis foliosa, which has now six flowering stems, and although they are not equal in size to those which I once saw with Messrs. Backhouse and Sons, or lately with Mr. Carrington Ley, near Maidstone, they are very beautiful. It is somewhat remarkable that it is much more easy, in my opinion, to cultivate these exotics than those native species which flower around us here on our chalk downs.

Lilium candidum.—The long drought has told severely on this beautiful Lily in my garden. The plants are not above one-half their proper size or height, and yet, strange to say, in a cottage garden in the parish, where the soil is very sandy and light and the clumps are planted on a sloping bank, the flower-stems have attained their usual height and the flowers their ordinary size. Why this should be, I cannot understand.

Lilium Browni.—A friend and neighbour who is a very successful gardener was very much surprised to hear I found this grow and flower well in the open and without any protection. He came

to see my garden afterwards, and was surprised at the vigour of this Lily. The oldest clump, which has been *in situ* some eight or nine years, is not so vigorous as usual, the fact being that I disturbed it last year and separated the bulbs, a treatment which the long drought of this season has caused them to resent, for although they have grown, they have not flowered. I have found with this, as with many Lilies, that they refused to move for a year, although the bulbs remained sound. The season has been a most trying one for all Lilies. In my own garden, with the exception of Browni, speciosum, and dalmaticum, they have all failed me. Superbum and pardalinum, as might have been expected, have suffered very much from the drought, while such kinds as Humboldti and Hansonii threw up weak flowering stems, which after a while withered away. On examining the bulbs I found them to be perfectly sound, so that I can only attribute this to the drought. It will be curious to see what will be the effect of heavy rains (if they ever do come) upon these ripened bulbs, whether they will start off into growth prematurely or remain quiescent.

Scabiosa ochroleuca is one of the prettiest of this interesting family. It is not by any means a new plant, but this is the first time that I have flowered it. Even in this very dry season its stems are 3 feet high, and I doubt not in moister seasons they would be higher. The flowers, of a delicate primrose colour, are borne singly.

Onosma tauricum.—I mention this well-known plant because some persons seem to find a difficulty in flowering it. It occupies in my small rockery a position somewhat elevated and fully exposed to the sun. There it has flowered freely, and I find now it is seeding abundantly. All this points to the fact that damp situations and heavy soils do not suit it.

Amaryllis vittata hybrida.—I have before now expressed my surprise at never seeing these gorgeous flowers in any gardens that I have visited. The few varieties I have, such as *Oriflamme* and *Adolphe Brongniart*, were obtained from Fontainebleau, where M. Souchet for a long course of years had hybridised and cultivated them. Mr. Kelway, of Langport, has done the same in this country, and they are certainly deserving of more attention—at least in the southern parts of the kingdom—than they have as yet received. Mine are grown in the border in front of my greenhouse facing south, and never have any protection during winter. They have now been there some ten years, and are thus entitled to the claim of hardiness; in fact, the same treatment as given to *Amaryllis belladonna* suits them exactly, but, unlike that plant, the leaves show themselves before the flower-stems.

Omphalodes Luciiæ.—I mention this because my neighbour, Mr. Carrington Ley, was somewhat surprised at the vigour of my plant, and said he could never keep it from snails. I have never had any trouble with it. Though it is not large, yet the plant is vigorous and flowers freely.

DELTA.

Lilies at Highgate.—The present early season seems to suit all my Lilies admirably. They are throwing up nearly double their usual quota of blooms, and almost if not quite attain their normal height. *Lilium testaceum* came into flower with me on the 27th of last month. It is over 5 feet in height, and with five to nine blooms to a spike. It is quite three weeks earlier than last year. The *speciosum* group promises to give a grand show of bloom by the end of next month. The early season is of great benefit to these Lilies, as in past years many did not flower till late in the autumn, and the blooms were dull and often injured by the cold rains. *L. speciosum* Krætzleri is doing well at the foot of a south fence. Two bulbs planted in 1891 have sent up six stems with forty-seven buds, one stem carrying twelve buds. The foliage is very healthy, and the plants revel in the bright sunshine. *Rubrum cruentum* has a shadier and moister position; three bulbs were planted in

1891 in loam, leaf-mould and sand, and have sent up eleven spikes with eighty-four buds. Some of the stems are already (July 1) over 5 feet high. This Lily (as well as the preceding) usually blooms early in October, but I believe it will be in flower by the end of August or beginning of September this year. *Macranthum* is very fine, with three stems to a bulb. This is one of the richest coloured of the speciosum group, and, moreover, is deliciously fragrant. *Roseum* and *rubrum* with its variety *multiflorum* are sturdy plants, and give good promise of early blooms. They are all in moderately light sandy soil, planted at a depth of 6 inches to 9 inches. They are top-dressed annually in May, 3 inches of the soil being removed and replaced by some rich compost. They are given abundance of water during the growing season, and kept dry in the winter by their position and the light soil in which they are planted. *Tigrinum* also is doing well, and is planted among my Roses. It is a very good Lily for such positions. Its varieties *Fortunei* and *splendens* are noble growers and very free flowering.—R. A. JENKINS, *Highgate*.

Hardy Crinums.—These plants make a noble show when planted so that they can have a little shelter from rough winds. C. Moorei and C. Powellii occupy a long bed in such a position at Burford Lodge, and are flowering profusely. C. Powellii appears to be the freest bloomer, but the flowers are not so massive as those of the first named, the petals being more pointed and the flower more tinged with pink. Both are well deserving of the attention of all who are desirous of stocking their garden with choice flowers.—W. H. G.

CARNATIONS.

THE prolonged drought would appear to have broken, as after a few intermittent showers, copious rain fell on June 27. The heat, however, has been a powerful factor in the rapid growth and development of Carnations, and with me they appear to have practically revelled in the bright, cloudless weather, and certainly they were never cleaner or more free from insects. This is the more remarkable, as green-fly has been such a persistent pest on the Roses, yet it has not affected the Carnations close by. Probably Carnations on lighter soils have suffered from the drought unless assisted by a suitable mulch of some moisture-conserving material. I used to mulch annually, and regarded it as an important and essential detail when I was dealing with a light soil, but it will not do to follow any special rule; one must modify practices and adapt them to the peculiarities of the place or season. For example, here in Sussex on heavy land a good preparation of the ground previous to planting is, during most years, amply sufficient to carry the plants through till their work is done. It must be borne in mind that the mulch, by checking evaporation, keeps the soil cooler, and soils in any way retentive need the sun's rays direct upon them in average years. This season, however, is a wonderful exception, and after 100 days of drought, with the thermometer registering 88° in the shade, even our Carnations—never more full of bud and promise—began to show signs of thirst, so a thorough watering was given at once and from half an inch to an inch dressing of clean peat Moss manure applied. This carried them through, and now at the end of June, refreshed with rain, they promise such a display of bloom as never before was seen, and that in all probability by the time these lines are in print, seeing that no less than forty kinds of magnificent selfs already have the first flowers open, and some are so numerous as to make quite a show.

The favourable character of the present season will be productive of good results that will last; in short, it is offering golden opportunities for another year, and the wise will embrace them. Early growth has not been all for flower; grass is abundant and strong. When shoots are ready is the time to layer, and many are fit now. I intend to begin at once, and in a neighbouring garden some layers have been put down a week. That

Carnations may be successfully planted over a long season I have repeatedly proved; but in this again the character of the soil is of some importance, and whilst early planting is always good, it is the essential element in success on heavy soil, no time being better than the first half of September. There will be no difficulty in having layers strong and well rooted by that time this year, and as all the details of culture since early spring have been performed considerably in advance of the usual date, planting may follow likewise by beginning in August. A. H.

Lilium Kramerii.—This Lily is not one of the easiest to grow, and it enjoys a place amongst shrubs. When looking through the Lilies at Kew recently we made note of this charming species, which succeeds admirably with Mr. G. F. Wilson in his Wisley garden. It is grown there amongst shrubs, a colony nestling amongst the *Rhododendrons*, a lovely break of delicate rosy flowers. Amongst shrubs is exactly the position that suits this type, as there it is sheltered from keen winds or screened from hot sun. The softly coloured flowers associate well also with the deep foliage of shrubs, and the best results accrue from planting in a deep loamy soil with which peat and leaf-mould are mixed. Under these conditions it thrives well, but is not one of the most satisfactory of the family as regards culture. Associated, however, with shrubs it succeeds better than in any other position. It is synonymous with *L. japonicum*.

Lilium odorum.—This is one of the oldest eastern Lilies in cultivation, having been introduced into this country as long ago as 1801, but after that it would appear to have been lost for many years, as it is only within recent times that it has been generally seen. The flowering display, too, is as a rule kept up by imported bulbs, as it is a difficult Lily to maintain in good condition for any lengthened period, being in this respect far more particular than its near ally, *L. Browni*. A limited number of grand bulbs of *L. odorum* is, however, usually disposed of at the auction sales of bulbs during the winter months, and if sound they can always be depended upon to flower well, at least the first season. *L. odorum* reaches a height of 3 feet to 4 feet, and a strong bulb will produce three or four blossoms. They are shorter and broader than those of the well-known *L. longiflorum* and of a more massive build. The exterior of the bloom is usually tinged with green and brown; this last is, however, very much less than in the allied *L. Browni*, while the interior of the bloom has in *L. odorum* a greenish shade. This Lily is usually disposed of at the auction sales under the name of *L. Colchesteri*, or *L. japonicum Colchesteri*, but seldom as *L. odorum*. The bulbs are quite distinct from those of *L. Browni* or any allied species. They are whitish, as in *L. longiflorum*, but in general appearance are widely removed from those of that kind. The blossoms possess a very agreeable fragrance, which is not of so powerful a nature as in many Lilies.—H. P.

SHORT NOTES.—FLOWER.

Primula imperialis has the foliage and somewhat of the general appearance of *P. japonica*, its erect spike of rich yellow flowers rising tier upon tier. This with many other fine hardy plants I saw recently with Mr. Bain in the Burford Lodge garden of Sir Trevor Lawrence.—W. H. G.

Gentians for the border.—Three species of this beautiful genus appear to do well in the open border even in the warm vale under Box Hill. The three species I recently noted were *G. cruciata*, *G. gelida*, and *G. septangularis*, and there was nothing round about which could compare in beauty with their exquisite shades of blue.—W. H. G.

Single Dahlia Scarlet Bedder.—Although it must be admitted that single Dahlias are not now in the height of popularity, yet they command much admiration where well grown and not too tall. One of the very best is *Scarlet Bedder*—full

height 30 inches, flowers of the best form, rich scarlet in colour, and most profusely borne. For filling centres of large beds few plants could be more fitting and effective.—D.

Pot Marigold Double Royal.—The flowers of this are of medium size, very double and perfect in form, the petals very closely interlaid and somewhat reflexed, in colour clear straw-yellow, with a distinct dark centre. These are borne on somewhat longer stems than is usual with pot Marigolds. Every flower comes true to character, and the strain seems to be the best so far as consistency is concerned.—D.

NOTES FROM FRANCE.

THE DRY WEATHER AND THE FRUIT CROPS.—The drought which prevailed through the spring and the early part of the summer has had a remarkable effect upon the ripening of various kinds of fruit. Generally speaking, everything is from three weeks to a month earlier than usual. In Touraine, on June 12, the *Madeleine noire* Grapes were commencing to colour, and the *Précoce de Malingre* Grapes were ripening. An old Vine grower told us that he has never known Grapes to ripen so early since the year 1822. On June 12 we also gathered in the open air Peach Apricots, perfectly ripe, yellow, perfumed, delicious. On June 10 we gathered our first ripe Amsden Peaches.

CITRON DES CARMES PEARS AND CALVILLE D'ÉTÉ APPLES.—It is a curious fact that in the southern districts of France this unwonted earliness of ripening is not observable to the same, or even a proportionate extent of what we find existing in the central parts of the country.

CHRYSANTHEMUM VICE PRESIDENT BARIGNY.—This new variety, raised by Mons. S. Délaux, has a special value in that it comes into bloom in the latter part of September—a time when *Chrysanthemum* flowers are rather scarce—the early-flowering varieties being then over, and the late ones having not yet come into bloom. The plant is tallish and vigorous in growth, of pleasing habit, and very floriferous. Flowers erect, very large, of a rich brown-shaded crimson colour, the outside of the petals exhibiting silvery reflections and a deep golden yellow centre. The merits of this fine variety will, no doubt, be speedily and widely recognised.

ROAD-SIDE FRUIT TREES IN SAXONY.—In Saxony the sides of the public roads are planted with fruit trees, the produce of which yields the State a revenue which, during the last thirteen years, represents an average of 1,739,195 francs (= nearly £69,565) per annum. As may be seen from the following table, the yearly receipts vary in amount—necessarily so, accordingly as the season is favourable or otherwise; on the whole, however, they show a tendency to a steady increase:—

1880	...	...	41,776.25 francs.
1881	...	...	117,668.75 "
1882	...	...	112,618.75 "
1883	...	...	140,568.75 "
1884	...	...	132,026.25 "
1885	...	...	142,842.50 "
1886	...	...	109,730 "
1887	...	...	111,006.25 "
1888	...	...	106,425 "
1889	...	...	177,398.75 "
1890	...	...	188,278.75 "
1891	...	...	203,091.25 "
1892	...	...	205,753.75 "

THE ROSE-SCENTED GERANIUM (PELARGONIUM CAPITATUM).—This species, which was introduced into Europe from the Cape of Good Hope in the year 1690, is tolerably well known in our greenhouses as an ornamental plant, but in Lower Provence, Nice, Spain, Algeria, Turkey, Egypt, and the island of Réunion it is grown on a large scale for the manufacture of the Rose-scented perfume which is distilled from the leaves. The plant is of somewhat diffuse habit of growth, with stout stems 3 feet or more in height, and digitate, five-lobed or six-lobed leaves, which when bruised emit their characteristic odour of Roses. In districts very far south the plant exhibits a woody, shrub-like development. The flowers, which are

numerous and produced in umbellate heads, are pink or purplish in the lower petals, the two upper ones being marked with streaks of a blood-red colour. In very temperate latitudes the plant flowers from April to October.

In Algeria, where this *Pelargonium* is very extensively cultivated for the distillers, it is multiplied very readily from cuttings of the wood of the year taken off with a heel, and planted in rows 1 yard or so asunder and with a distance of 16 inches to 20 inches between the cuttings. A well-grown plant will yield an average of 2½ lbs. of leaves. These are not taken from the plant all at once, but are removed at three successive cuttings, viz., in June, July, and November; or at two cuttings only, in which latter case the first cutting takes place in April or May and the second in September or October. When distilled, the leaves yield on an average 1 per cent. of the essence, but as they are in practice always distilled along with the stems to which they are attached, the actual percentage falls short of this by about one-fourth, so that some idea may be formed of its extensive scale on which this plant is grown in Algeria where one is informed that about 6600 lbs. of the essence are annually pro-

duced it into that country. Personally, I cannot help thinking that *Souvenir du Congrès* is much too like Williams' *Bon Chrétien* to be considered distinct, the extra size of fruit on cordons and other young trees being misleading, and the difference is less striking according as the trees age, while the flavour is far from being distinct. I have gathered finer fruit of *Bon Chrétien* from old standards in Kent than I have ever seen of *Souvenir du Congrès*, these being formed principally on the top of the trees.

Although the Pear under notice is grown nearly everywhere, and was at one time very extensively planted by market growers, it is yet far from being a reliable variety. The trees either produce extra heavy crops or else very light ones. This is not because they fail to flower well nearly or quite every season, but rather because the leafy growth is somewhat sparse, and the flowers or fruit receive little or no protection from spring frosts. A good set may have taken place and the fruit have started swelling off only to be frosted through, the

None ought to be left on the trees till they are yellow and ready to drop off when touched or disturbed by wind, as these, though more attractive in appearance, are comparatively dry and flavourless, also keeping only a short time after being gathered. By gathering a few dozen or a basketful as the case may be at intervals of from four days to a week, it is possible to avoid a great glut of ripe fruit and the certain loss of the bulk of it, this also, as before stated, improving both the quality and keeping properties of the fruit. In this neighbourhood an extra large standard growing in a cultivated garden was at one time of little value—was apparently worn out, in fact—but two or three liberal soakings of fairly strong liquid manure applied during each winter has put new life into it, several sacks of fairly large fruit being gathered from this tree in favourable seasons. Those, therefore, who may have trees either in the open or against walls in a worn-out condition should first try what can be done towards restoring them to good health by feeding the roots before condemning them. W. I.



Pear Williams' Bon Chrétien.

duced by the forty eight distilleries which manufacture it in the Sabel district and the plain of Mitidja. When the essence is very pure, it sells for £8 to £10 per kilogramme (2½ lbs.). The odour of it very much resembles that of essence of Roses, with a slight admixture of lemon scent and an after-whiff of the aroma of Geranium leaves.—*Revue Horticole.*

ORCHARD AND FRUIT GARDEN.

PEAR WILLIAMS' BON CHRETIEN.

INSTEAD of being of French origin, as many people suppose, this very well-known and popular Pear was raised, according to the "Fruit Manual," at Aldermaston, a village in Berkshire, somewhere about the year 1770. Whether the name of the raiser is Wheeler or Stair cannot now be decided, Williams being the name of the Turnham Green nurseryman who first distributed the variety. It has but few synonyms, "Williams," the costers' term for it, being simply an abbreviation, while in America it is known as the Bartlett Pear, so named after Mr. Enoch Bartlett, who first in-

ground being nearly covered by them a few days after. The growth is sturdy enough, and good standards, pyramids, and bushes can be had without much trouble beyond cutting back what few extra long or straggling shoots form. It succeeds admirably on the Quince stock, cordons as well as bushes producing good crops of fine fruit. With me extra fine and, for the variety, highly coloured samples are produced by a fan-shaped tree on the Quince stock, but if large trees are desired, it is the Pear stock that gives the best results. As a second early Pear, ripening in succession to Jargonelle, this variety has no equal, but, in common with the latter, it keeps badly after it is ripe. If a fairly lengthened out supply is desired, and in some private places large quantities of fruit are wanted in August and September, trees should be planted in different sites. Here, for instance, we have trees against south-west, south-east, north-east, and a still cooler site, and they succeed equally well in each position. We commence gathering before the seeds are brown, and ripen the first batches in heat. Fruit thus treated frequently proves of better flavour and nearly as luscious as that ripened, presumably under more favourable conditions.

Shading Vines.—It must not be imagined that when I write of shading Vines I intend it for general adoption. The season such as we are now passing through is a most remarkable one, as in addition to the heat being very great, it has also been long continued. Under these conditions the foliage in many vineries will be sure to suffer, especially in those which are well exposed or with a south-east aspect. Some vineries, I know, on account of their position will not require shading in the least, while others will be decidedly benefited by a little shade. If it could have been applied earlier than this, so much the better; but if the foliage is now suffering, better by far shade a little than not at all. If shading is not done, the foliage may be prematurely lost, and the Vines will consequently suffer. A little whitening or flour and water syringed lightly over the roof will be quite sufficient. Some varieties are more apt to suffer than others. Those which suffer the quickest are Madresfield Court, Gros Marec, Gros Colman and Muscat of Alexandria. Black Hamburgh will also be benefited by a little shade. The vineries in these gardens are very much exposed, with a south-east aspect, but with a little judicious shading where needed, the foliage has not suffered nearly so much as might have been expected. The late house, in which I have growing Lady Downe's, Black Alicante and Mrs. Pince, has not required the least shade. Muscat of Alexandria I shaded slightly a short time since, and I never had the foliage look better or the Grapes more promising. This slight shade has certainly been of great benefit. Madresfield Court I wish I had shaded a little earlier, but, all the same, the foliage is good and the Grapes very satisfactory. Fester's Seedling has not suffered in the least, and Black Hamburgh only very slightly. These latter had a thin shade and the berries are as black as sloes. If the bunches of Black Hamburgh have to be kept any length of time, they must certainly be shaded, as I never remember to have seen this variety come along so quickly.—Y. A. II, *Abberley Hall, Stourport.*

Nuts.—There seems to be a heavy crop of Walnuts this year, and all who took the trouble to thin their abundance have found plenty to set aside for pickling. However, the Walnut is a somewhat catch crop, still not at all a costly one to grow, as the trees seem to thrive luxuriantly almost anywhere. I mentioned last year the heavy crop of Cusford Red, Kentish, and other nuts which was found on the tallish bushes that grow on the east side of one of the kitchen gardens at Maiden Erleigh. Again this year there is an enormous crop. The bushes are some 8 feet or 9 feet in height, moderately thinned, and perhaps some 6 feet to 7 feet through. Mr. Turton attributes

the remarkable success in fruiting which attends these bushes to the shelter which a belt of tall trees on the north-eastern side gives at the flowering season. At any rate, were small nuts so grown by acres, then the produce would be as enormous as the product would be profitable.—A. D.

THE WATERING OF FRUIT TREES AND BUSHES.

THE few welcome showers that have fallen up to the end of June have proved most welcome refreshers to the leaves and branches of trees, but they have done little or nothing as yet for the roots; in fact, they have not yet reached the roots of the Potatoes, far less those of fruit bushes or trees. If the crops are to be finished of fair size and good quality, the roots must be helped through artificial watering and flooding—I had almost written—at once. Already it is too late to alter the results in bush fruits, unless with very late varieties and in backward localities, and in regard to autumnal bearing Raspberries. Few crops have suffered more from the drought than Raspberries, which are moisture-loving and also shade-loving plants. The crop has been plentiful in numbers, but small and hard. Gooseberries and Currants have suffered much also from the same cause, but not to the same extent. Something may yet be done to improve late varieties of both on north borders by one or more thorough soakings. Excellent crops of late Raspberries may yet be secured by liberally watering the current year's shoots with liquid manure. Drooping fruit bushes may also be cleared of spider, caterpillars in fact or in embryo, by a thorough overhead syringing with one of the many insect-killing mixtures and several soakings in succession of clear or manure water or sewage. This would enable Gooseberries and Currants to finish their young growths of wood, and also to plump up into fruiting size their myriads of pinched, half-shriveled buds. The object is not to start them into new growth so late in the season, but to clean the wood and plump up the buds as much as possible without breaking them into new leafage. Hence it will be desirable in many cases of stunted growth to dispense with the usual summer pruning of Gooseberries or Currants. There is another reason: so many newly-planted cuttings and young bushes have got crippled through the drought or killed outright, that every inch of available wood will be needed for cuttings in the early autumn.

As to the main fruit crops, Apples, Pears, Plums, Cherries, Peaches, Nectarines, it is not yet too late to improve the current crops, as well as our prospects for the next and succeeding years through copious root-watering. We all know that the dropping of fruit may be caused by grubs, spring frosts, and other troubles, but no one can look at the semi-jaundiced fruits that so thickly strew the ground this year without seeing at a glance that most of these are the victims of drought at the roots of the trees. From March 1 till now, it is no exaggeration to write, these trees have not had a drop of water come within their reach. Nor is that all. During most of that time their wide spread of leaves, their myriad fruitlets have had to bear the brunt for months of unbroken, unclouded sunshine from dawn to dark. The dissipation of vapour, the strain on all the forces of life and growth, have been unprecedented. The trees have appealed to us by all the natural symbols at their command, such as drooping leaves and shootlets,

withered branches as early as May, and dropping fruitlets, for water for their roots, and overhead drenchings to cleanse and cool their sun-parched tops. As a rule, and in a wholesale way, they have appealed in vain. Neither individual possessors of large orchards, parishes, boards of guardians, corporations, county councils, nor the Government have taken means to water, and so save the fruit crops and the trees. In many cases there were no great difficulties in the way of doing so. On the whole there has been no general dearth of water. Within the area of town mains and a virtually unlimited amount not only of water, but of means of conveyance and of distribution, tens of thousands of fruit trees and bushes and other trees and shrubs have drooped, suffered irretrievable loss of crops and of health or have perished. These might have been saved through simply putting the pumping engine on double time and using the mains at night for saving the crops and the trees. Not a few parishes or rural districts have fire brigades and engines; each county council should have one or more; almost every provincial town has such. All these might have been turned to profitable as well as most beneficent account in keeping our fruit trees clean, saving the current year's crops, and in laying the solid and sure foundations for equally good or better crops in 1894.

D. T. F.

Late Strawberries.—A note at page 524 called attention to the early ripening of Strawberries this season and to the probability of a second crop. Growers in most cases will be more concerned about the production of runners and the forming of strong crowns for next season than a second crop. If the plants crop a second time there will not be time to make new growth or crowns. Runners in most cases will be scarce, and those who require them will do well to order early if purchased. If the stock is home grown, much time will have been saved if the runners are secured from plants grown for the purpose, that is from runners planted early last August, and the flower-spikes kept removed. Even with this special culture we have been obliged to flood the plants weekly in our light soil during the severe drought to keep them in a healthy state. Of late years I have noticed the division of old stools has taken the place of runners. It is anything but a satisfactory mode of propagation, as divisions never do so well as the runners, and though it may be done in the case of new varieties, in older kinds it is not necessary and of no value to the private grower. With regard to late fruit on the young plants, I should prefer to remove the flower-trusses—I mean from those plants that are expected to produce the best fruit next season. In the case of older beds it would not be so necessary. Still if fruit is desired in the autumn it may really be obtained from forced plants. If forced plants of such varieties as Vicomtesse Hélicart de Thury, La Grosse Sucrée, or Keens' Seedling are planted out in rich soil and well supplied with moisture, there will be no lack of fruit during August and September. Many can afford to repot their forced plants, standing them on a north border, or keeping them sheltered in a cool frame. These soon fill the pots with roots, and will give a lot of late fruit in the autumn months.—G. WYTHES.

Canker in Melons.—Enclosed please find part of Melon stem. Would you kindly let me know the disease and how caused? This is now the sixth lot I have lost the same way. You can see it starts about a foot from the soil. The house is kept on the dry side, as also the border. The variety is from seeds I got from India.—C. F.

* * This is not a case of canker at the collar, but rather of gangrene at the joints—a far less common occurrence. In all probability it is largely due to the variety not being adapted for house culture. Melons that succeed well in the

open air in tropical countries do not, according to my experience, give satisfaction under house culture in this country. At the present time I have six packets of Melon seed in my possession that were sent or brought principally from India, but previous experience in a similar direction has convinced me that they are of no value whatever. One or more varieties of Melons were brought from Cabul about forty years ago and successfully fruited in this country, and it may be some of our best English-raised varieties have a little Indian blood in them, but Indian varieties pure and simple are as a rule failures with us. If other well-tried varieties of English origin had failed in a similar manner, then I should say it was a case of too much sap, ruptures being brought about by the sudden removal of a quantity of rank growth. I have seen plants literally drop all to pieces from this very cause, the whole of the plants suddenly becoming a mass of putrefaction, or quite as bad as the specimens under notice. Grossness had been engendered by a very free use of sewage water, and the man in charge neglected stopping for about eight days, afterwards, acting according to instructions, cutting away haulm by the armful. The decay is too rapid for any effective remedy to be applied in the case of affected stems, but when it is the branches that go first these may be cut back to a sound part and the wounds dressed or dried with newly-slaked lime, with just a chance of arresting further progress. A free circulation of air, accompanied by plenty of fire heat so as to dispel the extra moisture, usually present in our atmosphere, is the only preventive measure I can suggest, rankness of growth being guarded against as much as possible. It is my opinion, however, that Indian Melons are no more fit for house culture in this country than are either ridge Cucumbers or Cantaloup Melons.—W. L.

NOTES ON CHERRIES.

AT the meeting of the Royal Horticultural Society on June 20 some good dishes of fruit were staged from wall trees and from trees in the open ground. Some of the kinds grown in the open were the same as those on walls. The Morello type of Cherry, of which Kentish Red, Flemish Red and the Ostheim are now more commonly grown as bush trees and kept within bounds, are valuable, as they greatly prolong the season, make valuable preserve and are easily grown. Indeed, some bushes of these varieties in the kept grounds are lovely objects in the spring when in bloom. Even the Morello does not thrive in some gardens. This is in some measure owing to the stock, as often it is grafted on a dwarfing stock, which does not thrive in all soils; indeed, how often do we see a tree start vigorously, and when it has attained a fair size and laden with fruit succumb. In some cases the whole tree collapses and in others large branches die off, disfiguring the tree so much that removal is necessary. With failures of this kind I have had my share, and of late have endeavoured to get trees on the free-growing or will stock. Even on the wild stock it is useless to grow this fruit unless due attention can be paid to extension and the giving of moisture. I would point out the advantage of a few trees in various positions. For instance, in late localities a south-east wall is desirable, and a succession is secured by some trees on a west and north aspect. We have a few trees (early varieties) on an aspect nearly south, and the fruit in such a position was literally roasted.

In the pages of THE GARDEN last year the system of planting Cherries on north walls was considered wrong, but I would advise it. Where wall space is limited the Morello would succeed admirably in bush form, provided attention was given to thinning the wood and supplying food and moisture. Some of the early kinds do not hang long, but others, such as the St. Margaret, a grand late black, Black Tartarian or Circassian, and Bigarreau Napoleon, are excellent for late use and keep some time on a south-east wall; whilst Governor Wood, Florence, and Late Duke are good white varieties for hanging. Many of the dessert

varieties succeed well in warm soils as bushes or pyramids, but they suffer much from frost. This may, however, be minimised to some extent by growing small bushes only having a very short leg or stem. These can be readily protected. Some years ago I adopted the dwarf bush form, planting some of the best kinds along the side of a walk on a north border, and found the trees did grandly. I netted when the fruit began to colour, mulched heavily twice a year, and lifted the trees every third year as soon as the leaves began to turn colour. In lifting or planting Cherries it is important to get the trees planted early and, as previously explained, before the leaves fall; indeed, in light, dry soils before they change colour if the roots are thoroughly saturated with water when planting. If the ground is at all dry there is no fear of the bark shrivelling; the buds retain their plumpness, and there is less anxiety as to their well-doing the following season should the weather prove hot and dry. W. S. H.

THE STRAWBERRY SEASON.

LOVERS of Strawberries have not had a good time of it this season. The supply has been short and, as a rule, the quality not satisfactory. So much fierce sunshine caused the fruit to colour rapidly, and, no matter how well the roots may have been supplied with moisture, there is sure to be an acidity and dryness about any Strawberries that ripen in too much heat. When, as was the case in many gardens and fields, no water could be applied, this, coupled with the fierce sunshine and heat of May and June, completely spoilt the crops. Thousands of Strawberry plants in various localities have died from want of water, red spider also being responsible for many losses, and this looks rather like a scarcity of runners for planting. Rain may yet save the bulk of the old plants, but all the same they will be badly weakened. To a certain extent the short duration of the Strawberry supply can be remedied, no matter how hot and dry the weather may be during the ripening period. For instance, I am practising fruit-growing in a warm south-western county, where the rainfall has been even less than in adjoining districts, yet the Strawberry season, independent of what is done under glass and in the open with the plants after forcing, will extend over a period of not less than nine weeks, probably even longer than that.

In order to be certain of a two months' supply of fruit an early start must be made, and this season I commenced picking fine fruit of Noble on May 5. Another year it may be fully a month later before the first Strawberries are fit to gather, but they would then be early, the season of 1893 being altogether abnormal. Raised borders, either extemporised at the foot of sunny walls of any kind, or those in front of fruit walls, are the best positions for the plants to produce extra early fruit, and, seeing that earliness is of primary importance, only quite young plants should be retained in such favoured positions. Mine, directly the first and only crop is gathered, and the requisite number of rooted runners are obtained from them, are cleared off the ground, as being no longer worth retaining. Sometimes the same sites are freshened up with soil and manure, and replanted with rooted runners, but more often than not a complete change of site is afforded. Noble is not a high-class variety, but it has no equal for precocity of fruiting, size of individual fruit, and weight of crop produced by young plants, and it will be some time before it is discarded.

When once Strawberries are gathered in quantity from open-air plants, there ought to be no break in the supply; but this may yet occur if the precaution is not taken of giving plants that are to produce second early crops a good position. Young plants invariably produce ripe fruits earlier than do older ones, and each season a fresh bed ought to be planted in a sunny, open position. The ground being well prepared and the plants given good room, it usually pays well to take three crops from these breadths of plants before destroying them, each season seeing a new bed formed and a worn-

out old one cleared off. For the second early crops *La Grosse Sucrée* is a good variety, but if quality rather than great size is most thought of, then ought *Vicomtesse Hélicart de Thury* to be planted, this very heavy cropping early variety also affording good supplies of preserving fruit. Sir J. Paxton is also moderately early, and in every other respect the best variety in cultivation. Nor ought *Alice Maud* to be lost sight of. For planting on lower ground or in a good level quarter, the two last named, with *President*, a very heavy cropping variety; Sir C. Napier, a grand old sort, of superior quality; and Dr. Hogg, a large fruited, richly flavoured variety, are all suitable. The supply obtained from these breadths or rows would be the main crop, and to succeed these, *British Queen*, *Frogmore Late Pine*, *Eleanor*, and *Waterloo* ought to be grown, though the first and last would perhaps be sufficient for most places.

In many gardens no attempt is made to grow crops to ripen later than what may be had from the foregoing varieties planted in the open, but that is a mistake that should be rectified if possible. Without the aid, however, of cooler sites, a supply of Strawberries extending over a period of ten weeks will not be had in many places during a hot season, nor often during the average summer. Instead of the borders in front of garden walls with a northern aspect being devoted to common vegetables, herbs, and such like, these ought largely to be cropped with late Strawberries. It is surprising how well some of the latter succeed in such positions. For instance, *Loxford Hall Seedling* fails badly in the open, but with me on a north-east border it produces good crops of fine, richly-flavoured fruit, the supply usually lasting till late in July. Latest of All and *Royal Sovereign* are also admirably adapted for these cool borders, and I find *Waterloo* of the greatest service when grown in similar positions. Next season I hope to have a few score plants each of the last-named and *Loxford Hall Seedling* on quite a north border, and from these to be able to gather up to the end of August, or say till forced plants of *Noble* are producing a second crop in the open.—I. M. II., in *Field*.

Gooseberry caterpillar and the cuckoo.

—Some few weeks ago I noticed in *THE GARDEN* that Mr. Strugnell, of Rood Ashton, in his notes on the Gooseberry caterpillar, said that in his garden he had noticed the cuckoo frequented the bushes and destroyed the insects. He asked what was the experience of others in this matter. I never observed these birds frequenting our garden before this season. Previous to noticing Mr. Strugnell's remarks I had seen the cuckoo come and pick the insects off the bushes. On Sunday when it was quiet, I could frequently see three or four birds at a time in the Gooseberry quarter. During the third week in June, after the nets were put on to keep out the birds, one morning I found a cuckoo under the nets where there was a quantity of caterpillars. It is quite clear that the cuckoo is not to be despised in gardens, the more so in seasons like the present, when caterpillars have been so numerous. I have been obliged to syringe the bushes four times this season with quassia water and soft soap mixed, and even now caterpillars are appearing. I thought ours was an exceptional case, but on a recent visit to Bath I saw many bushes leafless.—J. C. F.

Scarcity of Strawberry runners.—Owing to the long-continued drought there is a great scarcity of runners, especially on light or thin soils. This will make Strawberry forcing more costly, as many purchase their plants, and runners being scarce, prices will rule high. This will not be the only difficulty, as growers will find a difficulty in securing enough for their customers, and in some cases old stools will have to be divided. No doubt if heavy rains were to come, the plants would push out strongly. This will not be the case with all varieties, as some kinds, notably *President*, are so badly injured by red spider, that it will be almost too late before runners are

secured. I plant specially for the production of runners, and on the variety named *Auguste Nicaise* I have not a fourth of the runners required. Strawberries with thick leathery or shining foliage resist spider and grow more freely, whilst those with soft and hairy leaves are more subject to this pest, and soon feel the effects of drought. This is not quite true in all cases, however, for *Vicomtesse H. de Thury* possesses a soft, woolly leafage, but resists red spider. In the case of *Vicomtesse H. de Thury* it is not so necessary to layer in June for early forcing. I am no advocate for late potting, and always push on the layering at the earliest opportunity, but *Vicomtesse H. de Thury* so soon makes headway, that layering may be left longer than in the case of the others. Such varieties as *Auguste Nicaise*, *James Veitch*, and *President* one cannot layer too early, especially if the plants are to be wintered in the open. Last season I potted up a new variety later than the main lot, and could not force it owing to the scarcity of roots. To force early it is essential to get abundance of roots, so that those who can give the plants some help in the way of liquid manure to strengthen the runners would do well to apply the same. It is also an excellent plan to damp over in the evening on dry days, this greatly assisting growth and checking red spider. The earlier Strawberries are planted in their permanent quarters the better able they will be to resist severe weather or periods of drought.—S. H. B.

STRAWBERRIES IN THICK BEDS.

I HAVE long been convinced that the old-fashioned or "lazy-bed" system of growing Strawberries is the one best calculated to give a plentiful supply of fruit with a minimum of labour. Except in soils very favourable indeed to this fruit, the plants need renewing every third year. On soils of a porous nature the third year's crop is generally scanty and the quality of the fruit very indifferent. This quick wearing out of the plants, necessitating yearly planting with careful preparation of the ground, renders the production of Strawberries both costly and laborious. There is by our modern system of culture at least more trouble involved in keeping up a good supply of Strawberries than is the case with any other hardy fruit. The old-fashioned plan as taught me by one of the old school of gardeners consisted in putting out two rows of runners 2½ feet or thereabouts apart, allowing all the runners to come and remain, and restricting them to a width of not more than 5 feet. If the ground is well prepared, the whole of the surface will be fairly covered with plants the first season. The great objection to this way of growing Strawberries is that the berries in beds so crowded with foliage do not attain to such fine proportions as when they are more exposed to light and air. I have, however, gathered very excellent fruit from these thick beds, quite good enough for market, and therefore sufficiently good for private gardens. The extra weight of fruit, moreover, taken from the space more than compensates for some little deficiency in quality. In very hot, dry seasons, such as that just passed through, the shelter afforded by the foliage is even an advantage.

In many instances the berries on stools 2 feet apart were so hardened by the burning sun and parching winds, that they could not come to their full size. This was the case with mine; whereas, some beds of *President*, so thick that not an inch of ground can be seen between the leaves, ripened off perfectly, the berries being highly coloured, large, luscious and immeasurably superior in flavour to those fully exposed. All through three months of heat and drought these beds had but two moderate waterings, and it is an instructive fact that when the plants stand so thickly the soil is completely shaded by the foliage. The effects of such a dry season as the present are not nearly so marked as under the ordinary form of planting, even with the ground between the plants well mulched. I have invariably found, too, that the

blooms suffer less from frost in these thick beds. Where any quantity of preserving fruit is needed, and such kinds as Elton Pine and Vicomtesse Héricart de Thury are grown for the purpose, I am convinced that the old-fashioned way is the best. I remember over thirty years ago seeing large beds in private gardens which bore quantities of fruit for some years without showing signs of exhaustion. Mulching is not practicable, neither is it needful, as there is little or no danger of the fruit coming on to the ground or getting in any way gritty. Where Strawberry culture, owing to the over-porous nature of the soil, is fraught with some difficulty, I would advise some portion of the ground devoted to this fruit being cropped in this manner, as I know that the plants will last more than double the time than in the ordinary way.

J. C. B.

Good dry-weather Strawberries.—It must not be taken for granted that because a variety of Strawberry has gone through the trying ordeal of the past dry weather in some districts it should be stamped with the hall mark of superiority as applicable to all districts alike. I quite agree with Mr. Molyneux that much valuable information might be disseminated if growers were to give results as to the variety or varieties they have found succeed best, and also the character of soil. Among the varieties which are grown here, Sir Joseph Paxton has given the least satisfaction; so much so, that I shall not grow it again. This I entirely attribute to the soil. Knowing how well it succeeds in some gardens, and also having had it succeed well in other gardens I have had charge of, I decided to give it a fair trial here. I procured it from different sources, but always failed, and as a last resource Mr. Iggulden kindly sent me some runners for further trial. It succeeded excellently with him. Last year I thought I saw an improvement over the old state of things, but this season it is as bad as it well could be. Strawberries generally succeed well here, but I cannot get either Sir Charles Napier or Loxford Hall Seedling to succeed, let the season be what it may. Although the weather has been so abnormally dry, this has been a good Strawberry season with me, the plants being most vigorous. True, the fruits have not been quite so large individually, but they have been good. I commenced gathering on Whit Sunday, and now, the first week in July, Dr. Hogg is in splendid condition. The soil is a heavy limestone clay, consequently we have not felt the drought. This season, just as the plants were starting into growth, I gave them a good dressing of soot. This imparted a vigorous and healthy tone to the foliage, and which they have not lost. Vicomtesse Héricart de Thury does splendidly; so also do President and James Veitch. This season, I should think, has shown the value of young plants. For Strawberries to succeed well, healthy and well-rooted runners must be planted annually. The plants must be set out on firm, but well-cultivated and fertile soil, when they will surely succeed whatever the nature of the soil may be. In addition to working in a good dressing of solid manure, I find burnt refuse of great benefit.—A. YOUNG.

The vagaries of exhibiting cut flowers.

—Some few weeks back those who visited our London shows were treated to the rather novel and quite unnatural idea of setting up the florists' Tulip upon white paper. Then we shall now, I suppose, soon see what elegant frillings, &c., can be added to the Carnations—white paper, of course, probably miniature bouquet papers. Why not use the growths instead of a common kind that makes grass freely? Then later on both show and fancy Dahlias to be orthodox in the setting up must be upon boards painted green, and no foliage on any account used therewith. Asters, too, must have the frills or collars to make them compact, and of course later on Chrysanthemums must have either wires, cups, or papers (small) to keep as far as possible different from what they appear upon the

plants. As a contrast to this, it is a treat to look at a few stands of Gloxinia flowers in a setting of Malden-hair Fern or Begonia blooms with their own foliage. Hardy herbaceous cut flowers have fortunately escaped these barbarisms thus far, whilst the method adopted with Cactus, pompon and single Dahlias is quite within keeping and pleasingly effective, hence more popular with visitors.—SIMPLEX.

GARDEN FLORA.

PLATE 918.

THE BLOOD FLOWERS.

(WITH A COLOURED PLATE OF HÆMANTHUS COCCINEUS,*)

THE species of *Hæmanthus* represented in the accompanying plate is one of the oldest and best of the garden representatives of the genus. It was cultivated at Chelsea by Philip Miller in 1731, and according to the *Botanical Magazine*, in which it was figured in 1808, it was grown by the Dutch gardeners probably a century before Miller had it. There are thirty-eight species of *Hæmanthus*, according to Mr. Baker, and so far as we know them they are every one sufficiently attractive to be classed with select garden flowers. But, unfortunately, a considerable proportion of them are not easy to manage, and this is no doubt mainly the cause of the genus being comparatively poorly represented in gardens. There are, however, a few which we know to be satisfactory under ordinary treatment, and of these *H. coccineus* is probably the best. At Kew there are two large pans of it, nearly a yard across, packed with large bulbs which every year are crowded with long, broad fleshy green leaves and, after they have faded in autumn, with large heads of bright blood-red flowers, such as are shown in the plate. These plants are kept in an ordinary sunny greenhouse, except for about two months, usually July and August, when the leaves fade and the bulbs require a rest. This is provided by placing the plants in a sunny frame and keeping them quite dry until the flowers show through the top of the bulbs. They are then well soaked and fed with manure water. When at their best these plants are a gorgeous picture. It takes many years to grow a specimen, such as those at Kew, as the bulbs produce offsets slowly; still a single bulb in a 5-inch pot is worth a place in any greenhouse. There are twenty species belonging to the section *Diades*, characterised by usually large bulbs formed of thick fleshy tunics arranged in opposite series, and producing a pair of broad fleshy leaves every year, followed by a flower-head. These all like greenhouse treatment and restricted root room, the latter point being of some importance. We only give our plants a shift into larger pots when they become too crowded, and threaten to burst their pots or pans. They like manure water when they are making new leaves, and also when the flower-heads are developing, which is really contemporaneous with the starting of new leaves.

Besides that here figured there are several other good species in this section of the genus, viz. :—

H. albidiflos, which has white flower-heads and variable leaves, sometimes smooth and glabrous, sometimes hairy (var. *pubescens*), and sometimes with a very distinct marginal fringe of white hairs

* Drawn for THE GARDEN in the Royal Gardens, Kew, by Gertrude Hamilton Oct., 1892. Lithographed and printed by Guillaume Severeys.

(var. *Burchelli*). This old garden plant has lately been re-introduced and distributed under a new name.

H. albo-maculatus is like *H. albidiflos*, but differs in having the leaves spotted with creamy white. It is in cultivation in a few botanical collections.

H. tigrinus is very similar to *H. coccineus*, differing chiefly in having spots of red-brown on the back of the lower part of the leaves.

H. clarkii is a hybrid named in compliment to Col. Trevor Clarke, who raised it some years ago from *H. coccineus* and *H. albidiflos*. It is in the Kew collection, where it annually produces its rosy red flower-heads.

Next in value to *H. coccineus* as a garden plant I would place

H. KATHERINE, which was sent to Kew in 1877 by Mr. Keit, and named in compliment to Mrs. Katherine Saunders, an enthusiastic amateur botanist residing at Natal, who has collected and forwarded to Kew many interesting plants during the last twelve years. There are several forms of it, one named Alice Barr being exceptionally large in inflorescence and rich in colour. Another fine variety is called *superbus*. This species pays for liberal treatment in regard to soil, moisture when growing, and sunlight. It produces flower-scapes 1 foot long, bearing heads of large size, one grown, I think, by Mr. Gumbleton measuring 9 inches in diameter.

H. CINNABARINUS is nearly as good if grown in a stove and treated well. It flowers freely at Kew, usually in spring.

H. MULTIFLORUS is a beautiful species, but it does not as a rule thrive under cultivation. It has numerous synonyms, viz., *delagoensis*, *abyssinicus*, *tenuiflorus*, *Kalbreyeri*, &c. Mr. Baker says it occurs throughout Tropical Africa, from Sierra Leone to Kordofan, Abyssinia and Delagoa Bay, and that it was first described by Vallet in his "Jardin du Roi" in 1608, having been sent to Paris from Guinea by the younger Robin in 1603.

H. FILIFLORUS is very near to, possibly identical with, some of the forms of *H. multiflorus*. These are all referred to here because the names occur in gardens.

H. MAGNIFICUS is another very fine sub-tropical species, which was introduced from Natal fifty years ago. It has Onion-like bulbs, leaves folded at the base, and forming a stem-like neck and lateral flower-heads, the stalks a foot long, the heads 4 inches or 6 inches in diameter, and coloured bright scarlet. There are several named varieties of it, insignis having long outer bracts; Gumbletoni, heads coloured reddish brown; and *superbus*, with narrower leaves and no distinct neck.

H. NATALENSIS is a big, rather coarse growing species with a globose bulb, a neck a foot long, large ovate leaf-blades, and a drumstick-like inflorescence a foot long, the head being very densely packed with bright yellowish red filaments, surrounded by dull red-brown bracts. It is worth growing, as it flowers every year and the heads are remarkable.

It may not be generally known that the genus *Hæmanthus* is confined to Africa, and is a near relation of *Clivia* (*Imantophyllum*), also African. The heads of flowers in *Hæmanthus* are made up of a large number of small, narrow tubular flowers, packed closely together in an umbel on the apex of a stout scape and surrounded by large petal-like bracts called spathe-valves, which are often the most attractively coloured part of the whole inflorescence.

W. W.

Garden abominations.—At the risk of offending many people, I would class among these—cable and other tile edgings, double Pansies, double Cinerarias, double Begonias, carpet beds, clinker rockeries and edgings, crested Ferns, common Musk (it stinketh), standard Roses, half-standard Roses, the muck heaps called Rose beds, Roses pruned back to the ground or near it, Grass



slopes suddenly going off at an angle of 15° with flat ground above, prim florists' and the exhibition standard. Some of these things may be good in themselves as being either horticultural triumphs or leading to them, but a museum of curiosities is the place for them, not the garden, which should be a place of refreshment for eye and mind, an abode of peace, and not a spot for the contemplation of monstrosities.—J. I. R., *London*.

THE WEEK'S WORK.

FRUIT HOUSES.

PINES—It cannot be too often pointed out that if the final stage of ripening is completed in a comparatively cool, airy house, or even in a deep Potato frame blocked up sufficiently high to hold the plants, the quality of the fruit will be very much better than would have been the case had the ripening taken place in a strong heat and moist atmosphere. Pines that are swelling fast should still be kept in a brisk heat, the time for transferring them to cooler quarters being when colouring commences. Plants recently placed in their fruiting pots should now be growing strongly, or otherwise they will not be fit to fruit early next season. Avoid stewing them in a very strong heat and over-moist atmosphere, as this would cause them to form soft spindly leaves. Should the weather continue hot, little or no fire-heat will be required, but it must be given directly a change to dull or colder weather takes place. Open the top ventilators rather early or soon after the temperature exceeds 70°, giving more air as the day lengthens, and closing early enough to run up the heat to 85° for a time. Syringe overhead very lightly when the houses are closed, and generally keep up a fairly moist atmosphere. These growing plants must still be very carefully watered, the soil being kept as near as possible just moist. Some of the strongest of the spring-rooted suckers might also be shifted into pots now with a view to fruiting them next season. The bulk of suckers from Queens that have recently fruited ought now to be quite fit for taking off and striking. Only the very largest should have 7-inch pots, the rest being placed in 6-inch pots—all being clean and well drained. Use nothing but the best brown fibrous loam, adding to every barrow-load a 6-inch potful of bone-meal and a 5-inch potful of soot. Fix the suckers very firmly in the soil and plunge in a brisk bottom-heat. Do not water at first, but keep them close and shaded from bright sunshine. Directly roots are being formed, give a good watering and gradually withhold shade. Those who have a good batch of strong Cayennes and other winter-fruited varieties that have been duly rested and kept a little on the dry side should start these now with a view to having good fruit next winter. If they are plunged in a brisk bottom-heat and subjected to a higher temperature and moister atmosphere than formerly, this should soon cause them to show fruit. In many instances probably, the extra top heat and moisture only would have the same effect.

ORCHARD HOUSES.—This has been a very trying season for trees in pots, it being scarcely possible to keep them properly moist at the roots during the very hot weather experienced, more especially in June. Plunging the pots and allowing the roots to strike out into a rich border save the watering-pot considerably, but are not so well in other ways. For instance, unless the pots can be turned round frequently some of the fruit will be badly coloured, and then, again, it is a risky matter to turn out the trees before the leaves are on the point of falling. The better plan is to keep the pots set on slates and to give the plants abundance of water and liquid manure, even if these mean two or three applications a day. If it can be tolerated, some strawy litter might be scattered over the pots to prevent their being badly heated and the roots dried by direct sun-

shine. Peaches and Nectarines require the most exposing to light and sunshine, the fruit colouring badly if much shaded. Much can be done by tucking back the leaves from some of the fruit and propping or slinging up some of the fruit that falls away too much for the sunshine to reach it. The earliest varieties will have already given some ripe fruit, Early Alexander, Hale's Early, and A Bec forming a good succession in the order named, these being followed by Royal George, Crimson Galande, Bellegarde, Noblesse, Grosse Mignonne, and other high-class varieties. Any trees cleared of their fruit may be turned out in a sunny position, but must not be neglected. Cover the pots with strawy litter or else plunge in ashes. Keep the soil well supplied with water and the foliage free of red spider by means of the syringe. Most of the Cherry trees will also be cleared of fruit, and these should also be turned out and treated



Hamanthus natalensis.

similarly to the Peaches and Nectarines. This will admit of those left inside (and also Tomatoes in pots or boxes) being given more room. Keep the trees with swelling crops well supplied with liquid manure, and syringe freely with clear water every morning and afternoon or evening when the house is closed. Those trees with the fruit nearly ripe should receive plenty of clear water only, and syringing should cease in their case. Plums ripen and colour best under a thin covering of leaves, but Apples and Pears should be exposed as much as possible in order to colour them properly. Avoid over-cropping either of these kinds, and then the fruit will be extra fine in addition to being clearer in the skin and probably better coloured than the same varieties ripened in the open. Give plenty of air during the daytime. Keep the shoots pinched back, superfluous growth being freely cut out, thinly furnished trees being the most productive under orchard house culture.

PRACTICAL.

THE KITCHEN GARDEN.

LIFTING EARLY POTATOES.—Very seldom have early Potatoes ripened off so quickly as this year. The sooner now the early Potatoes are out of the soil the better, as after the long spell of drought the check will have been so great that if not taken up and a spell of wet weather should occur, the tubers would be in danger of second growth and also very likely be overtaken with disease. Those required for seed for another season's crop should be put on one side at once. When taken up, spread them out in a layer of about 9 inches or 10 inches in thickness on the floor of a cool shed and away from the light, or the tubers will quickly turn green. If placed in large heaps and closely covered with straw the tubers are apt to become heated.

TURNIPS FOR WINTER.—So far this has not been a good season for Turnips, that is unless the sowings have been on east borders. The time has now arrived to make preparations for the winter crops. The season being so dry, it is all the more desirable that the ground should be in a thoroughly fertile state. Manure in its rotten state holds moisture, and this is what is needed to assist in seed germination and also in supporting the young plants. A dressing of lime would be an advantage to old gardens rich in humus through years of manuring. Burned refuse is also an assistance, but work this well into the surface, not scattering it along the drills. Salt is also a capital stimulant for Turnips, and would be especially beneficial this season in keeping the soil cool and moist. Not much is required, just a mere sprinkling, it being applied to the surface before the latter is broken down. For early winter use Snowball is a good Turnip. Red Globe is valuable for succession and keeps well, but for late use the Orange Jelly and Chirk Castle Blackstone are invaluable; 15 inches apart is wide enough for the rows of the latter and Snowball, allowing an extra 3 inches for Red Globe on account of its larger leafage. Before even the young seedlings appear dust the surface over with soot every morning, that is if the weather should be dry, as a safeguard against fly. If one sowing fails, follow up quickly with another. Timely hoeing and also thinning must be strictly attended to before the seedlings become crowded.

PREPARATION OF GROUND FOR WINTER SPINACH.—This useful crop cannot have too much attention in the preparation of the soil, so as to get it both insect-proof and in a well-pulverised condition by the time it is needed for sowing. Ground which has been cleared of Peas and Cauliflowers will suit this crop admirably, and if it was well manured for these crops, no further addition will be needed. The surface in the meantime might well be forked over twice, this exposing the soil readily, so that birds may pick it over for grubs. As a further preventive and also as a stimulant, work into the surface both a dressing of burned refuse and soot.

SHALLOTS AND GARLIC.—The tops of these bulbs are changing colour earlier than usual, but by their present condition a fine crop should be harvested. If these are allowed to remain in the ground and a spell of wet should follow, fresh root-action would quickly commence, when, of course, the quality would be lowered and the keeping qualities spoiled. If when harvested the weather should be dry, lay them out on a gravel path or even boards in order to get them thoroughly ripened.

GATHERING AND DRYING HERBS.—All herbs which are required for drying should now be cut

and prepared for storing. As they are cut, tie up in small bundles and hang them up in an open shed so as to become thoroughly dry. When the bundles are too large they are apt to turn mouldy in the centre.

LETTUCE.—Good Lettuce for coming into use during the autumn months is often very scarce, but this need not be if sowings according to the demand are made at intervals of ten days. The Cos Lettuces are useful for transplanting, and in the selection of varieties do not omit Hicks' Hardy White, as well as a good selection of a summer form. The former is a capital autumn Lettuce with the quality of the summer Cos, and remains some time before running to seed.

A. YOUNG.

PLANT HOUSES.

THE CONSERVATORY AND SUCCESSIONAL PLANTS.

Owing to the hot weather and so much sunshine many plants now in season in the ordinary way will have been considerably hastened, if not already past their best. Late show Pelargoniums by good management will give a good display in most seasons up to the middle of the month; hardly so this year. Fuchsias will, however, come on quickly to succeed them; these like the Pelargoniums should be worked in batches, having at least three distinct stages; this is easily effected by stopping and not allowing the plants to become pot bound too soon. The Pelargoniums should now be laid on their sides where of no further use, so as to rest them and ripen the wood. The Fuchsias, on the other hand, will require liberal supplies of water, with stimulants also, as they advance into flower. To keep them at all on the dry side is simply ruinous, the plants going quickly out of flower, leaving thrips with red spider in the ascendancy instead. Early-sown *Celosia pyramidalis* in variety will form a pretty mixture with the Fuchsias. These very showy plants are not grown nearly enough; they can be had in flower from the end of June to the end of September with ease, the period of blooming being regulated according to the circumstances. This can be effected in either of two ways; the seed can be sown at intervals, or stopping the shoots as they show for flower can be practised. We are now following the latter plan, the plants being kept meanwhile in a brisk heat with plenty of moisture to keep red spider in check; some of these plants have been stopped twice, and where needful another stopping will be given. This method keeps the plant compact, the so-called variations in habit being more in reality variations in cultural detail than anything else. We shall pot some of the most vigorous of these plants once more; they are now in 6 inch, 7-inch, and 8-inch pots. Then from the end of August onwards we hope to have a good display of plumes. Where the plants are now growing in warmth, it is necessary to lower the temperature as the flowers show colour, and the syringe must be dispensed with also. Cold water from wells, &c., should not be given these plants; it is a check to them; rather take that from rain-water tanks or where fully exposed to the sunshine. In this respect, and as regards culture also, the Globe Amaranthus comes under the same heading. In either case plants will droop and die off from no apparent cause, but the watering in excess when in flower, and that with cold water, is more often than not the reason of this. Cockscorns can hardly be regulated as the *Celosias* are, but with care in watering these also will last in good condition considerably longer. If the red spider is troublesome upon these plants, it will pay to sponge the leaves with a mixture of soft soap and sulphur.

Liliums in sorts will now be useful additions to the conservatory list of plants. *L. Harrisii* is mostly over, but *L. auratum* under cool treatment can only be considered as just coming into flower, late potted bulbs being even later still. This latter kind should be securely staked as the tops increase in weight; for this purpose slender Bamboo sticks are as good as anything. Up to the time that the flowers are fully expanded a liberal supply of water is needful, but thence onwards rather less

should be given. *L. lancifolium* in variety will form a later succession, and *L. tigrinum splendens* a later still. This latter variety should be more grown in pots. It is quite hardy and need never be under glass until in bloom. All of these Lilies should be fully exposed to light and air until the earliest flowers show, when protection may be given, all needful staking being done before the stems grow crooked, no sticks being inserted near the bulbs. Zonal Pelargoniums will make a good display also, but it is hardly advisable to use many of them now. Enough of these (and frequently too many) are seen in the flower beds just at present. Later on in the summer and autumn these will be of more service. For the time being it will be a better plan to pinch out all the trusses and encourage growth instead. Gladioli in pots can be retarded if necessary by keeping them under a north wall, but let them have a plentiful supply of water all the same. In every change now effected in the conservatory arrangement see to it that a free use is made of the syringe or, better still, the garden engine, so that every nook and corner are reached to dislodge insects of various kinds, as spiders in variety, thrips and green-fly, and perchance mealy bug also. Mealy bug is no lover of cold water, and a deal may be done towards keeping it and the other insects in check by these opportune syringings, besides which these washings will cleanse the plants of dust and refresh them also. All permanent conservatory plants, whether planted out or not, must have regular attention given them in this way and at the root as well; otherwise in their proper season they will not be up to the mark.

JAS. HUDSON.

ORCHIDS.

AMONG Orchids now in flower numerous plants of *Cattleya Gaskelliana* make an exquisite display, and the sweet perfume of the flowers is very pleasant. The recently-introduced *C. labiata* is also coming into flower, and the two will keep up a good display for about six weeks. The early-flowering summer *Cattleyas* are now in full growth. Some of the earliest of them have formed their flower-sheaths. They still require heat and moisture to fully develop the growths, but the cultivator has to be very careful not to force the growth beyond a certain point. The more vigorous specimens have a tendency to start into growth again from the same lead. This is not desirable, as this second growth is seldom strong enough to flower, nor is there time for it to ripen sufficiently by the end of the season. To prevent a second growth in the case of fully-developed sheaths, place the plants if possible in a house with a lower temperature and a drier atmosphere, keeping them, of course, drier at the roots. The *Thunias*—a class of plants easily grown and which do not take up much space in the Orchid house—have mostly passed out of bloom, and as growth is completed they also must be moved into a house where they are well exposed to the light and where the ventilation is better. Less moisture both at the roots and in the atmosphere of the house is desirable. When the growths are fully matured no water is needed. The deciduous *Calanthes*, of which the varieties are now so numerous and the flowers so very beautiful, require to be grown in the warmest house. They may now receive liquid manure water about twice a week. Being now well rooted, they can take larger supplies of rich food. This increases the size of the spikes and deepens the rich rose-pink colour of such fine garden varieties as *C. Veitchii*. With a high temperature, much moisture is needed, and the plants ought to receive as much sunlight as they will bear. Now is the time to develop and finish up the pseudo-bulbs, and if the plants are well managed now and the leaves kept perfectly clean, the cultivator will be rewarded with a rich harvest of flower-spikes at mid-winter. I omitted to say anything of *Miltonia Phalenopsis*. Some of the plants, or all of them, may require repotting. If so, they should be seen to at once. Drain the pots well, and be careful not to over-pot them

This pretty species is not now so much valued as it used to be since the more showy *M. vexillaria* and *M. Roezli* have been so common in gardens. Keep the plants close up to the glass roof and water freely. Several other species of Orchids in the warmest house may now be repotted if they require more root room. All recently imported plants should at once be placed in their teak baskets or flower pots. The new *Eulophiella Elisabethae* is sure to be a free-growing plant. It will probably succeed best in teak baskets suspended from the glass roof of the warmest house, but it would be well for the present to place the plants on the shady side of the house where they will receive the least amount of sunshine. As a general rule in Orchid culture the plants require the least amount of sunshine when the growths are in course of development. When they have grown to their fullest extent, heat and sunshine are necessary to their maturation. *Dendrobium Phalenopsis* is also being imported, and requires very much the same treatment. Orchid amateurs would do well to obtain plants of this fine species, as there are so many distinct and beautiful varieties, the colours varying from pure white to a deep, rich rose-purple. The great charm of Orchid culture to amateurs is anticipating the flowering of imported specimens. The spikes of this species may be grown to 2 feet in length, with a score of blooms upon each, and not the least of its good qualities is the length of time the flowers remain in beauty.

In the cool house there is plenty of work to do keeping the plants clean, as insect pests increase rapidly during the hot weather. The handsome *Disa grandiflora* will now be producing its flowers, and these are liable to the attacks of green-fly, which should be removed before the flowers open, as this checks their development and sadly mars the purity of the colours. The brightness of the colour of these flowers comes out best in clear sunshine. If we could expose the flowers to light and shade the lower part of the plant, the result would be the most satisfactory. I have previously urged the importance of supplying these plants freely with water. Never at any time even when in flower and later on when they may be in the resting period should they be allowed to become dry at the roots. The continued dry, hot weather is anything but conducive to the welfare of cool house Orchids. With an outside day temperature of from 80° to 90° and a scorching sun overhead, it is very easy to make a mistake in opening the ventilators of the cool house. Some cultivators think the best way is to throw them open to their fullest extent, but this is a very grave error; the house should be shaded and the ventilators should be opened in such a way that the heated air cannot blow directly through the house amongst or over the plants. Our front ventilators are kept shut all day, only those at the top being opened.

The plants may be syringed overhead daily in the hottest weather, and watered sufficiently to maintain the *Sphagnum Moss* in a healthy growing condition. Many of the *Odontoglossums* which have just passed through their flowering period have been considerably weakened thereby; in many instances the bulbs have become visibly shrunk, and require very careful management to bring them back to the condition they were in before flowering. To make things worse, there is little or no moisture at night; we have no rain, no dews, so that all the moisture must be obtained from within. There is none without, so that even at night admitting air through the house may not be desirable. If the nights are warm and dew falling, the ventilation may be more ample. One of the handsomest occupants of the cool house flowering at this season is *Odontoglossum coronarium*. When good plants of this can be obtained and if they do well and flower freely, no Orchid will give more satisfaction; the handsome spikes, which produce as many as thirty blossoms, cannot fail to please. Its peculiar habit of growth cannot be made to conform to pot culture; a long narrow teak basket suits it best, and the plant roots freely amongst moist and living *Sphagnum*. Keep the plants up near the roof glass, and when they

are strong enough they will be sure to produce their flowers. During this hot weather much attention must be given to *Oncidium macranthum* and *O. Marshallianum*; they must be freely supplied with water to encourage a strong, healthy growth, and both of them do best near the roof glass of the cool house. The vigorous growing *Odontoglossum Edwardi* is now making its growth, and may be placed with the plants in the same house. The temperature of all the houses is now at the highest point, and artificial heat can be dispensed with. J. DOUGLAS.

KITCHEN GARDEN.

THE GROWTH OF ENDIVE.

ENDIVE must be considered the best substitute for Lettuce we have, and, taking into consideration the comparative ease with which a good batch may be raised, it should certainly demand attention, although the growing of the plants is only one part of the routine. Before raising and planting out the Endive it should be considered what means will be available for storing, as it is useless to provide a quantity for which when the cold rains and frosts of autumn arrive there will be little or no means of protection. The protection of the plants from both early frost and wet is of the greatest importance, as if only slightly injured by either of these causes the work of destruction quickly commences, when they are soon a mass of decay. In some instances the plants may be protected where grown, and for the earliest supply of Endive this is certainly the best method to adopt, reserving the space at command for storing for the later or winter batch. Long or isolated rows are the most difficult to protect where grown, and in providing the plants for this purpose arrange them in beds, as in this way protection may quickly be given on the shortest notice, either by the use of portable lights, oiled canvas, or clean mats.

Endive succeeds equally well either when transplanted or left alone. In the former case the plants do not grow so large certainly, but for lifting are more suitable. The non-transplanted ones often grow to a very large size and come in for early use. Endive is certainly a sun-loving subject; therefore, do not crowd the plants near fruit bushes or in low-lying damp parts of the garden, but expose them as much as possible. Although this exposure is needed, the soil must be both fertile and in a pulverised condition, or the growth will be slow and of poor quality, and when this is the case Endive is not worth eating. The improved Round-leaved Batavian is the best for winter use, and is not as susceptible to damp as the curled forms. A portion of a good green-curved form should also be grown for earliest use, as it is also useful for garnishing. For raising the plants I generally utilise the south borders which have been cropped with early Potatoes, and as these had a fair dressing of old Mushroom-bed manure and burned refuse at the time of planting, the soil is just now in a capital condition for growing a crop of Endive. Poor soil Endive will not thrive in, and in these cases fork in a dressing of manure, but not too deeply.

Broadcast sowing may be all very well, especially where sown thinly, but, taking all points into consideration, sowing in drills is the best method to adopt. Direct light is thereby enabled to reach the plants on all sides and there is less work in attending to the plants, especially where the seedlings are

not going to be transplanted. The drills should be drawn quite 15 inches apart, this width being needed for the plants' development. Endive seed generally germinates very freely, but during this abnormal season of drought the drills must be watered previous to seed-sowing. As the plants grow, hoeing must take place, and as soon as large enough transplanting must be attended to, leaving the surplus plants in the rows 1 foot apart. If the weather should keep dry, transplanting will be carried out with difficulty unless precautions are taken to moisten the seed rows before drawing the young plants. Lift with as much soil as possible, also taking care that the roots are fixed firmly. If arranged in conveniently sized beds the plants may be easily shaded for the time being, supplying them plentifully with water at the same time.

A. YOUNG.

Early Potatoes.—It is seldom one can dig good early Potatoes in Scotland during the month of June, but this season being exceptionally early I was able to dig them in the first week of the month. The tubers averaged from 2 inches to over 3½ inches long, and of fair quality. There are many schemes and simple methods of stealing a march on time (many useful experiences I received when a youth employed in a London market garden have often been of much value to me during many years spent in private gardens). I have this season had many useful crops brought on early by throwing up a sharp ridge facing the south. On this, which was well cared for and improved by additions of light soil and manure, I had early Potatoes, Turnips (Early Milan), Spinach, Carrots, Radishes, Cauliflowers, &c., at least three weeks earlier than on the adjacent plots. The varieties of Potatoes were the old Ashleaf and Veitch's selection of that old favourite. A crop of Turnips was had from between the rows of Potatoes. Since the Potatoes and other crops have been removed this steep border has been filled with autumn crops, thus economising ground.—M. TEMPLE, *Carrom House, Stirlingshire, N.B.*

Tomato Challenger cracking.—Some varieties of Tomatoes are certainly addicted to cracking more than others, but as yet I have not found Challenger affected. In fact, up till now I have considered this an ideal Tomato in every way. By taking care that the structure is not closed so as to cause a sudden rise of temperature, cracking will not take place. Care must also be taken that the air is increased sufficiently early in the morning to prevent a sudden rise. I know it is the custom of some people to keep the structures close and warm, so as to hasten on the ripening, but this is not a wise proceeding.—A. YOUNG.

The Carrot grub.—When a crop of Carrots is attacked by grubs there is no other remedy than picking them out by hand. Many acres of Carrots are grown in this part of Surrey for the London markets; in fact, within an area of ten miles I should say that quite one half of the bunched Carrots for winter use in the metropolis is produced. The light loam bordering on sand is favourable to the growth of finely coloured, well-formed Carrots. In seasons like the present growers are sure to be troubled with grub. Preventive measures are sometimes tried, but the results have never been sufficiently marked to warrant their repetition. A dressing of gas-lime put on early in winter and a fair sprinkling of salt to the young plants are supposed to act deterrently, but hand-picking is the one thing that Carrot growers have faith in. The dangerous time is during July when the little roots are tender. Get them through this month and they will then be too tough for the grub. There is only a certain number of grubs in the ground, and if these can be taken the crop will be safe. In the case of a very bad attack there will be a grub to the yard, and this is enough to clear off all the plants if nothing

is done. Late in the evening and early in the morning are the best times to find the grubs, as they are then near the surface, and wherever an ailing leaf is seen a grub will be found. Taken in time and persevered in, a crop even when badly attacked may be saved. When June happens to be very dry, thinning out should be cautiously done. Many growers here do not cut out the plants with the hoe in a dry time, but merely pull out some where the plants are very thick until a change of weather comes. If the season keeps dry they are left unthinned. In this way even if the grub does attack them enough is left for a crop. There is another advantage, too, the young plants shelter each other from the hot sun and grow away more freely. I have just been looking at two fields, in one of which the plants were "cut out" when quite young. For yards one cannot find a plant, whilst in the other, which has only been kept clear from weeds, there is a nice crop of very healthy young plants.—J. C. Blythe.

The Pea crop.—What are the best kinds to grow for a private garden, supply, quality, and productiveness combined? This is a fair question to ask in a season like the present when we take into consideration that the Pea does best in medium or rather moist seasons. I grow Chelsea Gem as a first early. There are others a few days earlier, I know, but the quality is not so good. To follow this I depend upon Criterion, a really splendid Pea with pods of medium size, but produced in abundance. Then follow Duke of Albany and Autocrat, both grand Peas with large pods, the latter of the two the finer in very hot and dry weather. To finish the season, Ne Plus Ultra is my most reliable kind; there is not a Pea to surpass it in flavour or in constitution. Sturdy is a dwarf form of the preceding and well suited for windy localities.—G. H.

POTATOES.

ALTHOUGH we have lately had some refreshing showers, not enough rain has fallen to have much influence on the Potato crop. The earliest varieties are too far advanced on our light Surrey lands to benefit by a copious rainfall. Beauty of Hebron, for instance, began to turn yellow several weeks ago, and in a good many instances the crop has been dug and marketed. There was a danger of the tubers growing out if left in the ground until a change of weather took place and no chance of their improving. Anxious to make as good a price as possible and to make room for winter greens, market growers have been clearing the ground of early Potatoes as rapidly as the demand would allow them.

One result of this premature ripening is that the London markets have been so bountifully supplied with English new Potatoes in addition to large foreign imports, that consumers would hardly look at old ones. Large growers are in the habit of holding over a considerable portion of their stocks till late in spring on the chance of a rise in price. In ordinary years, and especially in late springs, this answers very well, for it will pay to keep them for an additional sixpence per bushel. This year these old stocks have been almost valueless, hardly paying the cost of carriage to the London markets, and being sold in rural districts at about £1 per ton for feeding pigs. It is quite certain that in the south of England the main crops are in danger. If we do not get copious rains during the month, the yield of Magnum Bonum and other late kinds must be lighter than has been the case for years. Had the ground been moist when they were earthed up there would not have been so much to fear, but it was almost dry, and the young tubers are now in soil as dry as a dust-heap. In gardens where deep culture is practised the effects of the severe drought will not be so apparent; but it is not there that the bulk of Potatoes is grown. In a general way field culture is not nearly so thorough, the ground being ploughed in the ordinary way, which does not give more than 6 inches of soil for the roots to work in—in fact, hardly that, as the plough does not go in quite to that depth, and

subsoiling is not so generally practised as it ought to be. When the land verges on sand—and we have a good bit of such ground in Surrey—even the late crops have suffered to a serious extent.

J. C. B.

DOUBLE CROPPING.

By double cropping is generally understood the planting or sowing of two or more crops concurrently, so that one or the other is cleared off in time for the later one to be fully developed. The main object is to make the most of the ground, and in doing this there are several points to be considered. The character of the crops to be thus amalgamated must be considered, so that one does not injuriously affect the other during the process of growth. The preparation of the ground likewise should be such as to suit each kind as nearly as possible. There is an old-fashioned system of double cropping which rarely succeeds well, at any rate I have never succeeded to my satisfaction, nor have I seen others do so. I am referring to the planting of Brussels Sprouts, Broccoli and sprouting Kales between the Potato rows. Either of these crops, when so planted amongst the Potatoes, will become unduly drawn unless the latter be early kinds; between such it is never needful, for other crops can quickly follow these, so that no time is lost. It does not follow that simply because the ground is covered it is therefore well cropped. Lessons as to the value of double cropping can be learned wherever market gardening is carried on in the best possible manner. The best instance that I have ever seen was that practised by a market gardener, the same mode of procedure being also applicable to private gardens. This was a combination of three crops rather than two, between the times of planting of each there being hardly any interval. These three crops were Brussels Sprouts, Scarlet Runner Beans, and Cos Lettuce. The first to be got in was the Lettuce, the rows being 2 feet apart, these rows forming guiding lines for the next two crops. The Scarlet Runners followed these, and, lastly, the Brussels Sprouts, these being put in alternately between the rows of Lettuce. This covered the ground at 1 foot apart for each row, there being 2 feet between the sprouts and the runners. Before either of these crops had grown to any extent the Lettuces were cleared. The runners were then soon fit for stopping, as no staking was thought of. By clearing off the runners as soon as nothing was left upon them to pay for picking, the sprouts would be left at 1 foot apart from row to row, which is really none too much for comfortable picking, whilst at the same time the extra room afforded a free circulation of air between the sprouts. As soon as the Lettuces were cleared, there was room to stir the surface soil and clear it of any weeds, at the same time benefitting the two remaining crops. Another capital plan is to occupy the same plot of ground with Brussels Sprouts and Lettuce only. These two crops, if both are planted at the same time, will go well together. Three feet should be allowed between the first-named, with one row of Lettuce between each. The Lettuce then came away in time for the sprouts to be earthed up and the ground well worked with the hoe. In some places Parsley does not thrive nearly so well as one likes to see it. Where such is the case, I would advise a system of double cropping arrived at by sowing the seed in the same drills with the Onions. The ground for the latter crop should be well trodden preparatory to sowing the seed. This firm condition is at the same time congenial to the Parsley. Where the ground is fairly clean and the hoe not likely to be required frequently, the Parsley seed may be sown broadcast instead, but this necessitates more care on the part of anyone working the hoe. I have only just noted a combination of two crops which in an ordinary season, with more moisture in the soil, would have been successful, no doubt. This was the planting of the ground with Cos Lettuce at about 1 foot or a little more apart, the intervening crop being one

of Seakale by sets. As it is, the latter looks starved and weakly up to now, although the Lettuces were nearly all cleared by the end of May. The ground was well manured, as is the usual practice, and this may tend to recuperate the Kale in time. The time-honoured plan of sowing Spinach between the rows of Peas cannot well be improved upon, but when Brussels Sprouts are added on either side of the Spinach, it cannot be considered good gardening, nor is Celery as an alternate crop with tall Peas a commendable method. To grow Scarlet Runner Beans for staking in rows of 5 feet or so apart is a waste of ground, to say the least. The most of the ground can be made for such as French Beans, which turn in quickly. Such root crops as Beetroot, Carrots, Turnips, and Onions, save in the case mentioned, should occupy all their allotted space. When a young Asparagus bed is first formed, or when it is grown in rows upon the French system, it is possible for the first season or two to take such crops as Cabbage, Lettuce, or Radishes, but in no instance should these intermediary crops be at all overcrowded, it being borne in mind that the Asparagus is one of the most enduring of all vegetables, being, therefore, worthy of all possible attention.—H. G., in *Field*.

Early Peas.—To have Peas as early as possible most cultivators adopt some system of forwarding them, and I notice that Mr. Gilbert, at Burghley, still practises a system long known in Scotland, and adopted by some growers still, viz., sowing the earliest Peas during November. I never find that by these early sowings one saves labour, has finer crops, or gathers Peas earlier. Those which I sowed at the beginning of January, kept from frost and heavy rains, and coddled at no time, have done best this year, and always do. When Peas are being raised under glass the error of keeping them too close is very common, and when they are planted out in March or April, the plants being so tender they are liable to injury from frost and cold winds. I gathered William I. at the end of May, and during the first week of June Peas were plentiful. Those sown during January were not more than a week before the earliest sowings, and the crops from them extraordinary. William Hurst taking the lead as second to those raised under protection. Notwithstanding the long drought, we have watered no Peas, but instead depended on deep tilth and liberal manuring, with thoroughly decayed material from the rubbish heap.—M. TEMPLE, *Carron House*.

—This year I sowed American Wonder on a warm south border on the 6th of February, and Carter's Lightning in the open quarter two days later. I gathered my first dish from the latter on June 7. American Wonder was just ten days later. Carter's Lightning is a heavy cropper and of fine flavour, much superior to either William I. or American Wonder.—THOS. COCKERILL, *The Gate House, Wirksworth, Derbyshire*.

Turnip-rooted Beetroot.—In shallow or poor soils the Turnip-rooted Beet possesses great advantages over the ordinary kind, as it may be sown where the longer-rooted kinds would not thrive, and coming into use so quickly there is much gain. The Turnip-rooted varieties keep solid for a long time, and if desired may be sown at different dates so as to keep up a succession. There are several varieties of the Turnip-rooted Beet, such as the Egyptian dark red, Crimson Ball, Eclipse, and Bassano. I prefer the first-named, as it possesses a rich colour, is of excellent quality, and comes to maturity earlier than some kinds. Sown April 12, it was fit for use the first week in June, and though not the largest variety, it is of good quality. The last-named is often grown for sale on account of its being larger, but I do not think a coarse Beet of any kind is an acquisition; it usually lacks colour and does not keep so well. The well-known Dell's Crimson, one of the best coloured Beets we have, and a small variety, cannot be beaten for keeping. In the salad bowl the Turnip-rooted Beetroots are valuable, as they may

be sown much earlier than the older kinds. When fully grown it is not advisable to leave them exposed to the hot sun for any time, but to lift and store in a cool place, or lay the roots in a north shady border. I prefer the latter, not cutting or removing the foliage till required for use. By sowing these early Beets, ground may be utilised for other crops as the roots occupy the ground so short a time. When sowing, it is best to sow on land not recently manured, as the roots crack if in too rich soil; a rapid growth is required and plenty of moisture at the finish to swell the roots.—S. H. B.

Mulching kitchen garden crops.—If ever the value of mulching was apparent it has been during this dry and hot season. So treated, we have had no real break in our Pea crop. French Beans are all the better for being so treated in hot and dry localities, and Scarlet Runners should by all means have a good mulching. These latter should be so treated before the first flowers expand; then, by liberal applications of water, the earlier blooms will set. If dry at the root, there is frequently a failure in this respect; hence a considerable loss ensues. If I had the time and material I would mulch Brussels Sprouts also, but this seems to be out of the question. Vegetable Marrows ought to be mulched; they are thus only half the trouble and give double the return. If anyone is driven into a corner for material for mulching, I would advise him to use the lawn mowings where these have not been looked up for the cattle through the scarcity of food. In our case these are taken straight away to the cows.—G.

FLAVOUR IN VEGETABLES.

WITH an absence of rain for three months it must be expected that the flavour of vegetables will be impaired. In the case of roots much may be done to retain the flavour. In the case of Turnips, Carrots, and Beet, when once a certain size is attained it is useless to allow such to remain a day longer on the parched ground than is necessary, as they soon lose their flavour. This season we had our early Turnip Beet fit for use at the end of May. The seed was sown at two different dates, and the first sown was ready for use at the time named. It was useless to allow the roots to remain to be dried up, so they were lifted with the tops intact and laid in in heavy soil on a north border shaded by a high wall. These roots at this date are much better in colour and flavour than those from a later sowing, and now occupying their original position. Last year, seeing the great advantage in lifting early Turnips when fully grown I adopted the plan more largely this season. I do not advise the lifting and laying in of any root till growth is nearly finished, as to do so would be as disastrous as leaving too long.

Early vegetables are more readily affected by heat and want of moisture than later ones, as they have not got hold of the soil to such an extent. The Short Horn or Forcing Carrot soon suffers if left in exposed positions when of a good size; also the early Turnips, of which Early Milan is a type. This if left after it is fully grown is not worth eating, as it so soon deteriorates, but if lifted or stored in a cellar or root store it remains sweet and solid. Radishes are soon hollow and worthless if not attended to. In some places Radishes are required regularly, and are sown on north or cool borders. In such seasons as we have just experienced they are difficult to keep of good flavour. Much may be done to assist them by sowing thickly in rows, and when above ground mulching with spent Mushroom manure or even leaf soil, this retaining the flavour, as the mulch is kept moist if watered once or twice a week. I have adopted this last-named for Lettuces with much success, and find it a great saving of labour on light soils. In the case of green vegetables there is more difficulty. I have not hesitated to lift such crops as Cauliflowers to a cool border. Peas are much improved in flavour if mulched. The same remark applies to French Beans, as if litter is placed be-

tween the rows the pods are more succulent and last much longer. Potatoes are much worse as regards flavour if left in the soil when the tubers are ripe. There is considerable gain by lifting early roots of various kinds, as the ground can be utilised for later crops. As summer vegetables of most kinds will soon be over, there will be much advantage in securing good breadths of later crops to fill up the void. W. S. H.

TREES AND SHRUBS.

LEGUMINOUS SHRUBS IN BLOOM.

By the commencement of July, especially during such a season as the present, the flowering period of most of our hardy shrubs is past, and of those that are still in bloom several belong to the order Leguminosae. Some of them are very fine, and as a rule they have not suffered so much from the excessive drought as many other classes of plants. This is no doubt owing to the deep rooting character of most of them, for though the roots are not particularly numerous, they penetrate to a considerable depth. While this feature renders them more independent of the drought, it at the same time militates against successful transplanting, especially among the Broom family. One of the showiest of all the Leguminosae now in bloom is

GENISTA ETNENSIS, the general appearance of which is well shown by means of a coloured plate in *THE GARDEN* of March 18 of the present year. It reaches a height of from 10 feet to 12 feet, and the long slender bright green shoots laden with golden blossoms form a very showy specimen. It forms an admirable succession to *Genista virgata* recently noted in *THE GARDEN*.

SPARTIUM JUNCEUM, here illustrated, is exceedingly showy at the present season, and in many instances, judging by the buds yet to expand, it will continue in beauty for some time. It is of free growth, and is especially attractive when so situated that it springs from a bank of foliage, as it is naturally bare at the base. A double-flowered form of the Spanish Broom has been at times mentioned, but the flowers of this that I have seen are poor, and not nearly so attractive as those of the common kind.

CYTISUS NIGRICANS, recently mentioned in *THE GARDEN*, is beautifully in flower, and a very pretty shrub it is. It is a much-branched bush whose slender twigs are clothed with trifoliate leaves, and terminated by erect spikes of clear yellow flowers of quite a different shade from those of any of its allies now in bloom.

CYTISUS CAPITATUS, now in full flower, forms a neat, compact-growing bush about a yard high, clothed with trifoliate leaves, which, in common with the stems and unopened flower-buds, are so thickly covered with hairs as to give the entire plant quite a hoary appearance. The flowers, which are borne in rather compact terminal heads, are of a light yellow colour and produced in great profusion. This will often bloom till the end of August or even in September, so that it must be included among the best autumn-flowering shrubs.

THE BLADDER SENNAS (*Coluteas*) will flower throughout the summer, and at the present time they are very interesting, being studded not only with blossoms, but also with the large inflated seed-pods from whence the popular name is derived. These last are the product of the earlier blossoms.

INDIGOFERA GERARDIANA differs widely from all the above in the flowers being of a rosy purple tint. In the open ground it is usually cut down each year, but the slender shoots which spring from the base ultimately reach the height of a yard or so, and flower well the first season. A specimen of this is very attractive just now, as the pretty pinnate foliage imparts to it a light and

elegant appearance, while the entire mass is studded with spikes of pretty pea-shaped blossoms. With the protection of a wall it is seldom cut down during the winter, and therefore attains a larger size than it will in the open ground. There is a white-flowered variety, less showy it is true than the typical kind, but still very pretty.

NOTOSPARTIUM CARMICHAELLE (the pink Broom of New Zealand) has been so often described in *THE GARDEN*, that nothing further need be said on that point.

AMORPHA FRUTICOSA (the Bastard Indigo of the United States) is just opening a few of its ear-

ly beauty of the richly coloured petals; while the golden anthers, which protrude slightly from the mouth of the flower, are very striking by contrast with their surroundings. There are several forms, but all closely resemble each other, except the Lead Plant (*Amorpha canescens*), which is of smaller growth, while the pinnate foliage is of a peculiar hoary character.

The next to mention as being now in flower is quite a tree, though it blooms freely when not larger than a good sized shrub. This is

CLADRASTIS AMURENSIS (see illustration, p. 58), which forms a low-growing tree, clothed with pinnate leaves, which when unfolding in the spring are covered with a silky pubescence, which imparts to it a very distinct appearance. The flowers are borne in erect, densely packed racemes, and being of a whitish tint are not particularly showy, but noticeable from their numbers and the uncommon appearance of the specimen. T.

The False Acacia and its varieties.—

Lately in the drought, when trees in some soils began to look very doubtful in health, we often admired the colour of the leaves of the common Acacia. This beautiful tree is too little planted with regard to effect; we mean, it is so distinct in its beautiful green from our own trees, that it ought to be planted in picturesque groups as well as singly. Last year in France we were interested very much in some of the prettiest varieties of this tree which have been raised and are rather freely employed in gardens there. We particularly remember seeing a very beautiful kind in the public gardens at Orleans, with leaves as fine as those of the finest Sensitive plant. It was the variety *mimosæfolia*. Other good varieties are mentioned in our own and foreign nurserymen's catalogues. The old Italian round headed form, so well used in the north of Italy in places like Novarra, is valuable, but some of the elegant and free forms we speak of are still more so for our gardens. These are all forms of the Acacia about which Cobbett made such a noise. If his hopes concerning it came to so little, it and its forms are none the less most precious for our parks and pleasure gardens.—*Field*.

Garrya elliptica in Scotland.—The value of this old plant is becoming more widely recognised. At one time this useful ornament of our shrubberies was considered too tender to be planted in the ordinary shrubbery, and was confined to walls and sheltered positions. To show how hardy the plant is, there is a hedge of it in a villa garden at Bannockburn, in Stirlingshire, growing in a position exposed to north and east. This hedge was formerly cut in as required with a knife. But while passing the garden (which is near to the main road to Stirling) a short time ago I was sorry to observe that some ruthless hands had attacked this hedge with shears and cut the plants into the form of a sharp-pointed ridge, rendering the hedge as formal as hands (guided by a vulgar taste) could do. After such a severe winter as the past, the *Garrya* shows that no severe weather can injure it. In our shrubberies it is uninjured.—M. TEMPLE, *Carron House*.

AMERICAN NOTES.

THE JAPAN VIBURNUMS are now all pretty well known in our gardens with the exception of *Viburnum furcatum*, a common northern and mountain plant, so similar to our American Hobble-bush (*Viburnum lantanoides*), that some authors have considered the two plants identical, and *Viburnum Wrighti*, a distinct, black-fruited species of Northern Japan, where the American botanist Charles Wright detected it when the Wilkes' Expedition explored the shores of Volcano Bay. *Viburnum furcatum* is distributed through the mountain regions of the empire, and is one of the commonest species. Sometimes it grows to the height of 15 feet, and it is always conspicuous from its great, thick, reticulate-veined, nearly circular



Spray of the Spanish Broom (Spartium junceum).

liest blossoms, but it will not be in full bloom for some little time. It forms a free-growing clump of upright shoots that reach a height of 6 feet to 8 feet and are clothed with pinnate leaves, while the rich bluish purple coloured blossoms are borne in spikes on the points of the shoots. These flower-spikes usually consist of one long and three or four shorter ones, all of which are densely packed with bloom. The individual flowers are small, and unless closely examined appear to be dull and uninteresting, but closer inspection reveals

leaves, which in the autumn turn to marvellous shades of scarlet or to deep wine colour. If this fine plant takes kindly to cultivation, it will prove a real acquisition to our gardens.

ANDROMEDA JAPONICA, now common in our gardens, is properly a tree, for in the temple park of Nara, where it grows in profusion, there are specimens at least 30 feet in height, with stout, well-formed trunks 6 feet or 8 feet in length. *Andromeda campanulata*, another arborescent species, may be expected to become an ornament in our gardens of much interest and beauty, and as it grows as far north as the shores of Volcano Bay, in Yezo, and up to over 5000 feet in Central Hondo, it may flourish in the climate of New England. *Andromeda campanulata* is a slender, bushy tree, sometimes 30 feet in height, with a smooth, light red trunk, occasionally a foot in diameter and thick, smooth round branchlets. The leaves are deciduous, and in the autumn, before falling, turn clear light yellow. The flowers are pure white and are borne on slender stalks in many-flowered drooping racemose panicles. By Japanese botanists it is spoken of as one of the most beautiful flowering trees in Japan, and we considered ourselves fortunate in securing a supply of ripe seed, for, so far as I know, this species is quite new to cultivation. There is but one other Japanese plant of this family which can pass as a tree. This is the handsome *Clethra canescens*, or, as it is more generally known in Japan, at least, *Clethra barbinervis*, a more recent name. It is a beautiful small tree, occasionally 25 feet or 30 feet in height, with a slender trunk. The flowers are white and produced in slender, upright terminal paniced racemes 6 inches to 12 inches long, and open in succession for several weeks in August and September. In Southern Yezo *Clethra canescens* grows nearly down to the sea-level and along the mountains of the southern islands. In Central Hondo, where it is a common forest plant, growing usually near the borders of streams and lakes, it reaches an elevation of over 5000 feet, so that there is reason to believe that this fine species will thrive in our climate if plants are raised from seed produced at high elevations, although up to the present time those which have been sent to the Arnold Arboretum have never been very satisfactory. *Clethra canescens* grows not only in Japan, but in China, Java, the Philippines and Celebes.—*Garden and Forest*.

ORCHIDS.

LÆLIA CRISPILABIA.

This plant appears to have been named by A. Richard, and is said to be a native of Mexico. It used to be grown in our gardens under the name of *Lælia Lawrenceana*, and the only plant that was then known of it came from the gardens of Mrs. Lawrence at Ealing Park, where it was under the care of Mr. Frankling. This plant is nearly allied to *Lælia cinnabarina*, and it made the same flask-shaped bulbs as that species, which, together with the single leaf at the top, grew about 1 foot high. I think I remember the Messrs. Low, of Clapton, importing the plant some few years ago. Now this plant grew freely and flowered profusely, throwing up a spike 1 foot in length and bearing as many as six blooms, each nearly 3 inches across, of a uniform purplish lilac colour in the sepals and petals, the lip being small, the sides lobes rolled over the column, the front lobe being bent sharply backwards and much crisped at the edge. If this plant is now flowering with any of my readers, I should be very glad of a flower for comparison. I saw a plant bearing the name of *crispilabia* recently in Sir Trevor Lawrence's collection at Burford Lodge. This in its growth did not bear the slightest resemblance to the

type, for instead of a long pear-shaped bulb, or, as I said before, a flask-shaped growth, gradually decreasing upwards to a slender point, it had a short, thick, ovate pseudo-bulb and a broad ovate leaf, thick and fleshy in texture and light green. The flower is about 2 inches across, the sepals and petals being nearly equal, of a uniform bright rosy purple. So far the flower accords with that of the species, but the lip is very different. It is three-lobed, the side lobes forming a hood over the column, of a rich orange-yellow, the front very crisp at the edge and wholly orange-yellow, which colour runs up to the base, where it is prettily flaked with crimson, and it bears upon its surface four raised fleshy lines of a rich orange. That such a distinct plant in its growth, and apparently so very distinct in its bloom, should bear the name of *crispilabia* appears to me quite wrong, and I should propose the name of *Lælia Lawrenceana* for it if it is new. I am well assured it is not the same plant as grown by Mrs. Lawrence, which is figured in "Select Orchidaceous Plants," ii., t. 6. Mr. White grows this plant upon a block of wood, and it appears to thrive well under this treatment.

WILLIAM HUGH GOWER.

Grammangis Ellisi.—This is another Orchid which does not appear to find much favour with Orchid growers, for no one keeps the plant long in a thriving condition. It has large four-sided pseudo-bulbs, and too many growers appear to think that these large bulbs are a sure indication that the plant will stand a good drying with impunity. Mr. Ellis, its discoverer, says, "He found it growing upon a branch of a tree hanging over a river, about 25 feet above the water," so here one gets quite an insight into the life of the plant, for with the moisture derived from the water and the heavy dews which arise from it, the plant in all probability does not have a very great amount of dryness. Therefore, I say cool treatment and less water are a far better style of resting than drought and a high temperature. The plant, like many others, is flowering fully a month before its usual time, and I have seen it passing out of bloom. I was just in time to see the last of a beautiful variety in the Burford Lodge collection, where this plant continues to thrive and do well.—G.

Grammatophyllum Fenzlianum Measuresianum.—This is superior to the typical plant, and is now flowering at Burford Lodge. The several varieties of this species would appear to be very free-flowering, and consequently should receive the attention of amateurs more than they usually do. It produces a long and many-flowered spike of bloom, each flower measuring about 3 inches across, the sepals and petals being of a yellowish green, heavily blotched and spotted with deep brown; the lip is small, light yellow with brown lines. *G. Seegerianum* is another variety which comes near this plant, and is equally free-flowering. Both like the hottest position in the East Indian house, with a great deal of moisture both to their roots and in the atmosphere.—W. H. G.

Pecatorea Klabechorum (T. S.).—The flower sent appears to be the species named above. You should have sent it sooner, before it had lost its beauty, and have packed it more securely, so that it could have been more easily recognised. This is still a somewhat rare plant in collections. *Pecatoreas* being destitute of pseudo-bulbs do not carry their leaves well, and thus the plants do not attain any great size. If they are kept in the cool house in the summer-time with a moist atmosphere, and removed to a house kept at about the same temperature through the winter with a moist atmosphere, the plants will grow and flower well. The flower before me measures about $3\frac{1}{2}$ inches across; the sepals and petals are white at the base, broadly tipped

with deep brown; the centre of the flower and its lip are smashed, but they appear to have been white and of the same colour as the tips of the sepals and petals, and to have been much spotted and dotted with rich brown. The plant is a native of Ecuador, but I am not aware that the locality has ever been divulged. I should much like to see these plants more frequently grown.—W. H. G.

Phalænopsis Mariæ.—I am always pleased to see this charming Orchid. Mr. Burbidge found this plant on an island where it was rare, and could not collect many plants, but other collectors at a later date found it more plentifully on some neighbouring islands. It comes near to *P. sumatrana*, each flower being about 2 inches across, the sepals and petals creamy white, banded with bright brown, the spots at the base magenta-coloured; lip wholly bright magenta, with a narrow marginal border of white. It is one of the most charming of the small-flowered kinds, and was recently to be seen in Sir Trevor Lawrence's collection growing in a somewhat shady position.—W.

Phajus Sanderianus.—This, which I have seen flowering from time to time for the past twelve months, I had taken for a very large form of the old *P. Wallichii*. My attention was, however, called to it when at Burford Lodge. The flowers each measure 6 inches across, the sepals and petals being nearly equal, of a rich deep bronzy brown, the back of the sepals tinged with a yellowish hue; lip large, rich bronzy brown, the front lobe stained with rosy purple and broadly bordered with white, which becomes yellow with age. The base of the lip on the outside as well as the furcate spur is rich yellow. It makes a very long erect scape bearing many flowers. I have not observed a forked spur in any other species.—W. H. G.

Vanda tricolor.—"H. II." sends three very handsome forms of this. No. 1 represents an excellent form of the variety known as *planilabris*. No. 2, an excellent form of *V. suavis*, commonly known as the Chatsworth variety. No. 3, *V. tricolor* Patersoni, figured in THE GARDEN, Vol. XXIII., t. 375. I am very pleased to find these *Vandas* are again becoming popular, for no better and sweeter flowers can be found in the whole Orchid family. They are plants which no amateur should hesitate to grow, because they stand well in a temperature of 60°, and even less, for although they come from Java, which is considered very hot, they are not found in the low places, but generally at considerable elevations.—W.

Cymbidium Devonianum.—C. Forrester asks what he shall pot some plants of this species recently purchased in and what treatment it requires. The plants should be potted in well drained pots in a mixture of fibrous peat and turfy loam, but do not over-burden the roots with soil. Water freely during the summer and keep the plants in the warmest part of the cool house, where they will succeed quite well. Keep them fairly moist until they begin to root and grow, when they may have a larger supply of water. It must also be borne in mind that during the winter the plants must not be dried off, but be kept fairly moist.—W.

SHORT NOTES.—ORCHIDS.

Cattleya Gaskelliana albens.—This is a very handsome variety of the original type, having flowers of a beautiful white, slightly tinged with lilac-mauve. It was flowering recently in the collection of Sir Trevor Lawrence at Burford Lodge, Dorking.—W. H. G.

Dendrobium binoculare.—This, now flowering in the Burford Lodge collection, is seldom seen. It has a drooping spike of deep rich yellow flowers with two velvety blackish spots on the lip. This comes near to *D. fuscum*, from which it differs slightly. It was discovered by Col. Benson some twenty-five years ago in Burmah, and is a bright and pleasing kind.—G.

Lælia purpurata.—A. Cochrane sends me a flower of a very dark variety of this species, which he says "on account of the lobing of the petals &c

proposes to call lobata." The name lobata was given by M. Linden to a flower a description of which was printed in THE GARDEN of June 10 last. It was an infinitely better variety than the one you send.—W. H. G.

Lælia Lindleyana.—G. Tomlinson sends me a flower which has been left until nearly past. It appears to be this variety. The flower is a little more than 4 inches across, white, suffused with lilac; the lip of the same colour, spotted with purple. It has been suggested that this is a plant of hybrid origin, but I do not fall in with this view. It thrives well with other Cattleyas and Lælias.—W. H.

Angræcum arcuatum.—"T. S." sends me flowers for a name. I think the name is that given above, more especially as "T. S." says the plant was sent him from South Africa. The flowers are white and the spur is greenish. This plant requires strong heat and moisture. I am of opinion that there are a great many other species to come from the interior of Africa when we get to know it better.—G.

ROSE GARDEN.

BUDDING ROSES.

JULY is the month *par excellence* for this important operation, and although it can be carried on from June until September, it is by far the best plan to do it some time during the present and following months. With an apparent return to very hot and dry weather, it will be well to water the stocks before commencing budding. This will cause a freer supply of sap, and the bark will lift more easily and keep the bud moister than if comparatively little sap was on the rise.

Stocks.—These are not looking very well, owing to the excessively dry spring and summer; in many cases the losses reach a high percentage both among dwarf Manetti and seedling or cutting Briers. But perhaps the most disheartening results are to be found among the hedge Briers, especially if not planted early in the winter. There is a great advantage in planting these early as regards moisture and early striking off upon new roots. On the other hand, we have the danger of frost. It may be said, "Why fear frost, when the Brier is one of our hardiest native shrubs?" Granted it is hardy, but when a young sucker-like shoot has sprung up in the midst of a hedge or thicket of Brier and other plants, or been growing in a copse, it is much protected and in a comparatively tender state to what it would or should be later on when turned into a standard Rose tree and planted in the open. The past severe winter had much to do with the death of my Briers, and excessive drought following this completed the injury. Most stocks, like the Roses, have made little growth for the time of year when we compare them with past seasons, and in several instances it will be necessary to wait later than usual before inserting buds. We do not want gross growth, nor must we bud upon too weak and puny a stock.

The operation of budding is exactly the same, whether it be dwarfs or standards. We can also bud any other desired kind upon a variety of Rose equally as well as upon a properly prepared stock. For example, let us suppose you have a Gloire de Dijon on a wall, and wish to convert it into a Maréchal Niel, l'Idéal, or William Allen Richardson; it is only necessary to insert a bud in a young shoot near to the base, and having secured a successful take with your bud or buds, cut away the upper growth in the same manner as I will presently

describe for the stocks proper. Or you may bud two or more varieties upon a strong grower and still retain the characteristics of each Rose. It is wonderful how so small a germ as the bud of a Rose can contain its originality and convert the sap of Rose, Brier, or any other suitable stock to the support of the same. In a back yard near to me there used to be a half-standard Maréchal Niel. The winter of 1890 killed the Rose, but the Brier threw up a strong sucker of some 12 feet. This was budded with, I think, thirteen different varieties, most of which grew. There have been some fairly good blooms of Souvenir d'un Ami, Mme. de Watteville, Marie van Houtte, &c., upon the plant this season, it scarcely ever having been quite out of bloom, each variety retaining its originality to a remarkable extent.

Standard Briers have, of course, been confined to two or three of the most promising shoots or breaks coming from the stock at the nearest point to the height you desire your future standard Rose to be. Be very careful not to break or cut off the point of such shoots, nor yet to thin out any just before budding. If you do, the sap will receive a check, and the bark will not lift so easily and smoothly as is desirable. This is a great point, because the more easily you can insert the bud the less bruising it causes, and consequently you have a greater prospect of success. I have known Briers let go rather wild, then they have been gone through and superfluous shoots trimmed off. Where this has become necessary it should be done at least a fortnight before budding is commenced. The above comments will, I trust, effectually stop my readers from another absurd practice often carried out by amateurs. I allude to shortening back the shoots to about 2 feet as soon as the bud is inserted. If the recent mutilation of young growth checks the sap so effectually that it is impossible to lift the bark without using undue force, it must also check it sufficiently to rob the bud of nourishment. Remember that the bud is removed from a full supply of sap, and will soon wither up and dry if a good flow is not provided by the foster stock. This is why I advocate a good supply of water overnight if this dry weather continues and budding operations must be carried on at once, as they must be where a large lot of stocks is to be done, or where only a very limited number of buds of the desired variety can be obtained. To those who have not so experimented, much surprise will be felt as to how quickly a stock will take up the moisture and its sap become in full flow.

Dwarf stocks will have been slightly earthed up if my previous hints have been followed. The great advantage of this will be more than ever apparent during the budding season this year. It keeps the bark soft and moist, less brittle, and in a far better condition to receive the bud. Besides, one can plant them less deeply if soil be drawn up around them to protect the crown of the roots. Dwarfs must always be budded as near the crown of the roots as possible, and by simply removing the raised earth we secure this without an additional stoop of 2 inches to 3 inches.

Buds.—These, like the stocks, must be in the proper condition if you are to realise a high percentage of success. Too old or too young will make all the difference. The shoots they are taken from should be about three-parts ripened; that from which a flower has been cut about a week is generally in the right condition. Buds from plants growing under glass are rather better than those from the open, they being better matured, especially among Tea and Noisette varieties.

In about three weeks after budding look over your buds. By this time you should be able to see which buds are dead, and they may be replaced by budding again. In a dwarf stock you can easily insert a second bud on the opposite side to the first. In a standard it is best to choose another shoot or shoulder if possible; if not, then bud as nearly as you can to the other. Always leave your stock to grow at will for the rest of the summer after it has been successfully budded. Some few growers trim away a great portion of the wood in the autumn. With the exception of when a large number of stocks is needed for another year, and this growth is removed for cuttings, I do not see any advantage in cutting away that which would form a considerable amount of protection to the bud during winter. At pruning time cut away the whole of the stock close to the bud and give the young Rose growth the support of a stick as soon as it commences to shoot.

RIDGEWOOD.

ROSES OF THE SEASON.

ANYONE who has taken note of the kinds which have been shown in first-rate condition the past few weeks must have observed how well some sorts have been staged, whilst others have not been nearly so good as usual. At the early June show of the Royal Horticultural Society the finest Tea-scented Rose by far was Souvenir d'Elise Vardon, finer than which has rarely ever been seen. Innocente Pirola is another variety that has been shown well, better than usual. Ethel Brownlow has undoubtedly increased in popularity also. This is a really splendid and distinct Tea Rose. Souvenir d'un Ami has repeatedly been staged very fine; so have The Bride and Niphetos, whilst it is doubtful if Maréchal Niel was ever seen finer than at the show above quoted. As a contrast to all this, what a falling off there has been in Comtesse de Nadaillac, Mme. Thérèse Levet and Mme. de Watteville, whilst of Reine Marie Henriette and Cheshunt Hybrid not a flower have I seen. Marie van Houtte has held its own in no uncertain manner, and it is open to question if there is now a more serviceable garden variety. Catherine Mermet has not been altogether happy; nor have any of the Dijon section. These latter will probably be finer in the autumn.

Turning to the Hybrid Perpetuals and others, the same remarks can be borne out. Horace Vernet has this season been seen at its very best; it was the Rose of its section at the National from all quarters. A. K. Williams has also held its own, and the Earl of Dufferin has well maintained its popularity. That splendid new Rose Gustave Piganeau has risen in favour by its form and colour; at the National it was amongst the best. Mrs. J. Laing, although not quite so plentiful, has been shown remarkably well. That fine old Rose Charles Lefebvre has rather added to than diminished in favour; it has been repeatedly shown in the best condition; so also have Mrs. Reynolds Hole and Fisher Holmes, and no fault can be found with Alfred Colomb. Others might be quoted, but beyond a word in favour of Her Majesty, room will not permit; this is a grand Rose in such a season as this, but it is a pity that it is not really a perpetual. What has become of Sénateur Vaisse? This is a distinct old Rose, and well worthy of a premier place when well grown. The earlier Roses, as Charles Lawson, Paul Perras, and others, have with me flowered well, but there is not much of a prospect for another season, no good wood having thus far been developed. La France escaped notice; this I have not seen nearly so good as usual. Other growers' observations would be most interesting.

ROSA.

The National Rose Society's annual exhibition.—Anyone visiting this show on Saturday, July 1, could not but be struck with the districts

from which the best blooms came. Taken on the whole, Colchester held its own, whilst Ipswich was well represented, and Essex also as a county; thus the eastern counties have fared better by far than some districts. This was also the case at the early exhibition in June at the Drill Hall. Yorkshire came well to the front, and when this is the case, the colour and freshness of the flowers always tell effectively. From the northern side of London, Hitchin was a victorious quarter; so also was Canterbury on the south. It was a pleasure to see such fine Roses also from as far north as Dundee. This shows what a phenomenal season the present has been. The districts that failed to hold their own in most cases were Berkshire, Wilts, Herts, Surrey, and as far west as Bath. It is just as well that the show was not put forward. It would have been manifestly unfair to do this as far as it pertains to those exhibitors who have on the present occasion shown what they can do in such dry seasons as 1893 has proved. What the quality will be at shows yet to be held may be fairly predicted from the results also recorded, but we may have a fine autumn display.—ROSA.

NOTES FROM THE CRYSTAL PALACE.

I CANNOT say I was disappointed with the show held by the National Rose Society last Saturday (July 1), because only a very few districts in the country have been favoured with suitable weather for Roses during the past three months. One might reasonably expect that such double varieties as *La Boule d'Or*, *Etoile de Lyon* and *Ernest Metz* among the Teas, with *The Puritan*, *Comtesse de Serenye*, *Marie Rady* and others among the Hybrid Perpetuals, would have opened well during the recent dry weather. But it has not been the case; in fact, I saw very few of these more double varieties exhibited. One noticeable feature about the show was the persistency of the old and well-tried kinds like *Alfred Colomb*, *Baroness Rothschild*, *Charles Lefebvre*, *Duchess of Bedford*, *Fisher Holmes*, &c. These came out much better than the majority of newer kinds, and again proved how generally useful they are. Mrs. John Laing, Earl of Dufferin, Jeannie Dickson, Suzanne Marie Rodocanachi and Gustave Piganeau among the newer H.P.'s were also good. I am more pleased with the last than I was last year, because it has stood the test of a season almost dead against weak growers. It is very free-flowering and constant, and if not vigorous, seems consistent in its growth. Very large and bright, thoroughly distinct and of good shape, Gustave Piganeau is perhaps the greatest acquisition among Hybrid Perpetuals since the advent of Mrs. John Laing. I carefully examined the boxes, and, with the exception of those from about three exhibitors, could only find here and there a bad flower. The premier bloom among the H.P.'s in the nurserymen's class was a grand *Horace Vernet*, found in Messrs. Harkness and Sons' stand of seventy-two. This stand also gained the 60-guinea trophy presented by amateurs, and was in every way the finest exhibit in the whole show. There was not a bad flower in it. Among other good blooms in the premier stand I noticed a magnificent example of *Duc de Montpensier* (a very vivid Rose, small as a general rule and very seldom seen in a first-class exhibition stand). Mrs. John Laing, Dupuy Jamain, Earl of Dufferin, Mme. V. Verdier, Alfred Colomb and Duchess of Bedford were also good. The Yorkshire champions were also first for forty-eight trebles, and I think it is now proved beyond doubt that during an ordinary season the first Saturday in July is the most appropriate date for the metropolitan show. This year, of course, exceptional, and instead of the northern growers having cause for complaint, this time, when the date falls on July 1, it is much too late for most of the southern growers. Returning to *Horace Vernet*, this grand exhibition Rose was good all through the show. I should say it was the best exhibited variety throughout. Dr. Tucker, Swanley Junction, staged six Her Majesty, that were very large, and a couple of them were really fine flowers. I noticed several good Sultan of Zanzibar. In Messrs.

Mack and Sons' stand was a good *Marie Baumann*, while Earl of Dufferin and Xavier Olibo were perhaps the two best Roses in Mr. Frank Cant's stand of seventy-two. In the forty-eight trebles, Messrs. Harkness had grand examples of *Fisher Holmes*, *Duchesse de Morny*, *A. Colomb*, *Sir Rowland Hill* (very deep in colour), and *C. Lefebvre*. A grand bloom of *Duke of Wellington* took my attention in the stand put up by Messrs. Burch, of Peterborough. In the class for the amateurs' trophy, a bloom of *Ulrich Brunner* in the winning stand (E.B. Lindsell's, Hitchin) and one of *Auguste Rigotard* in the second (Rev. J. H. Pemberton's) were very good. A *Comte de Paris* in Mr. Pemberton's stand of thirty-six singles was also good. This is a peculiar and very distinct Rose, deep crimson with a distinct shade of lilac, and mottled with deep scarlet, somewhat in the way of *Duchess of Bedford*.

In the class for six trebles, Mr. E. B. Lindsell had another grand *Fisher Holmes*, and A. Whitton,

What I consider by far the best bloom in the whole show was a grand *Mme. Cusin* in the Rev. Foster-Melliar's stand of Teas and Noisettes. It gained the medal, and was even in advance of Messrs. Harkness' *Horace Vernet*, bearing in mind the natural size, &c., of the two varieties. This stand was good, and was well ahead of its competitors, carrying off the amateurs' trophy for Teas in a far more decisive manner than that of last year. I assisted in judging both, and shall not soon forget the difficulty we had last season, when after several countings of points we only made one in favour of the winner.

The medal Tea in the nurserymen's class was a grand *The Bride* shown by Mr. B. R. Cant, of Colchester. Mr. R. Orpen, of the same town, had a good *Maréchal Niel*, and Messrs. Prior and Sons, also of the same district, were a good first with twelve of this variety. There was not a good bloom of *Comtesse de Nadaillac*, *Souvenir d'Elise Vardon*, *Innocente Pirola*, *Ernest Metz*, *Cleopatra*, or *Catherine Mermet* throughout the whole show.

New Roses.

Mrs. Harkness and Merrie England were again exhibited by Messrs. Harkness and Sons, but I cannot help thinking it was a pity to do so, for they were not nearly so good as when seen at Chester last summer. These two varieties are both sports from *Heinrich Schultheis*, a Rose that the present season has not suited in the least. By the way, I do not think there was a single bloom of it exhibited in the whole show. Mrs. Harkness is a grand flesh-coloured Rose, very sweet-

scented, free flowering, and particularly good during a dull season. *Brairwick Beauty* from Mr. Frank Cant, of Colchester, was much admired. This is somewhat after *Bardou Job*, and may be described as a larger type of it. It is semi-double, very free, and a good grower. The blooms were each from 3 inches to 5 inches over, while the colour was a glowing scarlet-crimson, suffused with the purple shading found in *Horace Vernet*. It is a grand Rose as shown here, and must rank as one of the best garden Roses.

In the class for twelve new Roses, Messrs. A. Dickson and Sons, of Newtownards, Ireland, had a good example of H.T. *Kaiserin Augusta Victoria*. This is a most promising Rose, free flowering, and a good grower. The colour is cream with a lemon shading. It may be described as a combination of *The Bride*, *Innocente Pirola*, and *Medea*. The seedlings in this stand I did not much



Flowering shoot of the Anoor Yellow-wood (*Cladrastis amurensis*).
(See p. 17.)

of Bedale, Yorks, had a splendid bloom of *Thomas Mills*—at least that was the name attached, but I have not much hesitation in saying it was really *Alfred Colomb*, and many other growers were of the same opinion.

In the numerous classes for twelve of one variety the same general inferiority prevailed. Take Mrs. John Laing for example. There were ten twelves of this, and I do not think one could pick out more than six fairly representative blooms of this grand variety.

The Teas and Noisettes were very bad. If one had gone all through the show, it would probably have been found impossible to discover sufficient good blooms to have made up such a stand of trebles as Messrs. Prince, of Oxford, and the Messrs. Cant, of Colchester, have frequently exhibited in past seasons. "Baked up," "no rain since the end of March," &c., were the complaints from almost all quarters. Besides this, the majority of the blooms showed the stained and dirty appearance so common during a bad autumn.

admire, but one must remember that the present season is altogether against Roses, new and over-propagated varieties in particular. However, Messrs. Dickson and Sons gained the only two gold medals awarded to new Roses with *Sharman Crawford* and *Marchioness of Londonderry*. *Helen Keller* was also exhibited, but no ground plant being on view, it was not entitled to compete for a medal. *Sharman Crawford* is a good Rose that I shall describe as a combination of *Marie Finger*, *Duchesse de Morny*, and *Marguerite de St. Amand*. *Marchioness of Londonderry* is pure white, very double, and large. The flowers had evidently been knocked about, and, like the majority in the show, gave unmistakable signs of the season. It is a short grower, and from the buds on the ground plant may be somewhat difficult to open during wet or cold summers.

A grand box of *Crimson Rambler* was exhibited by Mr. C. Turner. It is small, semi-double, and very free-flowering. A grand plant was shown in a basket. It must have been some 8 feet to 10

feet high before the lips were cut off. It was one mass of flowers. Now that these old-fashioned Roses are in such favour, Crimson Rambler is certain to take a very prominent place.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

CHISWICK SHOW.

JULY 11.

THIS society had a very interesting and beautiful show at Chiswick on Tuesday last, in conjunction with the National Carnation and Picotee Society. We may mention that the Chiswick local society was dissolved in 1891, and the R.H.S. held a show in its place. The continuance of this new feature in the society's programme depends upon the support received from residents in the neighbourhood. We have not sufficient space to deal with all the exhibits outside the general committees, but point out the leading features of interest.

Orchid Committee.

An award of merit went to each of the following:—

CYPRIPEDIUM MASSALIANUM.—This is of peculiar interest as the first hybrid Orchid, of which one of the parents is the famous *C. Rothschildianum*. It is a cross between that type and *C. superciliale*, the plant partaking chiefly of the character of the latter parent. It is a bold and handsome kind, the flowers large and broad; the dorsal sepal green, striped with crimson-brown, and the petals green, blotched with quite a chocolate tone, whilst the lip is brown. This interesting hybrid evidently possesses a strong habit of growth. From Messrs. Sander and Co., St. Albans.

CYPRIPEDIUM STONEI CANNARTE.—This is a remarkably fine form of a well-known species. The flower is very robust, both dorsal and lower sepals broad, stout, white, striped with chocolate, the petals yellow striped with a similar colour, going off into self crimson, the lip dull crimson, veined with a deeper shade. From Mr. T. Statter, Stand Hall, Manchester.

Orchids were not very numerous, but sufficient were shown to make an interesting display. A very fine group came from Messrs. Sander and Co. This comprised a number of excellent species and varieties. *Aerides Picotianum* is a pleasing kind, the flowers large, creamy-yellow, the lip rosy purple, and the sepals and petals tipped with the same colour. A good form of *Brassia* is *B. Lanceana longissima*, the plant bearing two spikes, four flowers to each. The lip is yellowish in colour, and the sepals and petals green blotched with brown. *Cattleya granulosa* was represented by a good form, also *Lælia Schilleriana*, the sepals and petals touched with magenta, the lip crimson-purple. A lovely *Cattleya* is *C. Gaskelliana* (Cook's variety); it was quite the gem of the collection, the flowers of a delicately soft rose colour, the lip touched with yellow at the entrance to the throat. Several *Cypripediums* were exhibited; a hybrid named *Umlaufianum* is the result of a cross between *C. Lawrenceanum* and *C. Chantini*, the flowers very attractive and of a highly polished character. The lip is deep brown, the dorsal sepals green striped with brown, white at the margin, and the petals of distinctive colour. *C. Youngianum* is another acquisition and of attractive colour, whilst a note may well be made of the beautiful *Sobralia xantholeuca*. *Odontoglossum vexillarium* var. *superbum* is a beautiful form, remarkably free, the flowers small, but brilliantly coloured, rose blotched with deep crimson at the base of the lip and surrounded with pure white. *Epidendrum vitellinum majus* was very fine, also the white-flowered and free *Burlingtonia pubescens* (silver medal). Messrs. H. Low and Co., Upper Clapton, had a small and pleasing group of Orchids, comprising several rare kinds. *Aerides l'Ansoni* is a charming form, the

flowers of a rosy purple shade; whilst of *Cattleyas*, *C. Gaskelliana*, *C. Eldorado splendens*, *C. Wallisi*, pure white, yellow in the throat, and *C. Schilleriana* were well represented. We were pleased to see in full bloom the creamy white *Stanhopea Amesiana*, which is of distinct beauty (silver medal). Flowers of *Cattleya Rex*, which has been described before in THE GARDEN, came from Mr. W. C. Clark, Orleans House, Sefton Park, Liverpool. Mr. T. Statter had a number of interesting Orchids. *Lælia monophylla* is very charming, the flowers small, clear orange or apricot colour. Messrs. W. H. Lewis and Co., Southgate, showed *Cypripedium Bradshawianum*, which is of various shades of brown, the petals of polished character, deep green at the base, the lip similar to that of *C. Spicerianum*. *Cattleya Gaskelliana* var. *southgateensis* is beautiful in colour, the sepals and petals touched with rose, the lip white, crimson-purple at the base, with a suffusion of yellow within the throat.

Floral Committee.

First-class certificates were given to the following:—

LILIUM ALEXANDRÆ.—This was provisionally named thus, and exhibited both by Messrs. Wallace and Co., of Colchester, and by Messrs. J. Veitch and Sons, Chelsea, under the Japanese name of *L. Ulkeyuri*. It is supposed to be a cross between *L. auratum* and *L. longiflorum*. It is quite distinct, and, judging from several plants exhibited, a useful and certainly handsome Lily. The flowers are large, open, of the *auratum* character, carried freely on sturdy stems, and have deep brown anthers. It is quite dwarf in habit and excellent for growing in pots, whilst it may also be used to advantage for planting amongst dwarf shrubs in the garden.

LILIUM LOWI.—This is a remarkably distinct and beautiful Lily. We know nothing like it. The plant is evidently tall, judging by the specimen shown, which bore two flowers, each of refined and delightful colour. They are not very large, somewhat campanulate in shape, and white, freely spotted on the under side with crimson-purple, this colouring showing up strongly against the white ground. We shall hope in time to see this Lily tried in the open. It is evidently a great gain to the already long list, and merits attention from all Lily lovers.

An award of merit was given to each of the following:—

ALSTREMERIA AURANTIACA.—We need not describe this further than by saying that it is a very large and richly coloured variety of the type. Valuable for the size and superb colour of the flowers. From Mr. G. H. Cammell, Sheffield.

NICOTIANA COLOSSEA VARIEGATA.—This is a remarkable distinctly variegated plant, which we remember was finely shown by the same exhibitor at the Ghent quinquennial. It has very large leaves, broad, long, and handsome in colour, the centre deep green, surrounded with a lighter shade on a creamy white ground. A showy, but not garish variety, which we heartily commend for its distinctness and bold colouring. From M. J. Sallier, Neuilly, Paris.

DRACENA INDIVISA AUREA VARIEGATA.—A well-variegated plant, the leaves green, striped with creamy white, and of robust growth. From Messrs. J. Laing and Sons, Forest Hill.

CALADIUM BARONNE DE MAINMORE.—A distinct variety, the leaves well coloured, the ground creamy white, margined and variegated with deep green, the centre rich crimson with ribs of the same intense shade. From Messrs. J. Laing and Sons.

A botanical certificate was given to

FERRARIA ANTHOROSA.—This is a very singular plant introduced from the Cape in 1800. The *Ferrarias* are allied to the *Irises*, and *F. anthorosa* has much the expression of an *Iris*, the segments deep sea-green in colour, crimped at the edge, the base yellow with spots of deep chocolate. Exhibited by Messrs. Veitch and Sons.

The finest exhibit before this committee was unquestionably the splendid group of Ferns from Mr. H. B. May, Dyson's Lane Nursery, Edmonton, to which a silver-gilt medal was most worthily given. Want of space prevents enumeration of many kinds, but we may mention that conspicuous were *Adiantum rubellum*, *A. Farleyense*, *A. lunulatum*, *Pteris Victoria*, *Gymnogramma schizophylla gloriosa*, *Nephrolepis davallioides multiplex*, the beautiful *Pteris Mayi*. Besides the Ferns were the variegated *Phrygium variegatum*, *Dracena Prince Mamouk Bey*, crimson-leaved; *Aralia elegantissima*, and *Croton Burgmani*, green and cream-white. A superb mass of colour was made by the varieties of *Begonia semperflorens* from Messrs. Sutton and Sons, Reading. The several kinds were grouped in distinct batches, and made an exhibit of great beauty. They were sturdy examples in full bloom and only six months from seed—a noteworthy point. Very fine were *Reading Snowflake*, the flowers pure white; *Crimson Gem*, bright crimson, free and pleasing; *Duchess of Edinburgh*, white, with broad edge of pink-rose, very robust, the leaves of deep green colour; *Duchess of York*, rose-carmine, exceptionally bright and free; *Coral Gem*, lovely pink shade, the flowers borne in clusters; *compacta rosea*, rose in colour, the plant compact in growth and with deep green leaves. Besides the above also shown were *Achimenes Rosy Queen*, bright rose; *A. longiflora*, deep blue, and an excellent strain of double bedding *Stocks* (silver medal). A silver-gilt medal was awarded to Messrs. C. Lee and Son, Hammer-smith, for a group of shrubs with ornamental leafage, the majority variegated. Messrs. B. S. Williams and Son, Upper Holloway, had a large and interesting group, comprising a variety of things. Amongst Orchids we noticed *Brassavola Digbyana* in full bloom, a good type of *Cypripedium superbiens* named *Demidoff's* variety, *Dracena indivisa variegata* and numerous other things in excellent bloom (silver medal). Mr. T. S. Ware, Tottenham, received a similar award for a large collection of Carnations and Picotees cut from the open. The flowers, if not large, were fresh, especially those of *Arcadia*, *Prince George*, the fine old *Alice Ayres*, *Danger*, crimson self; *Florence Emily Thoday*, pure white; *Horace*, scarlet; *Raby*, Mrs. F. Watts, an excellent white, and Countess of Paris. We have referred to Mr. Martin Smith's group of Carnations under the Carnation and Picotee Society's report. A silver medal was given for the display. The specimen Ferns from Mr. Porteous, gardener to Mr. E. H. Watts, Devonhurst, Chiswick, were awarded a bronze medal. Other interesting exhibits before this committee were numerous. Messrs. J. Laing and Sons had a fine double yellow tuberous *Begonia* named *Lady Balfour of Burleigh*, also *B. Sunbeam*, the flowers single, large and rich orange-yellow. Messrs. Jas. Veitch and Sons had *Strobilanthes Dyerianus*, described recently in THE GARDEN; *Begonia decora*, moderately large leaves of deep colour; and *Pitcairnia amaryllidiflora*, the flowers densely crowded in the spike and brilliant scarlet in colour. The tuberous *Begonias* from Messrs. H. Cannell and Sons, Swanley, were noteworthy. They were well-grown plants, and raised from seed sown last February. The flowers were double and of splendid colours. Mr. Waterer, Knap Hill, Woking, had a boxful of *Spiraea Anthony Waterer*, the flowers intense crimson. M. Victor Lemoine, Nancy, had a group of hybrid *Begonias* of great value and interest. No medal was apparently given to them, although well deserving such award. The finer kinds were *B. Schmidt rosea*, dwarf and very free; *La France*, brilliant carmine-rose; *B. Schmidt alba*, dense and compact; *B. Abundance*, pink; *Diademe*, bright carmine-rose; *Siebertiana*, the flowers large, and pick; *Illustration*, crimson; and *Bajocensis*, tinted with pink, very pleasing. *Lobelia Lewry's Beauty*, a bedding variety, with remarkably intense blue flowers, was shown by Mr. Lewry, gardener to Mrs. Blake, Duppas Hill Terrace, Croydon. Messrs. R. Veitch and Son, Exeter, had an interesting exhibit, comprising such things as *Cytisus nigricans* and other flowering shrubs.

Fruit Committee.

Some fine collections of fruit were shown. Messrs. Veitch staged 160 dishes of hardy fruit, comprising a great variety of Gooseberries, Cherries, and Apples. The best dessert Gooseberries were White Champagne, Bright Venus, Greengage, Hedgeloag, Early Sulphur, Rumbullion, Red Champagne, Ironmonger, Keens' Seedling, and Warrington. Amongst the large cooking varieties (green) were Stockwell, Matchless and Green London; yellow—Ringer, Trumpeter, Pretty Boy, Railway (very fine), and Admiral Boxer; white—Whitesmith, King of Trumps, Queen of the West, Alma and Progress; red—Napoleon, Clayton, Slaughterman, Forester, Companion, Highlander, and Whinham's Industry. There were also some branches heavily laden with fruit cut from cordon trees. Some very fine Morello and dessert Cherries, Raspberries, Currants (Red and White) and early dessert Apples were also shown (silver-gilt Knightian medal). Messrs. Rivers, Sawbridgeworth, staged some magnificent Cherries, also very fine Early Rivers' Nectarines, Princess of Wales Peaches, and a very large seedling Peach with yellow flesh, with Early Transparent, Monarch, Victoria, Grand Duke, and Jefferson Plums (silver Knightian medal). Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, staged well-finished Peaches, the variety being Royal George, Violette Hative and Elrue Nectarines of good colour and size, and a fine dish of Ponderosa Tomato. Mr. Thomas, The Royal Gardens, Frogmore, sent a very fine dozen of Walburton Admirable Peaches. Mr. Leach, Albury Park Gardens, staged two dishes of Black Hamburgh Grapes, two dishes of good Grosse Mignonne Peaches, Early Orleans, and Rivers' Early Prolific Plums, fruiting branches of Bradley's King of Damsons to show its bearing qualities, and a new seedling Raspberry of much merit named Mrs. Clarke. Mr. Hudson, Gunnersbury House, Acton, sent six large bunches of Black Hamburgh Grapes cut from a vine in a 14-inch pot; these were most meritorious. Mr. Douglas, The Gardens, Great Gearies, sent a new seedling Grape somewhat like Buckland Sweetwater. It is a thick-skinned, large-berried variety, and should prove a good keeping Grape and a good traveller.

A seedling Melon was staged by Mr. Thomas, who had six fine fruits of a scarlet-fleshed variety, but lacking flavour. A nice-looking green-fleshed Melon was sent by Mr. Crawford, Coddington Hall, Notts, but over-ripe. Mr. J. Barkham, Longford Hall, Isle of Wight, and Mr. Brook, Red Rice, Andover, also sent Melons, but of no special merit. A new seedling Vine, with variegated or white foliage and fruit, but certainly a step backward as far as appearance went, was shown in a pot by Mr. South, Neasdon. Seedling Red Currants were sent by Mr. Lowe, Shirenewton Hall, Chepstow, a dark red large variety, being named Lord Llangattock, and a lighter red—Jubilee. As only a few bunches were sent, it was impossible to form any opinion as to them. Messrs. Rivers also sent a fruiting branch of a sport or seedling Red Currant of great merit, but too much like La Versailles. Tomatoes were shown in quantity, Mr. W. A. South, Neasdon, sent five dishes of seedlings, but none found favour with the committee. A very fine plant in a 12-inch pot was sent by Mr. T. Berridge, Southall, heavily laden with fruit, but too much like Conference to get an award. A nice-looking Tomato, round and smooth, with crimson flesh and very few seeds, was sent by Messrs. Hurst. This was considered a good addition to the list of these fruits, and was asked to be sent to Chiswick to test its fruiting qualities, the flavour being very good. Twelve varieties of Peas were sent by Mr. Gilbert, Burghley, some past their best, but fine pods. A new Broad Bean named Taber's Perfection was shown by Messrs. Taber, Cooper and Co., Witham, Essex. It was requested to be sent to Chiswick for trial. A new Pea about 9 inches high was sent by Messrs. R. Veitch and Son, Royal Exotic Nurseries, Exeter. This is quite distinct and is named Lotus tetragonolobus, or Asparagus Pea, the pods of which are cooked whole. The flowers are yellow and the foliage is small and

hairy. In the classes for Messrs. Sharpe's prizes for Peas, Mr. H. Balderson, Corner Hall, Hemel Hempstead, was first; Mr. Waite, gardener to the Hon. Col. Talbot, second, and Mr. T. Watkins, Grove House, Merrow, third.

Local Show.

We cannot refer to this at great length. Many of the classes were not of much interest, comprising small cottagers' exhibits. Reference is made to the more important. Roses were shown well considering the season. The chief class was for twenty-four distinct, triplets, the first prize being a silver challenge cup value £26 5s., presented by Mr. J. Mantell, of Gunnersbury. This cup becomes the property of any exhibitor winning it three times, not necessarily in succession. Mr. Benjamin Cant has won it twice, but on this occasion the Yorkshire growers, Messrs. Harkness and Sons, Bedale, secured the award with flowers of remarkably fresh and bright colour, especially fine being May Quennell, Duke of Bedford, Charles Darwin, E. Y. Teas, Susanne Marie Rodocanachi, Duke of Connaught, and Mme. Haussmann. Mr. B. R. Cant was a good second, and Mr. Frank Cant, both of Colchester, third. For twenty-four blooms, distinct, Messrs. Harkness and Sons were again first, showing well such kinds as Mrs. Reynolds Hole, Susanne Marie Rodocanachi, Louis van Houtte, Horace Vernet, Gustave Piganeau. The best twelve bunches of hardy perennials came from Mr. Sage, gardener to the Earl of Dysart, Ham House, who had Gypsophila paniculata, Coreopsis lanceolata, and Eryngiums in good condition; whilst for eight bunches, Miss R. Debenham, St. Peter's, St. Albans, was first.

Another important division was for plants, but the competition was not very keen. The chief class was for an arrangement to occupy a space not exceeding 100 square feet, and the first prize was given to Messrs. Fromow and Sons, Chiswick, for a good group. In the amateurs' class for a group, Mr. Porteous, Devonhurst Gardens, was first. The group of Pelargoniums from Mr. Chas. Turner, which was the only exhibit in this class, and the twelve remarkably fine tuberous Begonias from Mr. Ford, gardener to Sir C. Pigott, Bt., Wexham Park, near Slough, call for special notice. Mr. W. H. Davis, gardener to Mr. T. E. H. Hodgson, Chiswick, showed Gloxinias well; also Mr. A. Jones, gardener to Mr. E. Hyde, Hillcrest, Ealing. The stand of flowers for a hall and table, in each case from Miss Lilian Hudson, won the first prize. The flowers were arranged with rare taste.

There was only a limited competition in the fruit and vegetable classes. Mr. T. Osman, Otter-shaw Park, Chertsey, was first for white Grapes, showing nice bunches of Mrs. Pearson well finished; second, Mr. Payne, Neasdon. Mr. Osman was also first for black Grapes, staging good Hamburgs, the berries large and finely finished; second, Mr. Waite, Esher. Mr. Divers, Ketton Hall Gardens, Stamford, had the only dish of Strawberries, staging a good dish of British Queen. Mr. A. Pears, Springrove, Isleworth, was first with Peaches, showing nice Violette Hative. Mr. Waite was an easy first for Messrs. Carter's prizes for six dishes of vegetables; second, Mr. A. South, Neasdon. There was fair competition in the class for three dishes of Potatoes, Mr. Waite being first with nice tubers of Ashtop Fluke, Sutton's Seedling, and Reading Giant; Mr. Farmer, Blenheim Road, Gunnersbury, being a good second. In the Tomato class, Mr. Sage was first with medium-sized well-coloured fruits of Conference, Perfection, and Sutton's A 1. Mr. Hodgson, Grove Park, was first for a brace of Cucumbers. The cottagers' vegetables showed the effect of the long-continued drought both as regards numbers and size. Only one collection of hardy fruit was staged. This was sent by Mr. Farmer, Gunnersbury, and was most creditable considering the season. Mr. Farmer and Mr. J. Gale were the most successful exhibitors in the classes for vegetables.

United Horticultural Benefit and Provident Society.—The quarterly meeting of this so-

ciety was held on Monday evening last at the Caledonian Hotel. Three new members were elected, making thirty-five in the six months. The death of a non-paying member occurred in May last, and the amount standing to his credit (£24 7s. 4d.) was paid to his widow. The late member ceased to contribute in 1886. One member only is on the sick fund at the present time. The treasurer reported having invested £200 in West Bromwich 3 per cent. stock since the last meeting.

NATIONAL CARNATION AND PICOTEE SOCIETY.

This society held its annual exhibition on an earlier date this year than usual by reason of the hot summer, which has brought flowers rapidly to perfection. We were surprised to find that the exhibits generally were of great merit, and the border kinds formed a feature of marked interest, a contrast to the array of blooms in paper collars stuck into boxes. We were pleased to see throughout a keen competition, and a number of beautiful novelties were shown.

The chief class in the Carnations was for twenty-four blooms, not less than twelve dissimilar varieties. The premier position was taken by Mr. J. Douglas, The Gardens, Great Gearies, Ilford, who had excellent blooms, fresh, large, and of fine colour, a smooth even collection. They comprised Tim Bobbin, c.b., Mrs. Constance Grahame, s.f., Mrs. Douglas, p.f., Charles Henwood, p.f., Harmony, p.p.b., Edward Adams, s.b., Edward Rowan, c.b., Arthur Medhurst, s.b., Agricola, p.f., and Robert Lord, s.b., besides a number of very beautiful seedlings. A very good second was Mr. C. Turner. The more conspicuous were Charles Henwood, p.f., Lady Mary Currie, r.f., Billy Henderson, p.f., and Harmony, p.p.b. Mr. F. Hooper, Bath, third. Several exhibitors competed in the class for twelve blooms dissimilar, Mr. Martin Rowan, Manor Road, Clapham, winning first prize with a pleasing box, the flowers pure and especially noticeable because grown almost in the metropolis. This shows what may be done with the Carnation in large towns. We may mention that the finest blooms were Robert Houlgrave, s.b., J. D. Hextall, c.b., Sportsman, s.f., and Rob Roy, r.f. Mr. Arthur R. Brown, Handsworth, Birmingham, won the second prize. It is scarcely necessary to remark that the flowers in the classes such as six, seven, eight are not of great merit. Another class was for six blooms, dissimilar, and the first prize-winner was Mr. J. J. Keen, Southampton, who had very good flowers of Squire Potts, s.b., Alismond, s.f., Robert Houlgrave, s.b., and J. Douglas, p.f. Mr. A. Greenfield, Sutton, Surrey, was second.

The premier Carnation was Robert Houlgrave, the splendid scarlet bizarre flower, in Mr. Rowan's first prize stand of twelve blooms.

The Picotees, we think, were the more beautiful feature of the show. There was, as in the case of the Carnations, excellent competition, and the first prize in the class for twenty-four blooms, not less than twelve dissimilar varieties, was well won by Mr. Chas. Turner, of Slough, who had refined blooms, smooth, and pure white in colour. Especially fine were Sylvia, l.p. edged, Esther, l.p.e., Favourite, l.r.s.e., Brunette, h.r.e., Madeleine, h.r.s.e., Little Phil, h.r.s.e., and Lady Holmesdale, h.r.s.e.; Mr. Douglas second, he having amongst others the old, but still beautiful Liddington's Favourite, one of the best of the rose and scarlet-edged class. For twelve blooms there was again splendid competition, and Messrs. Thomson carried off the first prize for excellent blooms, whilst Mr. A. R. Brown was second. Several competed in the class for six blooms, dissimilar. Here Mr. A. W. Jones was the most successful with very smooth examples of Little Phil, h.r.s.e., Clara Penson, l.p.e., Campanini, h.r.s.e., Norman Carr, h.s., Mrs. Payne, r.s.e., and Brunette. Mr. J. P. Sharp, Birmingham, was a good second, and Mr. A. Greenfield third.

An interesting class is for twelve yellow ground Picotees, dissimilar varieties. The first prize in this class was gained by Mr. Chas. Bick

gardener to Mr. Martin Smith, Hayes Common, Kent, with remarkably fine flowers of, amongst others, Stadtrath Bail, Alisemond, Dorothy, Annie Douglas, Remembrance, Almira, Chrysolora, Lohengrin, and Cowslip. Mr. Turner was an excellent second, Agnes Chambers and Almira being of note. A large number of competitors showed in the class for six yellow ground kinds, the premier award going to Mr. A. W. Jones. The classes for single specimens were also well filled. The premier Picotee in the exhibition was the variety Mrs. Payne, a fairly good flower, from Mr. A. W. Jones.

The selfs and fancies produced good competition. We care much for this class, and the twenty-four blooms, not less than twelve distinct kinds, from Mr. Chas. Turner, were splendid for colour; Gladys, blush—a lovely tint, Rose Unique, Ruby and White Lady were conspicuous. Mr. J. Douglas came second with very smooth blooms, and Mr. Chas. Blick third. For twelve, dissimilar, Messrs. Thomson were a good first; Mr. A. R. Brown second. In the class for six blooms, dissimilar, Mr. A. W. Jones came first, showing well the varieties Norman Carr, Stadtrath Bail, Germania, Almira, Lord Rendlesham and Gladys; Mr. J. F. Kew, Southend, second.

There was one class for pot plants, twelve distinct kinds, and Mr. J. Douglas was first, Niphetos, a beautiful white self, being amongst those shown; Mr. Chas. Turner second. Unlike former years, no card or "paper collar" was permitted at the back of the flower, freedom of flowering and cultural excellence being the chief points.

One class was for six Carnations and Picotees, open to those who have never won a prize, and the premier award went to Mr. C. Harden; whilst for a vase of any kind of Carnations, Mr. Douglas was first with a tasteful arrangement. Messrs. Thomson were first for three sprays. Messrs. J. Douglas and Thomson were first and second respectively for six button-holes.

We come now to the most interesting section of the show, the "Martin Smith" prizes, and the chief class was for not less than twelve trusses of the best border self-coloured variety. We may remark that in these classes the flowers must have been cut from plants wintered without protection in the open, not dressed in any way, and shown with Carnation foliage and buds. It is also stipulated amongst other things that a burst calyx signifies disqualification—one way to discourage this objectionable type. The first prize in the class named above was won by Mr. Sage, gardener to the Earl of Dysart, Ham House, Richmond, who had a splendid scarlet self, the flowers full, quite intact, and remarkably effective; Mr. E. C. Goble second, Mr. Douglas third with a fine rose self, and Mr. Divers, Ketton Hall Gardens, Stamford, fourth with Ketton Rose. It is a pity that many of the flowers are shown as seedlings or under numbers. It is impossible to describe them thus shown. Mr. J. Douglas was first for six varieties of selfs—a good selection of fresh, well-coloured flowers. For nine varieties of flake, bizarre or fancy Carnations or Picotees, not less than six trusses of each variety, Mr. Douglas was again first with lovely flowers, Mr. F. Hooper second.

The miscellaneous exhibits of Carnations and Picotees are dealt with for the most part in the report of the Royal Horticultural Society. A beautiful white self named Alice was brought from Gravetye Manor, Sussex. The flowers are very pure, full, serrated at the edge, and not in the least split. The bunch was loosely and simply arranged in a Munstead glass. A large collection was shown by Mr. Blick, gardener to Mr. Martin Smith, seedling Carnations and Picotees of many kinds being exhibited. A first-class certificate was granted to each of the following: Sirius, a fancy Picotee, full, and heavily splashed with bright scarlet on a buff ground; George Cruickshanks, also of this class, buff ground, edged and splashed with scarlet; Rosa Bonheur, scarlet flake, very bright and decided; Sir Garvain, yellow, stained with apricot (a distinct and handsome Carnation); Tom Sayers, a good type of Carnation, the flowers

full, not split, buff, striped occasionally with crimson. Bendigo is a rich purple self, intense shade of colour and full, striking flower; Aubry Campbell, yellow self, fine grower, vigorous, and with bold compact flowers. Other kinds thus honoured were The Dey, yellow ground Picotee, heavily edged with rose; Water Witch, blush self Carnation, very pleasing; Mephisto, similar to the old Clove in colour, but deeper, a fine self; and Ellen Terry, a very large white self Carnation, sweet and useful for cutting, besides valuable in the garden. Cardinal Wolsey, yellow ground Picotee, a great improvement on Victory; Duke of Orleans, yellow self Carnation, fine shade; Hayes' Scarlet, self scarlet kind, very bright, and The Patriot, a crimson bizarre of great merit, the colouring clear and distinct, may be also mentioned. A very beautiful seedling of Mr. Douglas is Agricola, a rich purple flake, full, and of rich colour.

GARDENING AND FORESTRY EXHIBITION, EARL'S COURT.

JULY 12.

A show of Roses and Carnations, besides miscellaneous plants and fruit, was held at Earl's Court on Wednesday last. The exhibition was not large, but many interesting things were to be seen.

Roses.

The competition was not keen in this section, except in one or two classes, but the flowers were fresh and of splendid colour, especially the dark-coloured Hybrid Perpetuals. The chief class was for forty-eight blooms, distinct, three trusses of each, and the first prize went to Mr. Chas. Turner, the Royal Nurseries, Slough, for very fine blooms, conspicuous being Ulrich Brunner, Jeannie Dickson, Pride of Waltham, Charles Lefebvre, Crimson Rambler, Marie Baumann, A. K. Williams, Duke of Teck, Suzanne Marie Rodocanachi and Merveille de Lyon. Messrs. D. Prior and Son, Myland Nurseries, Colchester, were the leading exhibitors throughout. They were first for twenty-four varieties, distinct, triplets, and exceptionally fine for colour were the blooms of Fisher Holmes, Anna Ollivier, Lady Sheffield, Suzanne Marie Rodocanachi, Alfred Colomb, Black Prince, Gustave Piganeau, Marie van Houtte and Souvenir de la Malmaison; Mr. George Mount, The Rose Nurseries, Canterbury, second. In the corresponding class for single trusses, Messrs. D. Prior and Son were again first, La Rosière being well shown, also Mrs. John Laing; whilst Mr. Geo. Mount was second.

The best competition was in the class for twelve Hybrid Perpetuals, in which the first prize was taken by Mr. A. Gibson, gardener to Mr. T. F. Burnaby-Atkios, Hailestead Place, Sevenoaks. The flowers were brilliant in colour, and the finest were those of Baroness Rothschild, Mlle. Marie Rady, Capt. Christy, Marie Baumann, Maréchal Vaillant, Charles Lefebvre and Francois Michelon. A very good second was Mr. J. Parker, Oakfield, Hitchin. We ought to have mentioned that there was yet another class for forty-eight, distinct, single trusses, in which Messrs. Paul and Son, Cheshunt, were first with splendid blooms fresh and highly coloured, A. K. Williams, Eclair and Grand Mogul in particular.

In the Teas and Noisettes the best box of twenty-four blooms was from Messrs. D. Prior and Son, and included very good flowers of Catherine Mermet, Souvenir de S. A. Prince, The Bride, Comtesse de Nadaillac, Mme. Hoste, and Edith Gifford; whilst for eighteen of the same section, the first prize went to Mr. G. Mount, who had excellent examples of Edith Gifford, The Bride, Innocente Pirola, Ethel Brownlow, Princess of Wales, Mme. Chartas, and Catherine Mermet. Mr. J. Parker had the finest twelve.

We have often referred of late to the garden Roses, and we need not do more, therefore, than mention that Messrs. Paul and Son had the finest twenty-four bunches, the varieties much the same as those hitherto recorded.

Carnations and Picotees.

The Carnations were much the same as those shown at the National Carnation and Picotee show on the previous day at Chiswick, the prize-winners also being practically the same. The chief class was for twenty-four blooms of Carnations, not less than twelve distinct kinds, and the first prize went to Mr. Rowan, Clapham, who had remarkably fresh flowers of r.f. Rob Roy, s.b. Robert Houlgrave, p.p.b. Wm. Skirving, p.f. George Melville, c.b. Master Fred, p.p.b. Sarah Payne, and s.f. Sportsman. Mr. C. Turner and Mr. J. Douglas were second and third respectively. For twelve distinct, Mr. G. Chaundy was to the front, followed by Mr. F. Hooper. It is needless to mention names. The leading kinds were represented. There were similar classes for Picotees. The best twenty-four were from Mr. C. Turner, who had delightfully fresh flowers of r.e. Brunette and b.r.e. Lady Ponsonby; Mr. Douglas a good second. The best twelve blooms, and they were very fine, were from Mr. F. Hooper, of Bath.

The classes for selfs were pleasing, and a very good collection of twenty-four blooms, not less than twelve distinct kinds, came from Mr. Chas. Turner, King of Scarlets, White Lady, and Rose Unique being exceptionally fine. Mr. J. Douglas had an excellent second-prize stand. Mr. J. Walker Thame, Oxon, had twelve fine selfs and fancies, in which class Mr. Rowan was second; whilst the most meritorious yellow ground varieties, distinct, were from Mr. Douglas.

Miscellaneous Classes.

The most important of these was for twelve bunches of stove and greenhouse flowers, and equal firsts were awarded to Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, and Mr. J. Prewett, Swiss Nursery, Hammersmith. The premier award might have been given to the larger and more varied clusters of Mr. Wythes, Hymenocallis macrostephana, the old Gloriosa superba, and the rich crimson Canna Franciscus being of note.

Several charming groups were arranged not for competition, and a gold medal was given to Mr. H. B. May, Edmonton, for his beautiful arrangement of Ferns and foliage plants. The several kinds were noted at Chiswick on the previous Tuesday. Messrs. Cheal and Sons, Crawley, received a silver-gilt medal for a large and very fine display of Sweet Peas, tufted Pansies, and other hardy flowers. Want of space forbids mention of individual species and varieties. It was one of the best groups we have seen from this firm. Messrs. Barr and Son, Long Ditton, had an extensive display of hardy flowers, Philoxes, Lilies, Gladiolus brecheleyensis, and a charming group of rock plants disposed in a natural way, the little things creeping over stones. This is the way to exhibit alpine (silver medal). Mr. Wythes must be highly praised for his splendid display of Carnations in bunches, the flowers of the best border kinds, and exquisitely arranged with Maiden hair Fern, Raby, Amber, a lovely carmine colour, and the Crimson Clove were conspicuous. A silver medal was worthily given. A similar award was made to Messrs. Jackman and Son, Woking, for a large collection of Hybrid Perpetual and button-hole Roses, not forgetting a splendid box of the H.P. Mrs. John Laing. Mr. John Walker, Thame, had a meritorious group of cut Carnations, representing great variety, and was given a silver medal. Messrs. Paul and Son, Cheshunt, also had a charming collection of Carnations in bunches and a boxful of Canna flowers of the varieties introduced by this firm. Mr. Sage, gardener to the Earl of Dysart, Ham House, Twickenham, had a group of large bunches of the best hardy perennials, and was awarded a silver medal, the same exhibitor having the rich scarlet self Carnation named Jim Smyth. A group of Anthuriums and fine-foliaged plants was exhibited by Mr. W. Chuck, gardener to Mr. P. Thellussen, Brodsworth Hall, Doncaster. Messrs. Wallace and Co., Colchester, showed Lillium Alexandra, described in R.H.S. report. A new Carnation named

Mrs. Anst'ss, a large-flowered light self apricot colour, was shown by Mr. Anstiss, of Brill.

Fruit.

The display of fruit was superior to that of previous shows both in quality and quantity. Messrs. Rivers staged the very fine collection of Cherries they put up at Chiswick the day before with additions, and there were some good collections of other fruit not for competition.

A first-class certificate was awarded to

MELON EARL'S COURT HYBRID, of medium size, nicely netted, the flesh scarlet and of good flavour. It much resembled that good old variety Turner's Scarlet Gem. From T. Elisha, Old Windsor.

There were nine lots of three bunches of black Grapes. Mr. A. Maxim, gardener to the Hon. Miss Shaw-Lefevre, Heckfield, Hants, was first with B. Hamburg, large bunches and berries, and nicely finished, Mr. Osman, Ottershaw Park, Chertsey, being second with bunches of perfect shape, but a trifle smaller in berry. In the class for white, any variety, Mr. W. Lane, King's Ride, Ascot, was first with Muscat of Alexandria, nicely coloured, the bunches of medium size. Mr. W. Tidy, Stanmore Hall, was second with three very nice bunches of Foster's Seedling; this lot would have secured the premier award had they been riper. There was a great number of Melons staged in the class for three fruits (not to be cut), and with such restrictions the nicest looking fruits stand best chance, flavour, the chief point in a Melon, not being considered. Mr. Little, Milton Court, Dorking, was first with three fruits of Hero of Lockinge; second, Mr. Mortimer, Swiss Nursery, Farnham, with the same variety. For one Melon, Mr. T. Elisha, Old Windsor, was first with a large seedling variety. Peaches were numerous and good, ten lots being staged. Mr. T. Billings, Ham Hall Gardens, Ashbourne, Derby, had a grand dish of Barrington. Mr. Wallis, Keele Hall, Staffs, had a fine dish of Bellegarde, but not quite ripe enough. Nectarines were very good, Mr. Billings, Ham Hall, Ashbourne, securing the premier award with good, well-coloured Lord Napier. Mr. Wallis was a close second with Victoria. There was only one exhibitor for three dishes of Strawberries, Mr. Chuck, Brodsworth Hall Gardens, Doncaster, having very good Jas. Veitch and rather small fruits of Sir C. Napier and Dr. Hogg, the same exhibitor taking the first prize for a single dish of fruit with Sir C. Napier. There was only one dish of Cherries, this being staged by Mr. Mortimer. Messrs. Rivers received a silver-gilt medal for a very fine collection of Cherries, Peaches and Plums. Mr. Maxim had a silver medal for two large baskets of very good Hamburg Grapes. Mr. R. Grindrod, Whitfield Gardens, Hereford, had a similar award for a nice collection of fruit. Mr. Jinks, Fairlawn, Cobham, Surrey, showed fifteen dishes of Tomatoes, a nice even lot of fruit and distinct varieties, Ham Green, Conference, Dedham Favourite, Chiswick Red, Acme, and Golden Perfection being noteworthy. Mr. Elisha secured a bronze medal for a collection of fruit and vegetables. Mr. McDonald, Norgate, Chichester, had a stand of Cucumbers. A new Grape named Lady Hastings, shown by Mr. Shingler, Melton Constable, was not nearly ripe. It should, however, be seen again, as it is a noble-looking Grape.

A full prize list is given in our advertising columns.

Rose show at Manchester.—About a fortnight earlier than usual, owing to the advanced season, the annual Rose show, under the auspices of the Royal Botanic and Horticultural Society, was held in the gardens, Old Trafford, on Thursday, July 6. York was to the fore in the exhibition, inasmuch as Messrs. Harkness and Sons, of Bedale, were very successful prize-winners. The entry list was extensive, and included the names of well-known Rose growers in different parts of the country. In all classes the competition was strong. The prize list will show how many awards went to a few leading firms in Yorkshire, Nottinghamshire

and beyond the border. The southern growers were little in evidence, and this arises from the weather, which has been too hot and dry for the Rose. A full prize list will be found in our advertisement columns.

PUBLIC GARDENS.

Proposed addition to the Paddington recreation ground.—The following recommendation of the Parks Committee was by the Council's Standing Orders postponed until next week: "That the Council do purchase at a cost not exceeding £6000 the 2 acres 2 roods 17 perches of land adjoining Paddington recreation ground, which is under the control of the vestry of Paddington, for the purpose of adding to the recreation ground, conditionally on the vestry giving an undertaking, in terms to be approved by the solicitor, that two members of the Council representing the division shall be members of the committee of management."

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, held at 83, Lancaster Gate, W., the Earl of Meath, chairman, presiding, it was agreed to ask the Queen to extend her patronage to the association. It was stated that St. Thomas's Square, Hackney, and Duncan Terrace Garden, Islington, had been opened to the public during the preceding month, and progress was reported with regard to the laying out of Victoria Park Cemetery, E., the Brompton Road Triangle, and Goldsmith Square, Shoreditch. It was agreed to put in order and open for the summer months St. Olave's Churchyard, Silver Street, and St. Katharine Coleman, Fenchurch Street, to endeavour to secure a public playground in Deptford, to place seats in a space in the Earl's Court Road, and to communicate with the vestry of St. George's, Hanover Square, respecting the burial ground in the Bayswater Road. Among a very large number of matters under consideration were the preservation of the Leyton Marshes, the acquisition of a recreation ground in Earl's Court, of a part of the site of Millbank Prison, of a riverside space in Battersea, and of the land of the New River Company opposite Canonbury Villas, the laying out of Whitfield's Tabernacle burial ground in Tottenham Court Road, and the purchase of a plot of vacant land in Hampstead.

The weather in West Herts.—Although the weather has lately been at times comparatively cool, still the past week taken as a whole proved very warm even for July, thus making it the twenty-fifth consecutive week of unseasonably warm weather. On Thursday and Friday in last week the temperatures in shade rose in the hottest part of the day to 85° and 86°. The nights were also warm; in fact, during the present month nearly all the nights have been more or less warm, and on those of Friday and Saturday the exposed thermometer never fell lower than 52°. At 1 foot deep the temperature of the ground now stands at 67°, and at 2 feet deep at 66°, or respectively 5° and 6° higher than on the same day last year. On Friday, the 7th inst., the temperature at the depth of 1 foot rose in the evening to 74°, and at 2 feet deep to 67°, both of which readings are higher than any previously recorded here during the eight years over which my observations extend. During the present month rain has fallen on six days, but to the total depth of only about half an inch. On Friday in last week 13½ hours of clear sunshine was recorded.—E. M., *Berkhamsted*.

American blight.—"W. P." is mistaken. The insect is dark brown, and reveals itself by the cotton thrown off for protection. I have almost lost Apple trees entirely by it before discovery, but I consider I have mastered the difficulty by painting with a strong solution of paraffin and soap-suds or Gishurst compound, not less than half paraffin, the first time with a tar brush, and then daily with a paint brush at every leaf-joint, or wherever the cotton can be detected. It is an

endless job at this season of the year, but not onerous. A quarter of an hour at each tree will do it, but the wood swarms with them, and so fresh discoveries occur every day, and it needs a sharp eye. The cure can, I hope, be completed when the trees are bare by a general painting of every inch; meantime the damage can be materially checked, as where you paint, there you kill, and I have proved it by the aid of the microscope.—T. PEARSON, *Putney, S.W.*

Dianthus neglectus.—Allow me to rectify an error in THE GARDEN of July 24 (p. 532). "Delta" says about *Dianthus neglectus*, "A pretty little Pink about which there is some dispute, and I believe M. Henri Correvon, of Geneva, asserts that the true *D. neglectus* has not yet been introduced to England." I do not believe that I ever said this, and can assure you that the true *D. neglectus* is cultivated at Exeter by Messrs. Robt. Veitch and Son, where I saw it lately, and at York in Messrs. Backhouse's nursery. I believe, too, I saw a plant sent from Messrs. Paul and Son, Cheshunt, and I suppose there are many other nurseries who cultivate it now. What I wrote about this plant was that the plate you published in THE GARDEN, and which was considered wrong by some of your readers, was, if not quite right, as good as it could be for a chromo-lithograph. *D. neglectus* has the outside of the petals of a greenish bluish colour and the inside like those of *Dianthus alpinus*, with the foliage of *Dianthus cæsius*. *Dianthus neglectus* I found frequently upon the Lautaret last year when travelling there with my friend Mr. H. Kitson, of Leeds. The plant is the characteristic species of the Alps of Dauphiné, M. Cenis, and Lautaret. It grows nowhere else, but I got seeds of a very nearly allied species of the Caucasus from Messrs. Levier and Sommer, of Florence, under the label *Dianthus*? Tieberdinski prival, Caucase, 9/90. The Caucasian form is so nearly allied to *neglectus*, that I would not be surprised to hear from M. Sommer it is the same plant.—H. CORREVON, *Jardin Alpin, Geneva*.

Wasps eating Grapes.—I find flies and wasps are just beginning to attack my Grapes. They had more than half of them last year. Can any reader tell me of a preventive?—J. W.

Sweet Sultan.—Can you kindly inform me through THE GARDEN what is the cause of my plants of this going off? It is a yearly occurrence with them. As soon as the plants come into bloom they die off. Mixing lime rubble with the soil does not make any difference. The stems appear to have been eaten just at the ground level, but I have not been able to find anything eating them. If you can give me any information I should be greatly obliged.—G. H. B.

Names of plants.—*Belton*.—*Fuchsia procumbens*.—W. D. R. D.—*Lilium Batemanianum*.—G. B.—Your Peas are suffering from red spider and thrips, caused through the dryness of the season.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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No. 131. SATURDAY, July 22, 1892. Vol. XLIV.

"This is an Art
Which does mond Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*..

ROSE GARDEN.

ROSES AT WALTHAM CROSS.

THIS is a poor season for Roses, at least as regards the flowers, which are not proof against burning sunshine that quickly expands them without, unfortunately, that fine substance in the petals one gets in a cooler year. But in Messrs. Paul's nursery at Waltham Cross the plants are in remarkable health, and though the blooms last only a brief season, there was a great show a few days ago. In such a collection as this, there are old and new kinds upon various stocks. A large break is upon the seedling Brier, comprising the Tea and Noisette varieties. We noticed a new Hybrid Tea, as it is called—but the truth is the Teas are getting much mixed—named Grand Duke Luxembourg, that seems of great promise as a garden Rose, a little thin, perhaps, very free and with something of the Viscountess Folkestone character. The flowers are very sweetly scented, deep rose in colour, with still deeper buds, the inner surface of the petals quite silvery in tone. It is a strong grower and bright. Gustave Regis was succeeding well on the Grefferaie stock. This is a comparatively new Rose, very charming in the bud, the colour canary yellow, the margin of the petals touched with carmine. It is a strong grower and very free. Christine de Nouë is a pleasing new Rose of the Hybrid Tea order, the flowers rose-crimson, large and sweetly scented. One of the most conspicuous Tea-scented Roses at Waltham Cross is White Lady, which, it will be remembered, is a sport from the well-known Lady Mary Fitzwilliam. There is a very fine row of it, the growth strong and each shoot bears a burden of bloom. It is a better thing than its parent, the flowers very large, sweet and creamy white. A good group of it would make a great display. Too little regard is paid to the Rose for grouping in distinct masses, and we are pleased to see that this plan is followed largely by Messrs. Wm. Paul and Son—a system that gardeners should copy. A full, rich effect is obtained from the flowers, even those of such delicacy as Mme. Hoste, a very precious kind, the colour clear yellow. This is a good grower here, and in all respects a useful and beautiful variety. Francisca Kruger was well represented, and it is one of the most charming of this class; whilst a note must also be made of Viscountess Folkestone, which is a lovely flower, quite one of the best things raised by the late Mr. Henry Bennett. It is delicate in colour and very sweet. One always prizes Roses that are richly fragrant, and it would be well if raisers paid even more attention to this attribute of the flower. A large break of the variety Grace Darling was a mass of bloom, and in bad and good seasons alike this fine Rose is in character. It continues to bloom until late in the season, and commences early. The growth is exceptionally strong, and the flowers are creamy white in colour, margined with a peach tint. We like it for its constancy, vigour, and freedom even near to large towns. Some Roses, although full of charm, are often overlooked. Camoens

is one of this class. It is a delightful Tea, not useful for the exhibition, but that is of little moment when it stands high amongst those kinds for the garden. It is a good grower, and a quantity of it at Waltham Cross is smothered with bloom, the flowers light rose in colour, touched with yellow in the centre. Two rows each of Anna Ollivier and Ma Capucine, a bud Rose of great beauty, may be mentioned, as both were in full beauty. A Tea-scented Rose of importance is Mme. Charles, which has very large flowers, full, and of an apricot shade.

The climbing Teas are worthy of attention, and the Climbing Niphetos is conspicuous. This is called a climber, it is true, but all the plants will not develop an upward tendency. It is stronger in growth than the ordinary kind, but there distinction ends. Mme. Chauvy belongs to this section, and the flowers are distinctly handsome, the colour yellow touched with rose, and the petals coppery on the outer surface. Amongst the best known is Mme. Eugène Verdier, which is a very fine climbing Tea, and deserves to be more widely known. The flowers are rich yellow, well shaped, and very fragrant. Not far from this is the familiar W. A. Richardson, and although the lighter coloured flowers in particular have suffered much from the sun, this Noisette is exceptionally rich, quite of a deep apricot. L'Idéal was exceptionally fine. It is a very distinct and welcome kind, comparatively new, but becoming largely grown for its beautiful colour and neat bud. The flowers are a mixture of coppery orange and red, and make a great show, as they are produced with exceptional freedom. All who have not yet got this variety in their collections should make a note of it forthwith. Marie van Houtte is very fine this year; the flowers are large, and their distinctive colouring has been brought out to perfection. The plants on the cutting Brier are in rude health, but not with that deceptive vigour displayed by the Manetti. The

HYBRID PERPETUALS

are in fine character this year, especially those varieties which bear dark coloured flowers. We may make note with advantage of a few of the more important kinds. May Quennell is a Rose that one does not hear sufficient of. The flowers are produced freely and of a full crimson colour, whilst the growth is strong. Duchess of Albany, the sport from La France, was in full beauty. It is of a deeper tone than the parent, and maintains this distinctive character. Mrs. Jowitt, as seen at Waltham Cross, is worthy of note. The flowers are crimson in colour, full, handsome, and solid. Amongst the finest of the dark Roses this year are the following, and they have been shown well at the exhibitions. Without them indeed many shows would have presented a sorry aspect. Xavier Olibo, a well-tried favourite, is in excellent character, the flowers of remarkably strong and sweet fragrance, full, and of large size. When it is in condition, few Roses are more beautiful. Another variety that is very conspicuous this year is Fisher Holmes, one of the finest of the dark-coloured kinds. The flowers are of fine shape, full, even, and deep velvety crimson, remarkably rich in scent, and the plant is a sturdy grower. We have seen several good boxfuls of it at the shows, and we always admire its rich lustrous colour. A very brilliantly coloured Rose is Duke of Teck, the flowers bright scarlet, symmetrically formed and conspicuous at a distance. A few plants of this in full bloom make a great show of colour. Again, we may record a triumph for that new Rose named Gustave Piganeau, which undoubtedly is

one of the finest Roses in cultivation. It has been exhibited well this year, and was very fine at Waltham Cross. The flowers are quite as large as those of Paul Neyron in size, full, and crimson or rather carmine in colour, very bright and attractive. A valuable Rose is Caroline Testout, and coming, we think, rapidly to the front. The flowers are clear rose in colour, and there is no want of them on the vigorous plants. We get fragrance very pronounced in the variety Margaret Dickson, but the plant is almost too strong in growth. The flowers are white with a tint of flesh colour in the centre, full, and exceptionally sweet. Ulrich Brunner, the now well-known Spenser, Mrs. John Laing, and Silver Queen were of note; the last of the four has large well-shaped flowers of a silvery pink colour, very bright and attractive. Mme. Bois reminds one of Victor Verdier, the flowers of a pleasing rose colour. The new Bourbon Lorna Doone is likely to prove of much value, and we have already made a reference to it. A very sweetly scented Rose is Auguste Guinoisseau, sometimes called not inappropriately the white La France, although the flowers are not strictly white, but touched with a pink shade in the centre. They are borne very freely, and possess a very sweet scent. It is one of the best new Roses for the garden, and a group of it is exquisite. We have seen it on many kinds of soils and in more than one county, but always good. One Hybrid Perpetual Rose to which we would draw attention is Clio. It has been exhibited freely, and received many certificates. These are not worth much, but this variety is of great merit. A number of plants were in full bloom; the foliage abundant and of fine colour, the flowers large, sweet, and light salmon or a shade of pink in colour. It should be made a good note of for the garden and exhibition. The

POLYANTHA CLASS

is, we are pleased to see, getting more popular, and it is a pleasure to find that other classes besides the Hybrid Perpetual and Tea-scented are grown largely in gardens. This is a welcome sign that a love for these fine old types is reviving. The Polyanthas are on the Grefferaie stock for the most part, and form a delightful section of Roses, making little mounds of blossom in spite of an abnormally dry soil and fierce sun. A break of them is full of colour, and amongst the best kinds are the following: Gloire de Polyantha was a mass of rose, the flowers full, rosette-like in shape, and so free, that almost every trace of leafage is hidden. It is a kind that should be planted in a group to get the full effect of its profusion of bloom. Blanche Rebatel is remarkably rich. We made special note of it for its colour, a shade of crimson-purple, the flowers, as in the others, being borne in dense clusters. It is in truth one of the most striking kinds in beauty now. Another lovely variety is Anna Maria de Montravel, one of the freest of the section. The flowers are imbricated, of the purest white, and valuable for cutting. A good way is to get a few of the best of this class and group them. Then they have an effect in the arrangements, and in ordinary soils and positions they succeed and bloom well. There is a number of varieties belonging to this group. Clothilde Souper is apt to vary, but it must be mentioned. The flowers are white and rose-tinted in the centre, also well imbricated in form. Paquerette is a dainty little kind, the flowers not large, but perfectly double, and of the purest white, whilst another good kind is Mignonette, which has delicate rose-coloured flowers, passing to white, and produced in clusters.

This is merely a brief review of the Roses in this nursery. There are varieties of every section; of each class a group is represented in its fulness. There is a large collection in pots, and in one house the variety *Corinna*, which has been previously described, was in full bloom.

Rose Persian Yellow.—I never saw this Rose flowering so freely as it has done this year. I allow it to grow somewhat in a natural manner. The long branches are allowed to remain their whole length, and the following year these are wreathed with lovely golden-yellow blossoms. All the pruning our plants get is to remove the weakly shoots to admit of the stronger ones having more space.—E. M.

Tea Rose Clara Watson.—This is a new kind of which flowers were exhibited by Mr. G. Prince at the Drill Hall on June 6, and it looks very promising. In character the form of the flower very much resembles that of *Hon. Edith Gifford*, being full and double, the colour flesh. Perhaps it may come too near *Edith Gifford*, which is often decidedly flesh tinted, but time will show. Blooms of it compared with those of *Edith Gifford* in Mr. Prince's fine box of Teas were distinct enough.

Rose Princess of Wales.—There is something in the soil of Mr. Prince's nursery that specially suits those lovely tinted, but uncertain Tea Roses that all of us admire and few can grow. A box of a dozen good blooms of this kind was recently exhibited by Mr. Prince. The flowers were fine and the colour exquisite in its blendings of rosy pink and soft yellow. It is one of the late Mr. Bennett's raising, and was sent out in 1882.

Own-root Roses.—The great majority and all the best Roses are certain to succeed upon their own roots. In this matter we can learn something from the Americans. I am forced to come to this conclusion, that, given suitable conditions for growth and sufficient time, a plant on its own roots will grow as strongly as upon any other roots. I do not believe any stock promotes vigour over and above that natural to the kind. Upon this question, writing on p. 174, "*Ridgewood*" cites *Marie van Houtte*, *Mme. Lambard* and *Anna Olivier* as examples likely to thrive on own roots, presumably because of their vigour, the still stronger climbers only "thriving fairly well in this form." This is not so. The best *Rêve d'Or* I ever had I struck from cuttings, and after a year in the cutting bed in a frame they were planted out. For the first two seasons they made a perfect forest of growth and then settled down to profuse blooming, in which state they continue. It is a pleasure to see the suckers coming up from these reach 12 feet in a season, and to lay them in in the place of old wood that has given its quota of flowers. With *Gloire de Dijon*, *Bouquet d'Or* and others I had the same success, and saw enough to prove that with these again there is no need whatever for a stock of any description. It is quite true, as "*Ridgewood*" remarks, that when suckers spring up from worked Roses many amateurs do not notice the difference. One would think that anyone who cared for Roses enough to grow them would be able to distinguish these robbers, but the fact remains many do not. A friend of mine was once called in to give advice to an ardent Rose amateur who was in despair at the non-flowering of many of his Roses. He discovered that the Roses had long since disappeared and that there were splendid plants of *Manetti*.—A. H.

Mme. Berard a good fence Rose.—The right place for *Mme. Berard* seems to me to be a fence. Perhaps my experience of this kind on walls may be unique, but certainly no Rose that I ever grew was so addicted to mildew as *Mme. Berard*. I had fine plants on the walls in one place, and they were always the first to become infested with mildew and the hardest to keep clean. Copious waterings at the roots seemed to hold the pest in check at times, but sooner or later each season it

appeared and greatly marred the beauty of the plants. I was so convinced that this kind was always the beginning of mildew among the Teas, that had I remained longer I should have removed and replaced *Mme. Berard* with some cleaner kind. Here, again, I find something confirmatory, for of many *Dijon Teas*—true, but of last year's planting—against the house and other walls, the only kind showing mildew is *Mme. Berard*, and the plants are smothered with it. On the other side of the house—drier and more sunny—is a fence clothed with *Dijon Teas* and other climbing kinds. Here *Mme. Berard* has been established six years, and it is quite free from mildew. There is a good length of the kind and it proves most free and constant, throwing splendid blooms in quantity and long succession, and, excepting *Bouquet d'Or*, there is no better Rose on the fence. I remember another and even longer fence in a garden where I spent some years when a boy—in fact, where I first made the acquaintance of *Mme. Berard*. This fence was planted with *Mme. Berard* and *Gloire de Dijon*. The former kind was by far the better and used to give a wealth of blossom. In one year when frost came late I remember cutting a score of good, partly opened buds of this kind at Christmas, and after a night in warm water, which opened them a little more, they were used in the church for the Christmas decorations.—A. H.

THE STAGING OF ROSES AT EXHIBITIONS.

Those who exhibit Roses have a far more rational and natural method of staging than have some other florists. For instance, we shall now in a week or two have the *Carnation* presented as usual in its hideous deformity with the paper collars, reminding one of those worn by the upper society in the *Elisabethan* era. Anything more inconceivably ridiculous could scarcely be imagined than these aids to malformation, for such it is when a flower is made to appear under artificial manipulation what it really is not when presented naturally. How much longer this is to last I do not attempt to predict, but might not the *Carnation* and *Picotée* Society make it penal for adding these embellishments (so considered)? It will not do, however, to dwell further upon this point considering the subject heading of these remarks. It is the Rose more particularly upon which I wish to say a few words. This season has been a most trying one for many of us. The procuring of fresh green Moss has been almost an impossibility for many growers. When this material can be had fresh there is nothing better both as regards effect and the moisture it contains, which tends to keep the flowers fresh for a greater length of time. When it is brown, however, it does not look well by any means, but brown-looking Moss I have seen greatly improved by preparing the boxes a week or so in advance, then keeping them cool and well moistened until required. When Moss is used it is a customary plan to fill up under the Moss with something that is dry, as hay or straw or dry Moss. This when moistened greatly adds to the weight, and when such has to be considered as a question of excess by the railway companies, one has to pay dear for the packing. What is far better is to fit galvanised wire netting as a groundwork for spreading the Moss upon. But it may be said by some that this is impossible, for the tubes have to be considered. If the netting, however, be strained upon a lightly made frame, it can rest upon the tubes, and these latter can be moved in their slots as desired by merely lifting the framework. I noted one exhibitor recently at the metropolitan shows who had recourse to black velvet as a groundwork to his flowers, and it did not look at all bad, the light colours more particularly being shown up well by its use. The colour, however, was a wrong one to employ, although it is used with effect by floral decorators for wreaths, crosses, &c. The better colour would have been a green one, the particular shade approaching as nearly as possible that of the Rose foliage. If this shade of colour were used when it is impossible to obtain Moss sufficiently good, it would be

as good a choice as could be made. This colour would greatly relieve the dark reds and crimsons, and in my opinion the whites and pale colours would not suffer in any way by its use.

In the arrangement of the flowers there is room still for improvement. It is very rare that one has the pleasure of seeing any wood-growth along with the flowers, and as to buds, these are still scarce; but this cannot be wondered at when the thinning down to one promising bud is so much in vogue. Yet the popular expression in schedules is "trusses," not "blooms"; this in itself is absurd upon the face of it. At times both the Teas and Hybrid Perpetuals will push up an adventitious shoot beside the flower. This should be allowed to remain, in my opinion, as it adds to the effect. I would also permit one shoot, not leaves, to be added both with single blooms and trebles. Why trebles, I would ask? Would not a pair of good blooms be quite enough of one kind of what are termed "exhibition" Roses? Of those classed as "garden" Roses and shown as they should be in real trusses of not less than three or more than six, a deal more use might be made. The way these have been taken up this season is a sufficient proof of this. Take, as an instance of the added Rose shoots, the light Teas; these look much more beautiful, I think, with some of the bronzy shoots. Against this I know it may be urged that this cutting would rob the plants; to this my reply is, grow a few plants for this purpose alone of the kinds best suited. When baskets or vases of Roses are staged the competitors are not slow to take advantage of this addition.

In the opening remarks I alluded to the doctoring up of the *Carnation* for show purposes. This failing is, I regret most exceedingly, now spreading amongst Rose growers. At a recent metropolitan show I was in conversation with a veteran Rose grower, raiser, and exhibitor, who stated that he had that morning stood and watched the manipulation of the petals to improve the flowers, or rather to make blossoms out of buds chiefly of the Tea-scented kinds, which appear to be the most amenable to this unjustifiable process. I have repeatedly noted its adoption by the decorative florists; this can be detected with a tolerable certainty when one knows what a bloom should be and not what it has been transposed into. Gummung the flowers to prevent them falling cannot be justified, but I would prefer this to the artificial dressing. There is, furthermore, sufficient room for an improved name card as regards colour; instead of white cards I would much prefer to see green ones adopted altogether.

GARDEN ROSE.

Rose Ernest Metz is one of the finest Tea-scented Roses this season. It is one of *Guillot's* raising, and sent out in 1888. The flowers are of fine form, the petals broad, and composing a splendid exhibition bloom. They are delicate carnation-rose, brightening towards the centre, and held on a sturdy stem. Although a first-class exhibition variety, it is good in the garden, robust, free, and pleasing in aspect.

Rose Hon. Edith Gifford.—*M. Guillot* has sent us many fine Roses, but surely none better than this. It is a wonderful picture at the present time, the flowers so numerous and fine. It never makes a big bush like *Marie van Houtte*, but it makes a handsome group, and the quantity of flowers it produces is surprising. It may be planted at little more than a foot from plant to plant, and when so closely massed it has a grand effect.

Rose Claire Jacquier.—This is a lovely cluster Rose, and some fine trusses of it have recently come to hand from a plant that grows on a fence in the garden at *Betteshanger Rectory*. I have had my attention called to it on more than one occasion, and have always had to confess to knowing nothing about it. By its strong habit and profuse blooming, it always seemed to me to belong to the *Polyantha* family, and after a diligent search through many catalogues, but in vain

I find it in that of Mr. George Paul. It has similar great clusters to those of the Polyantha, but the flowers are double, prettily shaped, pale externally and at the edges of the petals, but deepening into a rich almost orange-yellow. I think it is of comparatively recent introduction, and certainly deserves to be better known. I have only seen it in this one place.—A. H.

Rose Prince Arthur.—In the great heat and drought one Rose deserves a special note, and that is Prince Arthur. It is, I think, about the only Rose ever sent out by that veteran grower, Mr. B. H. Cant, and although its advent now dates back some eighteen years, we cannot afford to put it on one side. I know it stands high in Mr. Cant's estimation at the present day as a good show Rose, but the number of good shaped blooms the plants are bearing and its fine colour in the mass prompt this note. In colour it is a rich deep crimson, and the scent is powerful.—A.

Rose Dr. Grill.—I am not at all surprised that this should specially have attracted Mr. Camm's attention in a garden at Bournemouth, for where it does well it is a most attractive Rose, telling in colour and delightful in scent. It has a good vigorous constitution, too, so that anyone able to grow Tea Roses at all can grow Dr. Grill, which is much more vigorous than many Hybrid Perpetuals that I know. It is not a show kind, but it is a Rose of the highest merit for grouping in the garden, most free in bloom and altogether distinct from any other. It is almost useless attempting to describe its subtle blendings of a variety of tints, but I notice that all who see it admire it. During the past week it has been very fine, but at its best in the early morning, being then full of rich and wonderful colour, growing paler by night after the scorching cloudless days, of which we have had so many.—A. H.

EFFECT OF HOT WEATHER ON ROSES.

THERE can be no two opinions about the Rose season up till now. From all parts comes the report that the first crop of blooms was not only unusually early, but also of remarkably short duration. Very many blooms never got beyond the bud state, and those that did open scarcely lasted the day out. It must have been a great disappointment to those who, having expended so much trouble on their Roses in the hope of having some good ones for exhibition, to find, now the shows are being held, that they have nothing, or next to nothing, fit to show. The great majority of growers who never think of showing, but who may be equally fond of their Roses as those who do show, will have no such vain regrets, though the disappointment may be equally as keen. Roses are not at home in a tropical heat, and all the while it lasts it is not many serviceable blooms that will be produced, in the "sunny south" at any rate. All we can do, therefore, is to "hope on." When the change comes, and come it must before very long, Rose growers will perhaps recover their spirits more quickly than farmers generally. As far as well-cared-for Roses are concerned, it is not so much a case of suffering from want of water; but, as before hinted, the heat is too excessive for them. Those who could afford to temper the great heat by means of canvas or cotton blinds and other temporary shading ought to have been able to cut some good blooms, but in all other cases only very early risers have been able to cut anything worth having. Unless the present tropical weather lasts several weeks longer, the prospect of good second crops of bloom is decidedly encouraging. Already Teas growing against warm walls have formed a strong second growth, and if only the sunshine was less burning, a lot of good blooms could be cut daily.

So well are they growing, many great sappy shoots being formed, that I have good hopes of being able to cut a profusion of Roses at a time when they are usually very scarce. Those Teas in the open are also breaking strongly, and these, again, may give us many excellent blooms during the next two or three months.

It is somewhat early to write confidently about the Hybrid Perpetuals, but these may also give us a better second crop of blooms than usual. The young growth was not strong, but it is very firm, and I strongly advise lightly pruning all that were not cut over for the sake of cut blooms. Any that were not mulched in the spring will have suffered most, and will continue to suffer from the drought, and if a serviceable lot of successional and late blooms is desired, the ground about them ought to be lightly forked up and a thorough soaking of water given, this being followed by a heavy mulch of strawy litter. It is not rotten manure that is wanted, though amateurs seem to think that it is, and tiny mounds just round the stems are also of little or no avail. Rotten manure cakes badly, and soon fails to exclude sunshine or to prevent the loss of moisture from the soil; whereas, strawy litter spread all over the beds, or to a distance of not less than 18 inches from the stems, keeps the ground cool and moist without actually excluding air. A rather risky proceeding, but one that I shall recommend all the same, is to prune most of the strong, well-matured growths that were not previously shortened when blooms were being or might have been cut. They should not be hard pruned, as that would force out the back buds that ought to remain dormant till next spring, but if they are shortened to the seventh or eighth bud, there would be few or no risks run of forcing these out, and yet several good flowering shoots be obtained. At one time Roses generally were very dirty, aphides being especially numerous. These latter are not nearly so abundant now, but unless a thorough cleansing is given the trees or bushes, there is every likelihood of young broods being forthcoming directly there are soft young shoots for them to feed on. In addition, therefore, to being freely watered and lightly pruned, something in the way of cleansing also ought to take place. Frequent syringings with clear water would be very beneficial in several ways, but they would be still more effective if they were preceded by a thorough drenching of the top growth with either soapy water, soapsuds, diluted tobacco water, or a decoction of quassia chips and soft soap. Thus treated, there is every likelihood of the trees and bushes producing more good blooms in August and till frosts intervene than has been the case for many years, thereby compensating for disappointments earlier in the season.

Thanks to the firmness and early maturity of the young wood, Rose cuttings properly treated should strike root very readily this summer. Of the value of a good stock of own-root Roses little need here be said. Most rosarians would like to have a good stock if only they could raise or procure them in quantity. In the autumn well-matured growths cut into lengths and in every respect treated similarly to Gooseberry cuttings will usually strike root quite as freely as the latter, and so also can cuttings of a different description be struck easily at this time of year. Hand-lights or large bell-glasses are necessary for summer cuttings, those being set on a north border, about 3 inches of fine gritty, loamy soil being substituted for the ordinary ground. The best cuttings are young shoots that have only a short time previously produced a bloom or blooms, these being taken

off with a heel or thin piece of old wood attached, and the tops shortened to about three leaves. They must not be allowed to flag, but should be dibbled in moderately thickly and firmly fixed very much as they are prepared. Being kept uniformly moist at the roots, close and carefully shaded from what sunshine reaches them, the majority will strike root, and may eventually be placed singly in small pots or transplanted to nursery beds. Cuttings of Teas and Noisettes are very clean and good this season, or equal to what can be had from trees under glass, and it is not often that such a good chance of raising a batch of own-root plants offers itself. I. M. H.

A RIVAL TO GLOIRE DE DIJON.

I HARDLY expected that "A. H." would have gone to the Noisettes for a rival for the magnificent old Tea Gloire de Dijon. I agree with "A. H." (p. 525) that both are grand Roses with high and distinctive merits, but cannot follow him to the end of the sentence that Bouquet d'Or is the better of the two. True, it flowers in clusters, grows as strong or more strongly, but few will contend that it is as hardy as Gloire de Dijon. Whereas, as to forming a fine bush in the open, have not many complained that in not a few localities Bouquet d'Or needs a wall or a very sheltered spot to enable the flowers to open freely? But in any case these two Roses are almost too distinct to be pitted against each other. And as to rivals in the same family of Teas, one searches in vain for them in such more or less close imitations as Mme. Berard, Belle Lyonnaise, Beauté de l'Europe, &c.

As to the Gloire de Dijon, I can only say the longer I know it the more I love it. We have just passed through an exceptional season for Roses. Among the last to leave us last December and the first to greet us this April and May was the Gloire de Dijon. Those, however, who are content to grow this Rose only on south or warm walls hardly realise a tithe of its charms of form, colour, and fragrance. Grown on every available aspect of walls, houses, and outbuildings, there are few houses that might not be enriched and enlivened from the open air most of the year. Then what a bed, border, group, mass, bush, pillar or pyramid it makes! Give this Rose a rich root-run below and sufficient area above, and mark what a blaze of golden and salmon it shoots across the most sombre landscape. If so much golden beauty needs a foil, it had better be found, not in other Roses of similar colour, but in such fine varieties as Paul's Pink Rover, Turner's Scarlet Rambler, or La Franc.

Even as a wall clother, a climber of church steeples, a draper of church walls, as a rule the squarest and ugliest objects in landscapes unless covered with Ivy, Gloire de Dijon has, as a rule, been far too much cribbed, cabined, and confined.

The writer has seen a few on churches, has heard of more, and hopes to see them all clothed with grace and beauty. Homère for the highest heights, Gloire de Dijon with William Allen Richardson and the white Banksian or Climbing Niphetos for white-robed purity and rich bronzes, with Marie van Houtte for soft creamy basement lines, would convert every church, house, or large building into a thing of beauty and a joy for ever. How our Roses, cut down into mere skeletons, that their solitary units or bunches of threes with buds and foliage may fill our show boxes, must fret and fume to have their heads in the pure air and their roots in the richest soil we can furnish them. Let Gloire de Dijon and other free-growing Roses have free course and uplift the dreary pall of monotonous landscapes. D. T. F.

Sweet Briars.—I have not yet read a word but of praise in favour of these, but as an interested observer of all that is done among Roses, I must confess to thinking that the naming is decidedly over-done. I saw and carefully examined the col-

section described by "G. II." in THE GARDEN of June 21 (p. 525), and though freely admitting that there were pretty things with distinct colours, there was also too much similarity. I had that morning seen the common Sweet Brier in a place where it has been planted by the thousand, and noticed a fair amount of natural variation in tint, so much so in fact, that the merest diversity of shade in the hybrid forms hardly justifies another name. These hybrids will not be great garden Roses in the sense that the fine Teas and other kinds are. At present mostly single, their value for planting is only equal to that of other single kinds; therefore let us have them in fewer numbers and absolutely different from the parent and each other.—A. H.

A good garden Rose is the variety *Augustine Guinoisseau*, raised by the French rosarian Guinoisseau in 1889. It is a beautiful flower, very free, and deliciously fragrant. Of the many varieties in collections, this is one of the more noticeable for its powerful scent; hence its common name of the white *La France*. The colour is white, with just a trace of delicate rose, and the plant blooms over a long season. It is not an exhibition Rose really, although that matters little. We can afford to do with a few more such Roses, free, vigorous, and with delicately tinted flowers of strong fragrance. It is quite time that raisers paid some attention to scent—the most acceptable virtue in a Rose, but often overlooked.

Rose Gloire Lyonnaise.—This is a grand Rose, especially when pegged down. That is the way to obtain the maximum quantity of flowers from strong growing Roses. This kind is the best of all for pegging down, as the flower shoots are very erect and usually long enough to hold the flower high up and prevent splashing with dirt during rain. When pegging down was largely advocated a few years ago, doubt was expressed by some who recognised the merits of the plan as to whether a Rose would go on year after year sending up shoots strong enough for the purpose. The group in question was planted in 1887 on a bank of deeply trenched soil. The plants have been pegged down yearly since, and this season some of the shoots put down were over 6 feet in length, whilst others that will be put down next year are now nearly a yard high. No feeding or manure has been given the plants, but most of the time the ground has been surfaced with the mossy *Saxifrage*.—A. H.

Rosa lucida.—In selecting single Roses this North American species must not be overlooked, as it forms a handsome bush that flowers with great freedom. It is very effective when from 3 feet to 5 feet in height, as it forms a dense bush clothed with bright green glossy leaves, nestling among which are the deep rose-coloured blossoms. Apart from the flower's other distinctive features are the shining foliage, from whence the specific name of *lucida* is derived, the bright red fruits so conspicuous in autumn, while at that season the decaying leaves are very noticeable. They die off richly tinted with various shades of brown and red, especially if the plant is growing in a spot fully exposed to the sun.—T.

Tea Rose Ethel Brownlow.—Ethel Brownlow is fast proving to be the best of the recently introduced Teas. This Rose was sent out in 1887 with Earl Dufferin and Lady H. Stewart, a grand trio which have met with no small success at the shows. Ethel Brownlow is a Rose of perfect form and colour. Its blooms, imbricated with a pointed centre, are salmon coloured, sometimes much flushed with rose, with the base of the petals of a yellowish hue. One of the best qualities of this Rose is its perfect lasting powers. At the recent show at Earl's Court, Ethel Brownlow stood erect and had not turned a petal, while nearly all the Teas around it were drooping from the heat. It has lasted over ten days in a cut state with me, and is an ideal button-hole Rose in all respects save for fragrance, which unhappily it does not possess. This year I notice Ethel Brownlow had the honour of a separate class for twelve blooms at the Crystal Palace show. The blooms staged were uniformly

good all through the show with two or three superb examples. It bore no slight resemblance in some cases to *Comtesse de Nadaillac* and *Mme. Cusin*. Ethel Brownlow is very free blooming, nearly every shoot being crowned with a bud, and as such is a good garden Rose. Its exhibition qualities have already been proved beyond a doubt, and it is a Rose which everyone should grow.—R. A. JENKINS, *Highgate*.

SHORT NOTES.—ROSES.

Rose Magna Charta.—This deserves a note for its specially sweet scent, and it is quite the type of Rose to have in a good group. It is free in growth and bloom, with flowers of a clear soft rosy pink.

Tea Rose Narcisse.—This is a charming kind and very free blooming. It is almost like *La-marque* in miniature, dwarf, compact, and with every shoot terminated by a cluster of flowers. In the bud state it is specially charming. In colour it is of the palest sulphur, fading to cream-white as the flowers expand fully.

Rose Augustine Guinoisseau.—This, of the more recent new Roses on trial, has been the most striking, and appears to be a decided acquisition. There have been many fine flowers of it lately, and upon own-root plants, too, happily. It was sent out in 1889 as a nearly white *La France*. It is white externally, but tinged with rose which deepens towards the centre of the flower. The flowers are of charming form with pointed petals. It will be a fine Rose for grouping, and capable of producing a fine effect. Anyone intending to add new kinds in the autumn may safely include this.

FERNS.

MAIDEN-HAIR FERNS (*ADIANTUM CUNEATUM*) IN THE SUMMER.

It is not everyone who has favourable houses for the growth of this popular old Fern so as to provide a supply of cut fronds of enduring character. The growth made when mixed up with other plants is not always of the best description. It may look better, it is true, darker in colour and so on, but this is not the kind of material to last fresh when cut. What is wanted is a light, well-ventilated house with good control over atmospheric moisture, the plants being as near the glass as possible and in no sense overcrowded, otherwise the lower fronds, and others where the growth is dense, will either turn yellow or damp off. Damping off spreads rapidly in a humid and close atmosphere with possibly no fire-heat. This latter accessory cannot be considered essential by any means, being all the better for the plants if dispensed with entirely, provided other means are equal to the case. By this I mean a proper system of ventilation both by night and day, with no overshadowing from other plants. At all times should air more or less be left on; by this means there should be no signs of moisture deposited upon the plants in the form of dew in the morning. The greater part of the watering should be done early in the day, with no late evening damping down. By this means a good lasting growth will be obtained, the fronds of a pale green, with small pinnae as compared with others grown in more moisture, more warmth and more shading, these having larger pinnae and fronds possessing a deeper shade of colour that is not nearly so beautiful as the former. What may be termed the cool treatment as aforesaid is not nearly enough seen in practice. Many growers do not, I think, sufficiently realise the fact that this Fern is but little removed from a greenhouse plant as to its actual needs.

On the other hand, it is also possible to grow it thoroughly well in houses with heat and moisture, but in order to do this in the best possible

manner two or three points have to be considered. Firstly, the position should be one with a large amount of light, for I would rather shade plants in cool houses than in those heated at all, so as to act as a deterrent to over-luxuriant growth. Secondly, the plants in warmth should of the two be in smaller pots proportionately to those in the cool, and for the same reasons; and thirdly, the watering ought not to be excessive, nor overhead syringing be permitted. In this way it is quite possible to so manage the plants as to make them in every way valuable. In no case should over-potting be permitted. To fancy that fresh potting is needful every year is altogether a fallacy. It may be urged by some that they cut such a quantity of fronds, and therefore the plants need to be repotted; whereas, in fact, quite the opposite is the case. Take two plants, for instance, in health and of equal conditions in all respects; pot the one, giving an average shift and treat in the usual manner, leaving the other not potted at all, but assist it, if needful, by manure water and clear water also in plenty. When the growth is fit for picking, treat both plants the same, cutting them hard if needful, and after this note which plant of the two will afterwards recover itself and be presentable in a given space of time. The plant that has been repotted will stand the greater risk of losing its roots, or at any rate of having them weakened considerably. Given two such examples, methinks I can fancy how the fronds of the non-potted one will be sought for first, simply because they are the most suitable for cutting. I am not going to assert that repotting is to be reduced to absolutely no potting at all, but if the plants had about half as much of it as they frequently receive, it would be all the better for them after they have arrived at a serviceable size, and even prior to that less would often suffice.

When the house room is not sufficient to accommodate the plants satisfactorily, and there are pits or frames at disposal, let these be turned to account for their occupation. We have a large stock that cannot now be accommodated in any other way than in this manner. The surface is a bed of ashes, the depth being sufficient to allow of the plants standing upon 6-inch pots inverted, this being much better than close upon the ashes. Top and bottom air is left on all night to prevent any damp, and a very light shading is laid on the glass during bright sunshine, as the plants are close up to it. Here these plants will and must remain until the middle of September at the least, and they are better off than if shaded in houses by either plants or fruit trees. I have seen them also done well in pits with a northern aspect, but here they could remain later, as pipes were provided to keep out frost. If only a more rational mode of culture were adopted with this popular Fern, we should not hear so many complaints of the fronds not keeping in a satisfactory manner when cut. What is wanted is hard fronds, to use a popular phrase, and these can only be had by what may also be termed a hard course of treatment. A young stock of plants should also be coming on to supply the place of those becoming exhausted, as any plant will do in course of time when the utmost possible return is extracted from it.

GROWER.

Platyloma rotundifolia.—I have from John Margotten, of Shropshire, some nice healthy last year's fronds of this pretty New Zealand Fern, which he says has been out of doors in a somewhat sheltered rockery. Although I have tried this plant out of doors upon several occasions, it always died. There is another species which I would advise my friend to try in the same position as *rotundifolia*, and that is *Platyloma Browni*, a fine bold plant. In answer to your inquiry, I do not look upon *Pellaea* as synonymous with *Platyloma*, although the two genera approach each other very closely.—W. H. G.

The English Flower Garden.—Design, Views and Plants. Third edition, revised, with many new illustrations. London: J. Murray, and through all booksellers.

DORYANTHES GUILFOYLEI.

THE engraving here given shows a most magnificent species of *Doryanthes*, which flowered for the first time in cultivation

some five or six weeks ago in our garden. The plant was the admiration of thousands of visitors who flocked here from the city and country places to see it. There are now

four species of *Doryanthes* known, namely: *D. excelsa*, the well-known "spear Lily" of New South Wales, *D. Palmeri*, *D. Larkini*, and this new one which has just been named

D. Guilfoylei by the government botanist of Queensland, Mr. Frederick Manson Bailey, F.L.S. *D. excelsa* is the only species of the four not found in the northern colony. *Doryanthes Palmeri* was hitherto considered to be the most gigantic and showy Amaryllid discovered in Australia, but it is eclipsed in size and beauty by this later discovery. The leaves and flower-spikes are enormous. The leaves are each 9 feet long, over 8 inches wide, and of a brilliant green. From the base of the flower-stalk (which is 15½ inches in circumference) to the apex of the inflorescence is 16 feet 2 inches. Of this, 7 feet 8 inches is a compound spike of rich crimson Amaryllis-like flowers, each 4 inches in length, and supported by 8 feet 6 inches of stalk. The plant was discovered by a brother of mine in the Upper Burdekin Ranges, North Queensland, and when sending the seeds he remarked that it was by no means plentiful, only one patch of it occurring above a cleft of huge rocks, and a solitary specimen about a mile away, from which he fortunately secured fruit. From the leaves a valuable fibre is obtained. This is of great strength, and with proper appliances could no doubt be



Doryanthes Guilfoylei in the Botanic Gardens, Melbourne. Engraved for THE GARDEN from a photograph sent by Mr. W. R. Guilfoyle.

converted into cloth, ropes, &c. Our gardens were aglow a week or so ago with the beautiful *Eucalyptus ficifolia* and numerous specimens of *Jacaranda minossefolia*. We find that there are no less than ten varieties of the former, including deep and light crimson, bright scarlet, orange-scarlet, rosy pink of several shades, a pure white, and several others. Masses of these trees are a gorgeous sight against a dark green background. —WILLIAM R. GUILFOYLE, *Director Botanic Gardens, Melbourne, March 28, 1893.*

KITCHEN GARDEN.

AN IMPORTANT CROP.

CABBAGE, though a somewhat homely vegetable, is yet of the greatest service. Not merely is this the case in large gardens, but it is even more indispensable in the gardens of the middle and working classes. For two springs in succession, Cabbages have been comparatively scarce, being complete failures in many cases, and to make matters worse other winter and spring green vegetables have also been scarce. Nor must the Cabbage be despised as a summer vegetable. During the latter part of June and up to the present time it has been the only green vegetable available in quantity. In some cases what might be termed famine prices have been realised for spring-raised breadths of Cabbage, and it would have paid well to send them from the western and midland counties to the metropolitan markets. It may be that neither trying winters nor excessively hot and dry late spring and summer months will be experienced for some time to come, but, all the same, each ought always to be prepared for. In bygone days the greatest importance was attached to the spring crops, and after the sharp lessons we have had there ought to be no further need to remind my readers that present-day gardeners should attach quite as much value to Cabbages as former generations of growers did.

It seems to me we have done well in discarding some of the more robust varieties in favour of those less reliable if better in quality. Undoubtedly Ellam's Dwarf Spring and one or two more forms which greatly resemble that popular variety are a great advance as far as quality, neatness and even early hearting are concerned, but there is rather too much of a lottery pertaining to their culture. One season they succeed admirably, while during the next, under precisely the same treatment, disappointment ensues. By all means grow a good breadth of one or more of the neat-growing forms, including the variety most popular in the south-western counties, this being Wheeler's Imperial; but do not altogether ignore such reliable varieties as Enfield Market, Heartwell Marrow, Imperial and Defiance. These stronger growers, in addition to being quite hardy, produce good hearts, not merely in the spring, but throughout the following summer and autumn, always provided they have something underneath to support them. It may not be considered "high culture" to leave Cabbage on the ground long after the first heart has been cut, or say after having given a good early supply, but not many growers are prepared to go to the trouble of forming fresh beds in the spring. This season those who have preserved their beds intact have good reason to congratulate themselves upon so doing, and may again be-

fore the year is out. If these old beds are further supplemented with a few hundred Coleworts, or even only a few score in the case of small gardens, there will be no lack of good wholesome green vegetables up to Christmas. By Coleworts I mean any variety of small, quickly-hearting Cabbage, including Rosette, Little Pixie, Shilling's Queen, Nonpareil, and such like. These ought to be raised in quantity, the seed being sown late in June or early in July, and the plants should be put out thickly wherever space can be found for them.

As before pointed out, it is the spring crop of Cabbage that is most valued, and whether this shall be a success or not is largely determined by the time of sowing the seed. In my younger days, and when practising in one of the home counties, about August 12 was thought a good time for sowing Cabbage seed in quantity, and the results were quite satisfactory. Since the introduction of the neat, early-hearting varieties already alluded to, this date has been found too late, the middle or not later than July 20 being the proper time to sow these. In the midland and more northern counties even this comparatively early date might be anticipated by a week or more, but in every case it is a good plan to make a second sowing from a fortnight to three weeks later, this time including rows or beds of the stronger-growing, later-hearting forms. So great is the necessity for plenty of plants, that a good open piece of ground ought to be given up to the seed-beds, and not some small corner or patch of warm border. An early and successional sowing having been made, more seed being sown directly it is seen there is likely to be a partial or complete failure from any cause, there will be plenty of plants for putting out and some to spare for neighbours should they, as they usually do, need some assistance. Sometimes it happens that the earliest raised plants run to seed prematurely, and it is then when the value of two separate batches of plants is most apparent. Should the season be unfavourable, those plants obtained by sowing in August may fail to attain a size fit for planting out, and once more the prudent cultivator who does not depend wholly on one sowing is on the right side. M. H.

VEGETABLES FOR NEXT SPRING.

THERE will be no lack of ground this season, so that planting need not be unduly delayed, as the Potato crop and early vegetables will be cleared long before the usual time. In my opinion late crops will be valuable on account of the short season. Those planted for the early autumn and winter supply will be required sooner than usual, and thus make later lots more valuable. In this locality Potatoes are quite three weeks to a month earlier than last year, and ground often occupied with crops at this date (early in July) is now vacant and ready for late winter vegetables. I fear in some gardens, unless due attention has been paid to the seed-beds, there will be poor plants, especially where thick sowing is practised. I do not advise too late planting, as unless there is time for the plants to grow it is labour thrown away. On the other hand, by planting quick growing crops and those which resist extremes of weather there will be less anxiety as to the supply of spring vegetables. I am fully alive to the advantages of resting the soil that has borne a crop, but I cannot do it, and I fear there are few who can. That, however, need not prevent good culture, as if the land is well prepared and the rotation of crops of diverse kinds properly carried out, there will be few failures if climatic influences are favourable. One often sees green crops fail simply because one succeeds the other. On land cropped heavily without

a rest, much may be done by varying the crops as much as possible, changing the manure, and digging in green vegetable refuse. This season I have dug in all the Spinach and small or succulent vegetables as soon as done with, and the ground being in a dry parched condition is much benefited. For late winter or long standing vegetables excess of manure does not give the best results, as a hard sturdy growth able to resist severe weather is required.

Coleworts are invaluable for late use if grown in quantity, and though these do not approach the size market growers require, they are valuable in the spring, just at the time other vegetables are running to seed. The hardy greens sown now will furnish good plants, and these may be put out very closely. I usually make three sowings: one in June, another in the first, and the last in the third week in July. These sowings give nice material for six months (from October till April), and for the March and April supply the plants are given a north border. For the autumn supplies the Rosette is sown. This requires more room and is less hardy. There is another point worth attention, and that is these plants seldom fail, being less subject to grub and caterpillars than others of the Brassica family. The Kales should be largely planted where late vegetables are required in quantity. For hardiness, the Cottager's, Buda and Asparagus Kales are valuable. The curled Kales are, perhaps, better known than the first-named. I prefer the dwarf Late Curled to the tall growers. This is hardier and one of the last to run to seed, forming a close compact head and short stem. Leeks may be grown where Onions fail for late spring use; for flavouring or as a vegetable they are serviceable. I prefer a dwarf thick Leek to a long one, the latter being difficult to cook unless cut, more trouble to grow, and, in my opinion, of inferior flavour. Turnips will be none too plentiful this winter, but with genial rains there will be no difficulty in getting a good supply for early autumn and winter use. I prefer Veitch's Red Globe, a variety of great merit. Large bulbs are not the best keepers. For late winter and spring supplies there are none better than the yellow-fleshed varieties, of which Golden Ball and Petrowski are good keepers, and for tops or cutting in the spring Chirk Castle Black Stone is best. This will stand very severe weather, and should be sown in August or early in September. Carrots, owing to the drought, have failed in many gardens, and I would advise sowing this month a short-rooted kind. Those who have Celery plants left over would find these useful if planted on the flat, merely drawing a deep drill to retain moisture and moulding up with a hoe as growth increases. These roots will stand frost and give useful material for soups, or even be valuable as a vegetable late in the spring when the other plants are exhausted. G. WYTHES.

Peas.—Last year I sent to you a note on the value of Prodigy as a second early Pea, but, considering its exceptional qualities, even in such a trying season as the present one I may be forgiven for again drawing the attention of your readers to its merits. I do not think that it is well known, for it was sent out about the same time as some other fine Peas, notably Duke of Albany, and got overlooked in consequence. But I believe it to be the finest variety in its season sent out for some years. In spite of the terrible drought experienced this year, I have been able to pick daily supplies for at least three weeks from two rows sown on March 23. These are now (July 3) over, but filled the gap between early kinds and another old favourite of mine, Champion of England. Most of the early kinds, of which the best was Chelsea Gem, came in practically together, and, in addition to the one named, I grew Veitch's Selected Early, William I., and Exonian. These were sown at different dates, but the very hot weather brought them in within a few days of each other. Champion of England will last until Ne Plus Ultra is fit to gather, and on this latter I shall

depend until the latest kind (Sturdy) comes into use. I used to grow Criterion as a second early, and there is no doubt about its being a very fine kind; but it requires great care in gathering, as its appearance is deceptive, looking fuller than it really is, and unpractised hands are tempted to gather many before they are ready. Returning to Prodigy, it is a very fine Pea, each pod being packed with very large Peas averaging from nine to twelve in a pod. No other kind I grow is liked so much for the dining-table or pays so well for market, as it sells well and, what is rare with large-podded Peas, the crop is very heavy. It is not over-tall, as it averages about 5 feet—just the height that a good cropping Pea should grow.—J. C. TALLACK, *Livermere Park, Bury St. Edmunds.*

NOTES ON THE SEASON.

GARDENERS in particular will have good cause to remember the abnormally dry spring and summer of 1893. With many the difficulties must have been insurmountable, for what with a sandy or gravelly soil to contend with, and this not worked to any great depth, and also a poor water supply, little could be expected in the way of succulent vegetables. Personally, I have not so much to complain of, as the soil being a cold clay, I have been able to keep up a fair supply. The water supply with many is a serious consideration. In many gardens, no doubt, a ready supply could be obtainable at a comparatively small cost. I daresay that some people would think it quite incredible when I state that several thousands of pounds have been expended by my employers for only a very meagre supply; in fact, it is quite a failure. To meet such cases as these, the only panacea is deep cultivation, with a free addition of manure. In fact, I am sure that well-worked soil amply manured will give much better results than that which is poorly worked, deficient of manure and well watered. I have met with several cases this season where Peas and Cauliflowers have been quite a failure on account of the soil being so shallow worked. The old form of double trenching is not needed, for although there are exceptions, there are certainly numbers of cases where kitchen gardens have been quite spoilt for several seasons through the abuse of trenching. Very likely no trenching had previously taken place, but when this did occur, what little good pulverised surface soil there was buried 2 feet beneath the surface, and the crude subsoil placed on the top.

The value of prepared trenches for Peas was never more apparent than this season, the haulm and crops holding out surprisingly well. This season I made the most of the old Celery ground for the main-crop Peas, the rows being in exactly the same position, and as these were freely manured for the Celery, with an application or two of salt during the growing season, the condition of the Peas shows the value of so growing them. Where such precautions were not taken the crop must have suffered seriously, and although nothing can be done now, it supplies a wholesome lesson for another season. Potatoes as a whole are looking remarkably well. The south borders, of course, yielded the earliest Potatoes, but it is not this site this season which has yielded the heaviest crops; in fact, the tops ripened off remarkably quick, the quality not being so good on this account. In the more open quarters the crop is good and the quality first-rate. In many gardens, again, there has been a great outcry from the failure of the Cauliflower crop, and I am sure it would prove valuable if growers would give their experience as to the best plan of raising this. With me the autumn-raised

has been much the best. Of late years I know with many people there has been an outcry against raising the plants in the autumn on account of the time and other imaginary details, but I am sure good Cauliflowers can be grown by this method. A variety which has done good service this season is the large Asiatic. It is not grown nearly so much as it deserves, but all the same it is an excellent variety and well worthy of extended culture. It has withstood the drought remarkably well, the colour and quality being first-rate. On lighter soils certainly the results might not have been so good. I always take the precaution to set out the plants in deeply-drawn drills; in fact, cut out as if for Potato planting, plenty of manure being also worked into the soil.

This has been an ideal season for French Beans, the plants growing away without the slightest check. Grown on well-manured soil, French Beans are a good dry-weather vegetable and prove a veritable sheet anchor to a gardener. So also are Vegetable Marrows. These have simply luxuriated in the dry and hot weather, that is, where amply supplied with water when planted on prepared stations. Small seeds have done much better than might have been expected, and with the genial rains which are now falling at the time these notes are being written, will after all, it is hoped, lead to satisfactory results. Some few weeks since I sent a note as to the great benefit which would accrue by dusting over every morning with soot the seedling Brassica crops for winter use. The result with me is an abundant supply of plants of all kinds, the plants also being a mass of fibrous rootlets, the roots having ramified after the soot.

A remarkable feature of this season is, that although in some parts there have been quite refreshing showers, in others there have been practically none. It is to be hoped that the rain now falling is general, and this being so, it will lessen all anxiety as to the future of winter crops. A. YOUNG.

THE CABBAGE APHIS.

IT is but too obvious that all the Cabbage tribe are terribly infested with aphis just now, and that only tremendous washings by means of heavy rainstorms can get rid of the pests. Pending this desirable consummation, which is not yet general, it seems as if great good would be done could anyone devise a remedy which could be safely applied to every form of Brassicae. The most difficult to deal with just now are Cabbages that are either now or fast becoming hearted, and therefore ready for use. Some of these heads are so foul with aphis, that they are literally smothered and quite unfit for eating. To keep them in the garden is simply to encourage the spread of the aphis, whilst they may be acceptable as cattle food when grass is so short. Where they cannot be so applied the best course seems to be to cut them off, but not too low down; remove carefully also all leafage, tread the Cabbages into a large hole, and cover over with a thickness of several inches of soil. When the Cabbages decay, the aphis would probably die also. Even to Cabbages that are only partially affected with aphis it is very difficult to apply any remedy for the destruction of the insects that may not be obnoxious. Insects are especially troublesome, too, in respect of the Turnip crop. So far it has been found exceptionally difficult to preserve the young plants from the fly or beetle. In this case, however, obnoxious dressings may be applied without danger to the plants or to their future use. There is no reason why the Bordeaux mixture, if there be added to it a strong infusion of soft soap to render it adhesive to the leafage, should not be applied with advantage, and where

the sulphate of copper and lime are omitted a strong solution of soot water and soft soap, to which is added as a dusting later, dry soot, will prove powerful aids to the preservation of the plants. Summer-sown Cabbage plants, Lettuce, Radishes, &c., seem to need similar protection from the fly. Some recent showers have been helpful, but a day's hot sun seems to dry up the ground and leafage and leave the myriads of insects as harmful as ever. A. D.

ORCHIDS.

AERIDES LAWRENCEÆ.

I REMARKED when looking through the Barford Lodge collection of Orchids a few weeks ago that *Aerides Lawrenceæ* was showing its spikes, and now having received some flowers from "A Lover of *Aerides*" asking various questions respecting this genus, a few words upon these plants might be acceptable to many of the readers of THE GARDEN. This plant, introduced by Mr. Sander about ten years since, is nearly allied to *A. odoratum*, but of gigantic size. The original plant was bought by Sir Trevor Lawrence in the sale rooms for 235 guineas, and a figure of it was given in THE GARDEN, Vol. XXXV., t. 702. It still remains the most superb and gigantic member of the genus *Aerides*. The distichous leaves are about a foot long, 2 inches broad, and of a rich deep green; the spike is long, and carries a many-flowered raceme, the flowers being large and very fragrant; sepals and petals pure white, tipped with a rich purple blotch; lip also white, fringed in front with rich purple, the large incurved spur being tipped with green. I have seen the species blooming in the months of November and December, and indeed at any time between the month of August and the last month in the year, and now in July I have the variety *Sanderianum* sent me. It appears to be most natural for it to bloom during August and September. It varies somewhat in its depth of colouring and in the density of the raceme, but in all the colour of the flowers is waxy white, marked with rich purple, whilst in the variety *Sanderianum* now before me the spur appears to be slightly more incurved and the ground colour more of a yellow hue, marked in a similar manner to the typical plant, with a few purple spots on the front of the lip. *A. Sanderianum* has been made a variety of *Lawrenceæ*, and justly so, I think, for I really can see nothing but colour to separate them. Other plants belonging to the same section well deserving culture and attention are the following:—

A. QUINQUEVULNERUM.—A plant with long deep green leaves, which are folded together at the base. This bears a very long spike, carrying a dense raceme of showy flowers, which are waxy white, tipped with very bright purple, the incurved spur green. This appears to be a very slow plant in making a stem, but it is one of the most beautiful of the family. It was sent to the Messrs. Lodiges, of Hackney, by Hugh Cuming fifty-seven years ago, so that it is not by any means a new species.

A. SAVAGEANUM is a newer plant, having been introduced by Mr. Sander some four or five years ago. It is a very richly coloured species, and it also appears to be very free floweriog. The sepals and petals are of a crimson-purple, and the lip deep crimson with a small, straight green spur.

A. VIRENS comes near to the old *odoratum*, but it has longer racemes and the flowers are more loosely arranged. There are several named varieties, varying mostly in the depth of colour of their flowers and in their size, but all of them have the

spur much incurved. The flowers are pure white, tipped with bright purple and very sweet-scented.

A. SUAVISIMUM.—This is more lax in growth than *odoratum*, and the flowers, more distantly set upon the long spike, vary considerably in size in the different varieties and also in the colour. All, however, are more or less white, tinged with mauve or lilac, with a slightly deeper blotch on the tip of each sepal and petal; the lip flushed with a shade of orange or buff. The best and most distinct varieties which I have seen of this plant were in the collection of Mr. J. Jones, Whalley Range, Manchester, where many fine specimens of the distichous-leaved East Indian Orchids were grown.

A. ODORATUM.—This, the plant upon which the genus was established, was discovered in Cochinchina upwards of a hundred years ago. It appears to be widely distributed in the East, and many varieties have been named which do not differ much in general character from the original type. The form called *purpurascens* would seem to differ the most in appearance, having stouter growths, with larger and broader leaves; the raceme, too, is more dense and the individual flowers brighter in colour. Besides the above there is a form called *Dayanum*, which bears a more massive flower, another called *majus* having longer racemes and more brilliant flowers than the ordinary type. The variety *birmanicum*, introduced recently by the Messrs. Low, of Clapton, has smaller flowers, with fewer markings on the lip.

All the *Aerides* will do well if kept in a house the temperature of which does not fall lower than about 58° or 60°. *A. quinquevulnerum* and some few others require a little warmer position through the winter months, but care should be exercised in giving them moisture in order to prevent the leaves shrivelling and falling off.

WILLIAM HUGH GOWER.

Disa grandiflora.—Fine flowers of this superb plant come to hand from "E. J.," who says he has one spike bearing five flowers. In its native country it flowers about the end of February and the beginning of March, at which time the plant is just beginning to grow nicely with us. During the growing season it likes a nice moist atmosphere. "E. J." says the old name of *D. uniflora* would not apply to his plants, for he has none with less than two flowers, some three, a few with four, and one with five blooms on the same raceme. This I have seen several times, and upon one occasion I saw seven flowers upon one spike. The flowers vary a good deal in colour, some being, as in those now before me, bright crimson, flushed with rosy purple, while others are rosy pink and orange-red.—W. H. G.

Galeandra Devoniana.—A charming variety of this plant is now flowering in Sir Trevor Lawrence's collection, its large flowers being exceedingly handsome and uncommon. I cannot think why this plant remains so short-lived under cultivation. When I was with the Messrs. Rolleston at Tooting we imported a quantity of it from the Rio Negro district with the white form of *Cattleya Eldorado*, and many of the pseudo-bulbs were 5 feet or more in height and few less than 3 feet. These had been growing in a thick, deep vegetable mould, which induced me to grow the plant in leaf-mould, and with good results. The plants were placed in the hottest house we could find for them and kept nicely moist through the winter months, and I cannot but think if similarly treated it would become a permanent occupant of our plant houses. The flowers are large, helmet-shaped and borne upon the top of the stem in a large cluster; the sepals and petals purplish brown, with a narrow border of green; lip large, the colour white or creamy white, flushed at the apex with rosy purple and pencilled with lines of deep purple.—W.

Vanda Hookeriana.—An extremely fine variety of this very beautiful species is now flowering in the collection at Burford Lodge. It stands

along with *Anthuriums* and other stove plants, but in a position where it constantly obtains the full sun. The plant was first introduced some time in 1862 by the Messrs. Low, of Clapton, from whom I had a plant, but I failed to establish it. I am glad to see it flowering and doing so well with Mr. White with apparently so little care.—W.

Cypripedium Rothschildianum.—A flower of an excellent variety of this superb Lady's Slipper comes from Mr. Deacon, Bowdon Hall, Cheshire. He says it is from a plant which is bearing five flowers upon two spikes. I do not think this is anything extra, for I have seen the same number of blooms upon one spike, and these were all open at the one time. The variety is apparently very good and I have not the slightest doubt but it will improve. It should be repotted as soon as possible, which will cause it to gain strength, and from this plant another year you may get two spikes, each bearing five flowers.—G.

Thunia Bensoniæ.—This beautiful species is now flowering freely in Sir Trevor Lawrence's collection. The flowers grow in large terminal racemes or umbels, and are of a fine light magenta colour, the lip being open and veined with a very deep magenta, having a deep stain of orange on the disc. *Thunias* are very useful for stove decoration. After the leaves have fallen, remove the plants to a cool stove and keep them dry, but not to shrivel the bulbs, until about the month of March, when they should be shaken out, the roots trimmed, and be repotted. Drain the pots well and use for soil good peat fibre and Sphagnum Moss.—G.

Bolbophyllum barbigerum.—This very singular plant was imported between fifty and sixty years ago. It is now flowering in the Burford Lodge collection, where its long purple threads, which form a brush on the lip, are set in motion by the slightest current of air, rendering it a very curious and interesting plant. This and many others, which are considered by the majority of growers as unworthy of their notice, but many of which are most beautiful when examined, find a home at Burford Lodge.—G.

Epidendrum vitellinum majus.—"W. H. G.'s" remarks as to the successful growing of *Epidendrum vitellinum majus* are to the point, and I think he has hit the mark exactly in drawing attention to shading and moisture. Some Orchid growers put down my success to the sea air, but if so, how is it my neighbours do not succeed? And how about growers actually on the sea coast? My *Odontoglossum* or cool house in which these plants are grown is shaded almost the whole day long by my residence, which does not allow the sun to shine upon it except in the early morning. I have two open tanks in the house, one occupying the whole space under the central stage. These are the contributors to my success, shade and moisture, as so ably pointed out in "W. H. G.'s" notes.—REGINALD YOUNG, *Liverpool*.

SHORT NOTES.—ORCHIDS.

Epidendrum alatum (J. H. Reeve).—The flowers you send are evidently of this species. I cannot think what caused you to imagine it to be an *Oncidium*. It has little to recommend it saving its slight fragrance.—G.

Cypripedium Curtisi.—From the Rev. E. Handley's collection comes a really fine variety of this species, the dorsal sepal being larger than usual, whilst the lip is enormous. If this was only a little brighter in colour the variety would be valuable.—G.

Aerides Godefroyanum (J. Inwood).—Yours is a fine variety of this plant, and not, as you suppose, a form of *Houlletianum*, which is nearer to *A. falcatum*. This was introduced from Cochinchina by M. Godefroy, after whom Reichenbach named it, and it is figured in "*L'Orchidophile*" for 1887.—G.

Cypripedium Parishii.—"M. M." sends flowers of this species, which are not, as far as I can see, out of the way. This Lady's Slipper likes plenty of heat and moisture. It grows naturally on the branches of

trees in the company of a Fern (*Drynaria quercifolia*). It enjoys plenty of heat and moisture, and the pots should be exceptionally well drained. It also likes full exposure to the light, but it should be carefully shaded from the sun's rays, or the leaves will suffer in colour.—W.

Oncidium leucochilum.—This distinct species, introduced from Guatemala as far back as 1823, is blooming freely at Syon House. The spike is of great length, and a considerable time elapses before full development. The colour of the flowers is charming, the lip of the purest white, the side lobes pink, whilst the sepals and petals are green, barred with chocolate.

Aerides crassifolium.—Andrew Cochrane sends me a portion of a spike of this fine Burmese plant, which was first found about thirty years ago by the Rev. Mr. Parish. The flowers are large and of a very bright rosy purple; the plant itself is a robust grower, with stout leathery leaves. I should be very glad if the grower that informed me last season that he possessed a pure white form of this species would let me know if it is flowering with him this year, and if so, would he spare a blossom for identification?—G.

Miltonia Regnelli purpurea.—J. Fletcher sends me a flower of this variety for a name. The species, I believe, I flowered first in England, and this was called Mr. Rucker's variety when it was first known. The colours are very rich, the sepals and petals being soft rosy purple usually with a white marginal border. In the flower now before me the colour runs right through, and the flat lip is rich purplish magenta. This plant comes from a warm part in Brazil and thrives best in the Cattleya house.—W.

Masdevallias.—"J. B." cannot think why these plants produce such small flowers this season. His plants of the various forms of *M. Harryana* do not produce blooms more than half the size they did last year. This, no doubt, is owing to the great heat of the season, and I have heard the same complaint from growers having a far better place for their plants, viz., a north house and in constant shade. The flowers are bright and rich in colour, but the complaint about them is that they lack size.—W. H. G.

Top-dressing Calanthes.—At this season of the year, when *Calanthes* are in active growth and the roots working freely, I find they are much improved by a little top-dressing composed of dried cow or horse manure rubbed through a sieve, some turfy loam and Sphagnum Moss. This should be spread over the surface to the depth of half an inch and pressed on rather firmly. A top-dressing of this kind will be much better than gorging the soil with manure water, as this is apt to make the soil sour. Liquid manure may be used, but only in a perfectly clarified state.—A. YOUNG.

Petroleum as an insecticide.—Although petroleum as an insect destroyer has been prominently before the public for several years past, yet many people still look upon it with doubt. Extreme care is needed in its application, and from the want of this no doubt many failures have occurred. Now that it is being recommended as an effective insecticide for summer use on fruit trees, yet more information will be needed as to its use and effect on various subjects. As to its being effective in killing red spider on Gooseberry bushes there can be no doubt; but, on the other hand, there is the flavour of the fruit to be considered. Those who may have used it for this purpose will perhaps tell us whether any ill effects follow when used in this way. I note that Mr. Wythes for the last year or two has written in favour of Bentley's soluble paraffin. Upon the strength of this, last year I procured some, and although I did not use it during the summer on fruit trees, but only at the dormant season, it quite bore out what Mr. Wythes has stated in its favour. The ordinary petroleum of commerce was also used, and I must say that both proved efficacious. Petroleum has also been recommended as a winter dressing for Vines, but extreme caution is needed with these.

I have heard of two or three instances where Vines were totally ruined, the eyes failing to start. I used it some years ago on all our Vines with no ill effects.—Y. A. II.

ORCHARD AND FRUIT GARDEN.

GRAPE LADY DOWNE'S SEEDLING.

COMPARED with twenty years back, this fine Grape is not now grown so extensively as then. This, no doubt, is caused by the extended culture of Gros Colman, which may be a better Grape to look at when it is well coloured, that being none too frequently. The larger berries, the freedom with which they set, and the heavy crops that the Vines will carry have also told in favour of Gros Colman. When, however, we consider flavour as being the most essential feature, which it should be in all private establishments, then the preference must be given to Lady Downe's Seedling; whilst at the same time it will keep better late into the spring. Where it is requisite that the old Grapes should meet the new ones in the latter end of April or of May, then the subject of this article must likewise be placed in priority to Gros Colman. I used to have a span-roofed house filled mainly with Lady Downe's, in which about 500 bunches would be hanging at Christmas-time every year. This crop made the matter of lasting out until new Grapes were ripe an easy matter, and year after year no difficulty was ever experienced in keeping the fruit when well ripened. Whilst upon this point it is as well to add that there is at times a tendency towards shrivelling if the fire-heat be carried on too late in the autumn at too high a standard. For my own part, I prefer to ventilate quite freely and lower the temperature also by the end of September. Soils and situations have also undoubtedly influence in this matter of shrivelling. In one instance where the greater portion of the border was inside I rarely found shrivelling give any trouble, but in another house with staging and brickwork in plenty, both tending to a drier atmosphere, I have had some trouble at times to keep it in check. I consider, moreover, that any tendency in the Vines to make a late growth, which Lady Downe's will oftentimes do, should be checked as far as possible. Upon this also depends the good keeping of the fruit without a doubt, for not only should the Grapes be well ripened, but the wood also; otherwise the foliage, which is not beneficially affected by the fully ripened wood, will remain green the longest and thereby draw its sustenance in a manner from the bunches themselves. On reference to the engraving accompanying these remarks, it will be noted that the bunch is a well-thinned one with daylight here and there showing between the berries. This is as it should be, so as to ensure a good state of preservation when less favourable weather sets in with the fall of the leaf. It is far better to thin well at the proper time than to leave the berries sufficiently thick for them to press each other tightly when they are coloured and swelling has ceased. Where scalding gives any trouble a little allowance can be made for this failing, but not much, for with top and bottom air left on all night in just sufficient quantity to prevent accumulated moisture upon the berries there need not be much fear of it. The thinning where done with a sparing hand at the proper time will almost inevitably have to be done later on when the berries are coloured,

for here and there a berry will show symptoms of decay and give a lot of trouble in extraction. No inside berries in berries of Lady Downe's should ever be left at the last thinning. My practice is and has been for more than twenty years to cut and bottle the bunches the first week in the new year, but I have rarely found it requisite to commence using them before February or even March, when the flavour is considerably improved; at any rate, such has been my experience of this Grape. Something more than twenty years ago I on more than one occasion exhibited boxes or baskets of 12 lbs. weight in March and April, when I

of the stock of fruiting plants. Some of them were much injured by the severe frost of last December and January, but the crops are generally good. I notice that Duke of Edinburgh (Moffat's) is much favoured by market men. It certainly is of hardy constitution, very productive, and of large showy appearance (always an item of much importance with market fruits). While some have suffered from the effects of drought, I have no complaint to make from the absence of moisture. Liberal mulching with half-decayed manure in early spring has saved us from all trouble of watering, and plenty of fine fruit is being gathered. —M. TEMPLE, *Carron House, Stirling, July 6.*

Feeding Vines.—The value of liquid manure is not sufficiently known, as often unsuitable soil may be made fertile by abundant supplies of liquid either from the cow yard or stables. Having a very light soil to deal with, I have found cow manure of great value, especially for young Vines. As is well known, such manure applied in a green state clogs up the soil, and it should either be mixed with loam (spent Mushroom manure in a dry state is excellent) or be placed in heaps and allowed to get partially dried. In such a state it is valuable as a surface-dressing on light soils. When applied to the surface of the border, in a few weeks the soil will be full of white healthy roots that will be ready for a surface-dressing of heavier material in the winter. Not only is the cow manure good for the roots, but it retains moisture and keeps the houses at a more even temperature, thus preventing the spread of insect pests. In stiff, heavy soils another manure equally valuable for top-dressing is night soil, provided it has been thoroughly prepared. It is a valuable manure when mixed with loam, or, what is better, with burnt refuse, wood ashes, or charcoal refuse, allowing it to remain a few months after mixing before applying it to the Vines as a top-dressing.—G WYTHES.



Grape Lady Downe's Seedling.

was offered 15s. a pound for the lot, and all I could supply of like quality. What a contrast this with the prices now ruling at the same season. GROWER.

Strawberries in the north.—Notwithstanding the great numbers of new Strawberries which have been raised and sent out of late years, I find that in most Scottish gardens the varieties cultivated are few. The northerners retain those (if ever so old) which give the best returns and which can be depended upon for hardiness and good constitution. None as far as I have seen (while visiting gardens very wide apart) are valued so much as President and Vicomtesse Héricart de Thury. Rarely can one visit a garden where these two well-known varieties do not form a large portion

STRAWBERRIES.

To have a full supply of Strawberries for at least two months in the summer should be the aim of everyone in possession of a garden of even moderate dimensions. There are varieties now which will succeed in almost any soil, and although in some situations it is a difficult matter to secure late Strawberries, it is worth some trouble to extend the season by planting the latest varieties in borders kept cool or shaded by some artificial means. Other fruits may be getting more plentiful in August, but Strawberries never come amiss. I have a variety grown from alpine seed which only requires more size to make it really valuable, being a continuous and heavy cropper all through the summer and autumn.

In a season like the present, when the crop was over by the time (middle of June) we generally commence picking, the variety Héricart de Thury will probably be fruiting again in the autumn. In a warm situation this Strawberry generally throws up a second lot of bloom, but rarely early enough to set a crop before frost comes. Noble has done remarkably well; in fact, it is far ahead of any other fruit crop this season as regards profit. It is evidently a variety well suited to

stand drought, and the quality was on that account much improved. This successful crop was grown on land sloping towards the south, which has had nothing but artificial manure for many years. It is the third season from planting, but the runners have been allowed to partially cover the ground. The most profitable way of growing Noble, where it can be managed either by stocking out the old plants or well thinning the runners, is to allow the runners to grow and keep up a succession of young plants, as the fruit comes much earlier and larger from one or two-year-old plants. The reason the crop has been so good this season on beds managed in this way is no doubt partly owing to the small quantity of leafage, which allowed the sunshine full play amongst the berries, to their great advantage in quality and colour.

To ensure a clean sample of fruit some kind of mulch is absolutely necessary. Where a sufficient supply of stable manure can be secured, nothing will beat a good dressing put on in winter or early spring. This will be a sufficient mulch, but there will even then be a difficulty with the weeds. The best time for planting Strawberries depends a good deal on the character of the season. In the garden, no doubt August or as soon as rooted runners can be secured is the proper time, seeing that a good crop of most varieties may be gathered the following season if the plants are placed in beds 1 foot apart, to be thinned after fruiting, but in the field, where we have to deal with plants by the thousand, either autumn or early spring is to be recommended. As a rule, I prefer spring, but in a season like the present, spring planting, where the plants could not be watered, has been of little use unless done very early, say in February. If delayed till autumn, plant if possible before the middle of October, to give time for sufficient root-hold before winter. If looked after and kept well trod in, plants may be successfully removed in open weather all through the winter. For a late Strawberry Laxton's Jubilee is worth growing, being hardy and a prolific cropper. It is a pleasant surprise to find a nest of the sweet, firm fruits of this variety weeks after other kinds are over.

If asked what was most necessary for the successful growth of Strawberries, I should say firmness of soil. Make your soil as rich as you like before planting, but afterwards tread firm and keep it firm, applying all manure on the surface only. The same soil and even the best of Strawberry soils will not suit every kind alike. Growers will find out by experiment which sorts suit best. In a mixed plantation where the Strawberries are planted between bush fruits, to be cleared away as the bushes require room, of four varieties planted five years ago, Noble (on the original plants) did best, Héricart de Thury suffered from the drought, but the old plants still bear well where sufficient moisture is available, while Paxton after the first two seasons has been of little good, and President a comparative failure from the first. Laxton's Competitor has stood the drought well, and is worthy of trial as a mid-season Strawberry. The runners do not bear as with Noble, but the grown plant is full of fruit and foliage. It appears to be hardy, as I noticed the blooms withstood frost when those of Noble were cut off.

E. W. B.

Raspberries.—The variations of growth found in these fruits in diverse gardens are remarkable. In not a few cases the canes are only fairly stout at 1 foot in height, in others they are stout and full of fruit 6 feet in height. Where such very strong growth ensues, it is a matter of necessity that ample room between the rows be given, and of course very tall, stout stakes are needed to sustain them. On the whole, I very much doubt whether such very tall canes so wide apart produce larger fruit or average crops than do canes that range from 3½ feet to 1 foot in height, and are in rows about 3½ feet apart. Perhaps it may be pleaded that canes so short fruit closer to the ground and the fruit is in such case in danger of getting soiled. That evil, however, might be easily remedied by mulching the rows with long

manure, and whilst the lower fruit is thus kept clean, weeds are checked, so also is evaporation in dry weather. It is not easy for everyone to have plenty of tall stout stakes, whilst shorter canes need only very trifling support, as between planting in stools and in rows trained up to wire supports there is perhaps not much to choose, for both ways are excellent, but the wire support if secured to stout Oak posts is of great endurance, and gives very little trouble in the matter of tying. It is a good time now to thin out young suckers, and should some be needed in the winter for transplanting, to select and preserve the remotest from the stools as being the best rooted.—A. D.

FRUIT TREE PRUNING.

I SHOULD think that paper read by Mr. A. Young on June 7 before the Royal Horticultural Society and published in THE GARDEN of July 8 would be about the stiffest conundrum ever propounded in that quarter. What the author of the paper means I cannot make out, but he is neither an "extensionist" nor a "restrictionist," nor anything between the two, I think. Here are two extracts from the same paper quite opposing each other—

NO.

I am fully convinced that when it is judiciously performed summer pruning is one of the greatest possible aids towards the successful cultivation of fruit in the open air; and amongst really practical gardeners I do not believe there is any difference of opinion as to the system itself, but only as to the time and manner of performing it. At the same time there appears to be amongst some an increasing tendency to allow outdoor fruit trees to grow with far greater freedom, and allow them to assume what is called a natural form, with but little, if any, pruning at all. This, I think, is an evil; for if trees are allowed to carry their whole natural free growth they will soon become so crowded, that, instead of being able to produce fruit of fine quality, it will be small in size and poor in flavour, and only appear at the outer edge of the tree, and not equally over the whole, as it does when the growth is kept well balanced by judicious pruning, and light and sunshine have free access to all parts. I cannot sufficiently condemn what is by no means an uncommon occurrence now—a-days, viz., the stepping right out of the groove of rigid pruning into the very opposite extreme of absolutely natural growth, without any attempt or thought of even thinning out the shoots, so as to allow light and sunshine to have free access.

Readers will see from the above extracts that the "opposite extreme" which Mr. Young "cannot sufficiently condemn" is his own practice, and is attended with unqualified success in "all" his Plum trees, which are no exception to the rule, and shortening a tip "here and there for balance" is not pruning for fruit. In one extract it will be noticed this "extreme" causes "crowding," and in the other a paucity of shoots—"very little annual growth." A more illogical and inconsistent "paper" I never read.

YES.

The dwarfing stocks now largely in vogue have helped to revolutionise fruit growing, or rather the pruning that is required, for with the advent of these stocks, which supplied a want long felt, trees suitable for the smallest gardens or for special positions could be grown of a small restricted size, and be also made fruitful without much pruning or pinching being necessary to produce them. It was the attempt to rigidly restrict the old trees grafted or budded on what is known as the free stock which led to the abuse of summer pinching, as any attempt to dwarf trees on these free stocks by summer pinching or pruning only led to disastrous results, the continual pinching or pruning only causing the trees to produce a thicket of shoots and unfruitful spray. During the past few years I have allowed all our Plum trees, bush as well as standards, to go practically unpruned, save the shortening of a branch here and there to balance the growth of the tree, and I never saw trees in a more fruitful condition, fruit-buds forming right up to the tips of the two-year-old wood, and though very little annual growth is made under this system, yet what there is is short and fruitful. Now if these trees were subjected to rigid annual pruning, a thicket of spray is all we should obtain for our pains.

J. S. W.

EFFECT OF HANDLING FRUIT CARELESSLY.

A GREAT deal of fruit is annually either spoiled or much disfigured by careless handling. In some instances the blame rests with the grower or those responsible for the fruit, and in still more cases it is either the owners or visitors who do the mischief. Peaches and Nectarines approaching ripeness would seem to tempt the latter class, and if not watched very closely or repeatedly checked, they cannot resist giving those that are coloured a squeeze. They little know, and probably heed still less, what an effect those squeezes have upon the fruit. Not only does the outline of the thumb and second finger show very plainly when the fruit is fully ripe, but this disfigurement is quickly followed by decay. Ripening Peaches and Nectarines ought to be touched by no one but either the owner or the person responsible to the latter, and the inexperienced among these are warned not to press them in a careless fashion. On no account should a squeeze be given on the upper surface of a fruit, or a bruise may be unwittingly caused. A very light pressure with the forefinger on the base of the fruit, or close up to the foot-stalk, ought to be all that is necessary to determine the ripeness or otherwise of the fruit. If it is just soft there, then the rest of the fruit is fully ripe enough for gathering, though a few hours or a day or two in a cool fruit room would in most cases improve the quality. After a very little practice it becomes an easy matter to test the fruit in the manner indicated without bruising the fruit in the slightest. A Peach or Nectarine may, however, be quite fit to gather and yet not part freely from the tree; in fact, if they part very readily, the chances are the fruit is either over-ripe or not of good quality, owing probably to over-cropping. They ought to be gathered before they quite reach the dropping point, allowing them to drop into fish nets suspended underneath being a great mistake and a frequent cause of bruised, flavourless fruit being sent to the table. The fruit certainly should not be dragged forcibly away from a tree, but ought to require just enough pulling to part with a slight click. Here, again, practice makes perfect. If grasped too firmly in the hand, this may lead to bruising, and those who are unable to grasp the fruit without thus disfiguring it should have a pad of cotton-wool in the hand. After the fruit is gathered, it must still be handled very carefully. Finger or thumb marks may not show directly, but they do in a few hours. Whether the fruit is to be sent to a long or short distance, it ought to be still handled and packed carefully, never resting on or pressing hard against each other. This may to the uninitiated seem very trivial, but it is nothing of the sort, large numbers of soft Peaches and Nectarines being disfigured between the time they are gathered and the time they are eaten, housekeepers and other indoor servants spoiling much soft fruit by careless handling. Half the fruit that is sent to a dining-room and not eaten in the usual course is of little value the next morning, owing to the ordeal through which it had to pass. Even those who test the fruit at the table will do well in every way to press that part where finger marks will not show.

Apricots are quite as susceptible of injury as are Peaches, and should, therefore, be quite as carefully handled. Some varieties, notably Moorpark, and which happens to be the best of all Apricots, are very difficult to gather, and if it is to be kept two or three days after gathering

the fruit should not be fully ripe when pulled, and should be detached from the tree by means of a good pair of Grape scissors. Figs should also be very carefully handled. They do not, as a rule, part readily from the trees even when fully ripe, and break to pieces if gathered carelessly. When gathering grasp the fruit boldly, yet with a hand of velvet, and with the thumb detach the foot-stalk from the tree. The most richly flavoured fruits are those that are left on the tree till the skins are much cracked and on the point of decaying, but this stage must be anticipated if the Figs are to be sent to a considerable distance, the handling in any case being very carefully done. Plums are of a harder nature, the skins being more elastic than in the case of the other fruits mentioned, but, all the same, there ought to be no careless handling of the fruits. They are most tempting and pleasing in appearance when the bloom that invariably forms on them remains intact, and it is this that should be preserved as much as possible. Curiously enough, judges at flower shows frequently quite ignore this addition to the appearance of a Plum, much-polished fruit being given the prizes for no other reason than because it happens to be fully ripe or extra large, as the case may be. Yet the same men insist upon Grapes, rightly enough, having a good bloom on the berries. The foot-stalks ought also to be saved on dessert Plums as much as possible, and not many will be lost if the fruit is gathered before the dropping point is reached, being detached with the aid of scissors. As they are gathered, lay them in either a flat box or basket with a paper-covered padding of some kind in a single layer and just clear of each other, careful subsequent handling being necessary. Even Cherries show the effects of careless handling. Instead of being dragged away from the trees by the handful, choice fruit ought to have the foot-stalks cut through with scissors, the foot-stalks also serving as a handle for shifting the Cherries with. Apples, like Plums, have fairly strong, elastic skins, and therefore are not particularly liable to bruising. Too often, however, this good quality is strained unduly, as the fruit will scarcely stand being shaken down or otherwise roughly handled. When bruised, they keep badly and are of far less value than would have been the same fruit if less badly used. Pears are among the fruits that are the most injured by being squeezed at the wrong place. At all times they ought to be carefully handled, and when tested as to ripeness, the fruit should be taken in the hand and the thumb pressed against the thin end next the foot-stalk. If it is soft there, then the fruit is quite fit to eat. Should Pears not be used at the time they are tested, the slight bruise caused will not be noticed, nor will it impair the keeping properties of the fruit. Press them anywhere near the thickest part of the fruit and disfigurement is certain.

As already hinted, Grapes are thought but little of if minus bloom, and I need hardly point out how very careful those responsible should be to preserve this as much as possible. No thoughtless or irresponsible persons ought to have free access to a vinery, for the simple reason that very many of them cannot resist pressing some of the berries. Once the Grapes are fully grown, not necessarily ripened, every rub and every squeeze will show, this heedless removal of bloom showing even more plainly when ripeness is reached. It may not be possible, nor is it necessary, to send bunches to the table without a rub of any kind. The best side ought to be kept well laid up, whether the bunches are only to be sent a short dis-

tance or are packed for a distance, and when dished up with the same care, few or no marks of handling or rubbing will be noticeable.

W. IGGULDEN.

YOUNG VERSUS OLD STRAWBERRY PLANTS.

OLD Strawberry plants, by which I mean any that have borne more than two good crops of fruit, were the first to feel the effects of the prolonged drought, not a few of them being burnt up beyond recovery. Under good cultivation, and on soils suitable for Strawberry culture, the plants are seldom purposely destroyed before they have produced three crops, and I have known them remain in a profitable state very much longer, this being principally due to a very free use of sewage water both during the winter and spring months. There are also soils so unsuited to Strawberry culture, that it does not pay to attempt taking a second crop from the plants. Not that a second crop could not be had, but the quality was so very inferior, that the fruit was comparatively worthless. The question is, Do we attach sufficient importance to the value of young Strawberry plants? In other words, are not the older rows still left on the ground longer than they ought to be in very many cases? Old plants, as just previously admitted, can be and very often are made to produce heavy crops of fruit, but what about the quality? How does this compare with that of the fruit of young plants on fresh ground? According to my experience, in the majority of instances the finest and also the best flavoured Strawberries are obtained from plants fruiting for the first time. It is also an indisputable fact that the first gatherings are obtained from young plants, and for this reason I have consistently advocated planting Noble on warm borders afresh every summer, taking one crop, and that an early and heavy one, from the plants, and then, after the requisite number of rooted runners is obtained, clearing off all together. I am not prepared to argue that Noble is of fine flavour under any circumstances, but from young plants the fruit is presentable enough and seldom found fault with. It is the crops from older plants that find so little favour either on the dining table or in the markets. Alice Maud is sometimes condemned for its inferior quality, and there may be good reason for the complaint in some cases. Young plants on fairly strong soils, however, produce grand fruit of superior quality, too. Sir Joseph Paxton does not vary so greatly, but I am yet of opinion that the most luscious and certainly the finest fruits are produced during the first two seasons after planting. Much the same rule holds good in the case of another popular variety—President. British Queen absolutely refuses to fruit a second time on some soils and in some situations, and very rarely do other than quite young plants produce heavy crops of superior fruit. Loxford Hall Seedling, grown on a cool border, yields a fairly good crop of extra fine, richly-flavoured fruit during the season following planting and a good full crop during the second year, after which it is a mistake to leave the plants any longer on the ground. I shall make no further attempt to multiply these examples in favour of my contention that the best flavoured fruit is obtained from quite young plants, enough being adduced to bring home the fact to all who like to have or to grow the best of everything.

In addition to young Strawberry plants being the first to produce ripe fruit of superior

quality, they are also hardier than the majority of those that have lost much of their pristine vigour, or any, say, that have given three good crops. The short spell of wintry weather, that is to say, the three weeks' frost of last winter, was much felt by the Strawberries generally, but although it undoubtedly weakened the younger plants, it did not kill any hereabouts. The older breadths, however, did not come out of the ordeal at all satisfactorily, not a few large plants having been killed outright, while those that survived had not recovered much ground before the severe drought set in. The hardiness of old plants, therefore, being doubtful is another reason why fewer of them should be saved. It is sometimes urged in favour of their being retained longer than I advocate that the third and in some cases the fourth crops are much the heaviest, and if only a few of the fruit are fine enough for dessert, the rest are very acceptable for making into jam. That large quantities are required for the latter purpose there is no disputing, but why not grow one or two varieties especially for supplying this class of fruit? Instead of keeping the finer or high-class varieties on the ground longer than they continue to give the best dessert fruit, would it not be a better plan to clear them off the ground after producing two heavy crops and to grow either Stirling Castle, Vicomtesse Hériceart de Thury, or the old Grove End Scarlet solely for giving preserving fruit in great abundance? The fruit of either of these three varieties can be made into much better jam than any obtained from choice sorts, and which may be much mixed both as regards size and quality.

Doubtless where extra pains are taken in the preparation of ground well suited to Strawberry culture, good room also being allowed between the rows and the plants in the rows, the third and even fourth crops are remunerative enough, but in how many cases are all the conditions favourable to this end? In very few, I think. Too often deep culture and a free use of solid manure are followed by a rank growth of the plants, a plentiful crop of leaves and not very much fruit being the outcome. In other instances the fruit is produced freely enough, but owing to the plants running into each other it fails to ripen properly, especially in a wet season. If ground is trenched for Strawberries, this ought always to be done in time for a crop of early Potatoes to be taken off, and it will have settled down considerably accordingly. It is not the adoption, but the abuse of the practice of trenching for this crop that I often condemn, and shall continue to do so as long as instances of the latter come under my notice. Now, trenching is not possible in all cases, and, fortunately, is by no means an indispensable preparation. Young plants will produce good crops on untrenched ground or any equal to what are obtained by the more expensive and laborious preparation, and there is less likelihood of failure from the looseness and richness of the root-run. Most soils that have been well manured, dug a spade deep, and got into a free working condition will answer well for Strawberries, while if well-rooted plants are got out by the end of July or during the first week in August and well attended to, they will become sufficiently strong to produce a valuable first crop. On moderately strong retentive soils I have not seen properly mulched plants fail any the more quickly from not having a very deep run, and heavy waterings were quite as much needed in the case of those on light trenched soils as by those not having the benefit of this extra preparation, always provided they had not been on the ground

more than two seasons. This season both early and second early Potatoes will be fit for lifting very much sooner than usual, and Strawberry runners, though none too plentiful, are also early. This will give a good opportunity for putting out more young plants than in previous years and of testing my theory as to the superiority of the produce from young plants.

GROWER.

PECULIARITIES OF THE SEASON.

Few people living can remember having experienced such a trying, and in many respects so disastrous a year as that of 1893. Whether we have seen the worst of it remains to be proven. It may be, redeeming features will yet be found, but at present the gains are badly over-balanced by losses, gardeners having nearly as much to complain of as farmers. Curiously enough, the dwellers in nearly every district that I have visited or heard from seem to be under the impression that they have suffered the most both from the heat and drought; but if notes could be compared, it would most probably be found that Dame Nature's favours have been pretty evenly divided. Thunderstorms are frequently very partial. They seem to fall heavily in some localities and pass round others, but then the chances are those who miss the rains on one day come in for their share a few hours, or it may be days, later on. As far as all the counties south of Durham are concerned, the rainfall since February has been disastrously light. What rain has fallen at different times was of little avail against the powerful and constantly sustained sunshine and heat, this almost amounting to what is usually experienced in tropical countries. Those who are on light gravelly soils are by far the greatest sufferers, even if the water supply has not failed, the coolness attending clayey sub-soils being of the greatest benefit, and which no amount of watering in the case of gravelly or chalky soils seemed capable of producing.

Excessive heat, whether or not accompanied by moisture at the roots, is not good so early in the year for the majority of the fruits, flowers and vegetables we cultivate, and if the seasons changed permanently, then we, too, would have to take a lesson out of our American brethren's book and grow selections that would better suit the climate.

FRUIT.

It is very certain the great heat did not suit Strawberries. Although being able to gather ripe fruit during the first week in May was in some respects a boon, I would rather have dispensed with these early pickings and had later, heavier and more richly flavoured fruit. Gooseberries, Raspberries and Currants again have been far from satisfactory as regards flavour, all ripening very early, and the shortness of the season is much felt in many quarters. Caterpillars and red spider have been great enemies to the first and last named, and in many gardens not a healthy bush or any good fruit can be found. In cooler positions and where the bushes are well protected the fruit is fairly large, and hanging well, perhaps, remove some of the acidity from the Currants. Very early also were the dessert Cherries, Morellos likewise being ripe fully a month earlier than usual. The latter are among the best fruit crops of the year. Never before were ripe Peaches gathered from the open walls in the south of England by June 19, and in all probability if standards had been grown these would have given good crops of fruit. The

trees of double-flowering varieties flowered grandly this spring, and so would also standards of the sorts cultivated for their fruit if only they were given the same chance. Not only are Peaches and Nectarines ripening very early, but the fruit promises to be finer and better in quality than often seen in the open. Especially is this the case where the borders have been heavily mulched and watered occasionally, red spider being kept down by means of frequent syringings. Apricots, on the other hand, though equally early in ripening, are smaller than usual. These, in spite of the severe frosts experienced when the trees were in bloom, are exceptionally abundant, and in but few instances has thinning out been severe enough. The most luscious fruits are those shaded by foliage, and it would have paid well to shade the trees during the hottest part of the day. What few standard Apricots are grown should do well this season. During the average English summer they are of no service whatever in any but the most favoured districts. Plums—Rivers Prolific, Morocco, July Green Gage, and De Montfort, none of which ripen during an ordinary season much before the first week in August—were fairly ripe by the first week in July, and if the change to cool weather lasts for two or three weeks, then a long succession of superior fruit should be obtained. We gathered the first ripe Pear (variety Doyenné d'Été) on July 1, Citron des Carmes being about a week later. Pears, where they have not suffered greatly from the drought, in addition to being very early, also promise to be extra fine, Jargonelle and Williams' Bon Chrétien being particularly good. Apples, on the other hand, though more plentiful than at one time thought possible, are yet very small, the exceptions being where the trees have escaped blight and are thinly cropped. Birds are already very busy among them, the soft Codlins suffering most from their depredations. Beauty of Bath and Irish Peach are now ripe enough for use, these forming a close succession to Early Julien and Early Harvest. In the "good old days" August 10 was considered fairly early for the latter to be ripe. This year there will be none left by July 16.

FLOWERS

generally have been very early and short-lived this season, and that is not the worst of it. Not a few have been lost outright and very many more are badly crippled. Annuals even when sown where they were to bloom either came up badly or else failed to attain anything approaching their proper size before they flowered. Herbaceous plants, especially where they have not been transplanted lately, have also suffered very much from the heat and drought, and the Sunflowers and Phloxes are in full bloom, this being a month earlier than usual and before they are wanted. Most probably many of the border flowers will behave as queerly as some of the flowering shrubs are doing, these latter flowering again in several instances. Quite recently all the ends of the young branches on Laburnums were furnished with a flower raceme, and very pretty they looked, too. Roses against walls have given one early crop of blooms, and by the time these lines are in print a good second lot will be at their best. Nurserymen complain bitterly of their losses among newly-moved trees and shrubs generally, and of Rose stocks in particular, one putting the number of the latter lost by himself at about 30,000. Carnations were never more plentiful or much better than they are this season, and these grand border flowers will be more extensively grown during

the next few years than for a long time past. Clematises, again, have been gorgeous, but were far earlier than desirable. Some few things seem to like the hot and dry weather. For instance, the shrubby Hibiscuses, whether grown against a wall or in the open, are unusually fine and very beautiful; so also were Gum Cistuses, but, unfortunately, in both cases the flowers are very fragile and last but a short time. I never saw the common Jessamine flower so beautifully as it is doing this season, the charming white flowers quite scenting the place. Banks of St. John's Wort have been and still are very gay, no amount of dry weather apparently checking either the free spreading habit of the plants or their free flowering.

This has been a very bad season for

VEGETABLES,

and probably there will be no marked improvement for some time to come. Everything has been very early, and in many cases also too quickly over. Peas are the worst failure of the year, no amount of watering apparently saving the crops. The heat was too excessive, and as a consequence the haulm became badly blighted, the Peas in the pods also hardening more rapidly than desirable. I am afraid the change has come too late to save the later rows, most of which are flowering prematurely. Kidney Beans stand the heat well, and if kept moist at the roots prove one of the best of hot weather vegetables. Very promising also are the rows of runner Beans. Cauliflowers are a complete failure, and so also have Lettuces been in many gardens. As far as quality is concerned, Potatoes were never better and rarely so good at this time of year. The crops are not quite so heavy in some cases as desired, but there is no disease nor many faulty large tubers. Really good crops of Ashleaves have been dug that have been grown without any rain having fallen on them from the time the seed tubers were got in, but in these instances the ground was very well prepared for them. Other root crops have proved most unsatisfactory, while Globe Artichokes are both scarce and small, this being largely due to the pinch the old stools had last January. Vegetable Marrows revel in the heat, and some have already been sent to the markets.

M. H.

GARDEN FLORA.

PLATE 919.

SOLANUM CRISPUM.

(WITH A COLOURED PLATE.*)

THIS free-flowering, hardy climbing shrub has found a congenial home in Ireland, where it is frequently seen clothing the fronts of houses and walls, and is even a favourite with station-masters there who have a taste for gardening. It also occurs in Ireland as a large bush; for instance, in the Glasnevin Botanic Garden there is now a fine example of it supported by a large stake, and forming a mass of dark green foliage and graceful corymbs of purple flowers which are attractive all through the summer. At Kew it is planted against a south wall, where it grows very rapidly, and would soon cover a large space if not freely pruned. It is a most useful plant for covering walls and buildings—a spring-struck cutting

* Drawn for THE GARDEN by Champion Jones, June 4, 1892, from specimens sent by Mrs. Robb, Liphook. Lithographed and printed by Guillaume Severeys.



SOLANUM CRISPUM

if planted against a wall in May or June extending 3 yards or 4 yards high and wide before the frost stops it. Although almost an unknown plant in gardens, it is not by any means new, for it was introduced into England by Mr. Anderson from the island of Chiloe about the year 1830. It is said to be common in waste places, hedges, &c., in Chili, occupying the same place in the native vegetation there as our Bittersweet (*S. Dulcamara*) does here. When introduced, it at once attracted the attention of gardeners, and pictures of it were published in the botanical and horticultural magazines of that period. Dr. Lindley saw it exhibited by Mr. Hugh Low, of Clapton, in 1831 at a meeting of the Royal Horticultural Society in April, when it was greatly admired. The plant shown had been grown in a pot and had formed a pyramid with a great number of lateral branchlets, at the end of every one of which there was a bunch of flowers.

If planted out in a rich soil the shoots are very vigorous, and sometimes it is better to cut out the strongest of the new shoots, or there will be less flower than is desirable. It thrives in poor soil, and unless a large specimen is wanted I would recommend a poor soil for it.

The leaves at the base of the stems are much larger than those on the flower branches, being 5 inches or 6 inches long and 2 inches broad. I have been informed that this plant is a magnificent shrub in a few gardens in the south of France.

Another species of *Solanum* which is hardy against a wall in the south of England is *S. jasminoides*. There used to be a fine example of it against a south-west wall in the Pendell Court garden, and I have seen a beautiful picture formed by it against an old building and encircling a tall chimney in the garden of Miss Talbot at Margam Park, Swansea, where Mr. Muir, finding a shoot of it had crept through a broken pane of glass from the greenhouse, had encouraged it to grow outside.

These two species, with *S. pensile*, *S. Seaforthianum* and the king of all climbing *Solanums*, *S. Wendlandi*, are worthy climbing representatives of the Potato family, and deserve a place in every good collection of garden plants. W. W.

THE WEEK'S WORK.

HARDY FRUITS.

EARLY STRAWBERRIES.—There is yet time to form fresh beds of these with a good prospect of success. If strong well-rooted young plants of the favourite early variety or varieties are at once put out on a raised border in front of a south wall and well attended to, they ought to attain a size nearly or quite equal to the production of one pound each of extra early fruit. No other crop better repays for good culture. Seeing that these borders are usually somewhat limited in extent, none but the earliest Strawberries should be grown on them, one good crop from the plants being enough. If the space cannot be had for a change of site, then change the soil, substituting either a loamy compost or else the best fresh garden soil for the best part of top spit that is moved. For these somewhat hot and dry positions, good rotten stable or mixed farmyard manure is the best that can be used, and if this was not dug in freely for the preceding crop, fork it in now. Make the ground perfectly level, all lumps being broken down, and well trample it prior to putting out the plants. As the latter are only to fruit once, 15 inches apart each way will be found enough room for them.

SUCCESSIONAL AND MAIN-CROP STRAWBERRIES.—Unless some of the first early varieties are

planted in a good sunny, open position with the main-crop sorts, there is a risk of a break in the supply. Therefore plant a few rows of both Scarlet Queen, Vicomtesse Héricart de Thury, or other favourite early variety, and follow on with Sir J. Paxton, La Grosse Sucrée, or any other variety that ripens moderately early. Another plantation should be formed in a cooler position, some of the second earlies accompanying Sir C. Napier, Countess, Dr. Hogg, British Queen, and other comparatively late ripening Strawberries. Room ought also to be found for Empress of India, Lord Suffield, Gunton Park, Commander and other newer varieties that are rightly considered worthy of a trial. In low-lying or backward districts it answers best to plant Strawberries on raised beds, these being 4 feet wide with 2-foot alleys between, three rows of plants going to each. If the site for these beds was first staked out and then prepared very much as for Asparagus, the best portion of the top spit being thrown out and then returned to its original position after a good dressing of solid manure has been forked into the subsoil, success will most probably be assured, let the weather during the fruiting season be what it may. In all warm or moderately warm localities, growing on the level is the plan that is most generally adopted. Deep cultivation should be accompanied by extra firmness of soil, this being especially necessary if manure has been freely dug in, or otherwise leaves may be too strong and plentiful for good crops to form or ripen well. If winter trenching took place and a crop of Potatoes be first taken from the ground, it will have settled considerably, but if the trenching has been done recently, then must a heavy trampling or rolling be given, a dry time being chosen for this operation. In all cases where the soil is of a somewhat strong loamy character, ordinary digging and a moderate dressing of manure given to the preceding crop of Potatoes or other quick-maturing vegetables are sufficient, subsequent good top culture keeping the plants in a healthy productive state quite long enough. In any case make the ground firm and level, no lumps being tolerated, and well fix the young plants, taking good care not to bury the hearts of these nor, on the other hand, to expose a portion of the stem. The roots should be spread well out and not cramped up in a hole made with a dibber, while if they have been layered into small pots, see that these are in a moist state before planting. The rows of that strong grower, Sir J. Paxton, and any other equally vigorous variety ought to be fully 30 inches apart, 2 feet dividing the plants in the row. Moderately strong growers, of which President is a good type, may well be put out 2 feet apart each way, while Dr. Hogg, Alice Maud and such like neat growers may be arranged 18 inches apart in rows 2 feet asunder. The planting ought all to be completed by the end of July. If the weather is dry, water the plants occasionally till well established; also keep them free of runners and the ground clear of weeds. If these cultural details are properly carried out, the crop next season should be both heavy and of extra good quality.

LATE STRAWBERRIES.—If Eleanor, Oxonian, Waterloo or other fairly robust late varieties are planted in the open with the main-crop Strawberries, they will give a fairly late supply of fruit. When Loxford Hall Seedling and Latest of All—the two best late varieties—are grown well in the open, red spider is almost certain to spoil them. For these, then, a cooler site should be chosen, and with them Waterloo may well be associated. They succeed admirably on wide wall borders with a northerly aspect, a north-east border answering remarkably well. Two crops are enough to take from these, old plants rarely doing well in cool positions. Seeing also that none of them are strong growers, there is nothing to prevent putting out the plants 18 inches apart each way. If a suitable fresh site cannot be found, change the soil and manure freely as advised in the case of early Strawberries, and start afresh with strongly-rooted plants.

OLD STRAWBERRY PLANTS.—It rarely pays to

preserve the plants in the open after three good crops have been taken from them, some growers being content with two crops. Runners are best obtained from younger plants, and it is unwise, therefore, to leave old clumps that have done their work any longer than necessary on the ground. If they are cut off with a spade, cleared off and burnt with the rest of the rubbish, a good site, without any further preparation, is early available for late Broccoli. The ground being solid, yet not poor, promotes an extra sturdy, frost-resisting growth. Those rows of Strawberry plants that are to be reserved for another year ought not to be neglected for several weeks longer. Directly the requisite number of well-rooted runners has been taken from them, all the oldest leaves and the rest of the runners should be cut away and removed with the roughest of the mulching material. Do not, however, leave the ground quite bare, or cracking and the loss of many surface roots may be the consequence. Leave some of the mulching to decay where it is, this assisting the plants to form strong crowns for next year, and keep the beds free of weeds. This summer those who last season took the precaution to place a few hundred runners into nursery beds will have been able to form fresh beds much earlier than would have been the case if they had been obliged to wait for this year's runners, and there is much to be said in favour of this time-honoured practice. It is also the simplest way of making sure of a sufficiency of well-rooted young plants for pot culture.

W. IGGULDEN.

THE KITCHEN GARDEN.

OPEN AIR TOMATOES.—The fact of ripe Tomatoes being already plentiful from plants growing against sunny walls augurs well for a good Tomato season. Care must be taken that the plants are well attended to as regards watering and stopping. Instead of Tomatoes in the open requiring to be kept dry at the roots, they must be kept well watered, especially if the season should still continue dry and sunny. Whenever the foliage commences to curl it is a sure sign that moisture at the roots is deficient. Plants carrying several trusses of fruit may, if the soil is not over-rich, also have some liquid manure, or a little approved fertiliser may be sprinkled upon the surface, afterwards watering it in. Although good crops may be secured from single cordons, yet if necessary a few secondary branches may be laid in. All that is necessary is to see that each shoot is freely exposed, all secondary side laterals being pinched out as soon as perceived.

PLANTS IN FRAMES.—These are also doing well this season, large quantities having already set, with others to follow. These are more likely to suffer from overcrowding, as on account of their position they are apt to be overlooked. If the plants were set out at the front of a frame, as I have advised in a previous calendar, the growths can be easily trained into position. All the shoots must be freely exposed, and these must also be stopped to prevent further growth, or they will quickly grow into a tangled mass. Do not upon any account close the frame at any time to hurry on the ripening, or an attack of disease may follow. What is wanted is a free circulation of air at all times, the ventilation being increased as the sun gains power and decreased at the close of the day. The plants will require to be kept well watered, and also fed if necessary. The foliage must not be wetted.

GLOBE ARTICHOKE.—As this is now looked upon as one of the most important crops, every care must be taken that the plants are attended to. The Globe Artichoke is a gross feeder. Where large heads are needed, the lateral heads in their earliest stage must be removed. If by chance any of the heads are not cut, do not allow them to flower, but remove them at once, also all old stems. This year's seedlings or suckers will be in especial need of support if the weather should remain dry, a mulch also being desirable. Any old plants which it is not intended to retain for future stock

may have all old rubbish cleared away and the tops cut over about a foot from the surface. These come in useful for Chards, and are blanched in the autumn like Cardoons.

PREPARING FOR MUSHROOMS.—Where a regular supply of Mushrooms has to be kept up, the collecting of the material should now commence, and especially is this necessary where droppings from the stables are only forthcoming in small quantities. It is not necessary that the material should be wholly droppings; quite a third of short strawy litter should be collected with it. Nor must the mistake be made, where only a small quantity is available, of laying it out so as to become dry and hard, as if so, its virtue is wasted. It is best laid under cover of a cool, open shed, and in sufficient thickness to prevent drying. If at any time it is apt to become over-heated before a sufficient quantity is collected, it should be turned. When sufficient is gathered together it should be thrown in a heap, and be well turned and separated as often as occasion requires. In the preparation of the materials, it is highly essential that the manure should not become over-heated at any time.

OPEN-AIR BEDS.—These I can also strongly recommend, and one or more should be formed in every garden where manure is forthcoming, even if only as an adjunct to the usual beds formed under cover. Quite one half may be of strawy litter, or such as may be obtained from stables after the longest has been shaken out. This is necessary, or the material would not hold well together after being made up. In the preparation of the material, and which is what I shall refer to for the present, it is much the safer plan to make some provision against wet; that is either by large shutters or sheets of corrugated zinc.

A. YOUNG.

PLANT HOUSES.

GREENHOUSE HARD-WOODED PLANTS.—**POTTING.**—Where this work has not been attended to earlier in the season, no time ought now to be lost in going through all of this class of plants save in the case of late summer and autumn-flowering kinds, as the late *Ericas*, the potting of which just prior to blooming is not advisable. Those plants which flower from the end of March to the end of June are those which in the due order of things require most attention to potting now. Any flowering earlier should have been attended to some time back; nevertheless, rather than let them stand over and thereby run a risk in their case of a weakened constitution, it will be far better to repot, although the benefits arising therefrom will not be so perceptible the first season afterwards. Early-flowering *Ericas* and *Epacris* belong to this latter order, which from the new year onwards for three months are in their very best condition. The safest time to pot such of these as are annually pruned is soon after pruning. Where it is done now there is more risk of injury to the roots if any sour soil has to be removed therefrom.

With regard to other *Ericas*, as *E. Cavendishi* and similar free-growing kinds of the same season, with the hardest wooded sorts, as the varieties of *E. tricolor* and others, no better time than the present can be chosen for potting, whilst there is still plenty of time before winter sets in for them to establish themselves. Other useful hard-wooded plants, as *Pimeleas*, *Eriostemons*, *Hedaromas*, *Aphelexis*, and *Boronias*, should all receive this same needful attention. Avoid by all possible means the deferring of this work for many weeks longer; it is not then so safe to do it nor is it nearly so well for the plants. In nearly every case above quoted peat will be the staple soil to be employed, and this should be chosen as good as possible, not soft and spongy with Bracken roots in it, but of a harder kind, as that with roots of the Heather in place of the Bracken. It pays well to give good attention to the procuring of the best peat in every case, but in none more so than in that of hard-wooded plants, many of which will need no further shift if they be specimens for several years to come, whilst smaller ones will make infinitely

better progress if potted in the best soil. The difference is all the more perceptible when the watering is not attended to in the best possible manner. With care in this particular work it is quite possible to run the plants along for a season or two, but it cannot continue. Use good peat and do the work of potting well, then the plants so treated will stand a season or two longer without additional shifting.

It is of no use to think the work of potting can be rushed through as in the case of *Coleuses*, *Balsams*, and other rapid-growing plants. To do this means failure in the near future, although it may possibly be attributed to some other and secondary cause, as over-watering, which in the case of these is rather the outcome of bad potting than anything else. Overpotting must also be guarded against, nothing beyond an inch additional around the old ball being necessary, whilst often it will be better to do with less than this. If a potting stick of about one-quarter of an inch in thickness be chosen, one size larger pot will in most cases be found ample. With a thick potting stick there is always the risk of injuring the roots, it being at the same time a difficult matter to do the work so effectually. Firmness in potting is almost as important as good soil. If this be not adhered to, the properties of the soil are sooner deteriorated, at the same time holding the moisture in suspension similar to a sponge, to the palpable injury of the roots. A free use should be made of silver sand, and clean crocks should be chosen, and, of course, clean pots. The very slightest amount of surfacing should be made to suffice, and this may be of a rather more sandy character than the rest of the soil. The peat itself should not be broken up too finely. Small plants will need it rather more so than larger ones; but do not err on the side of fine soil on any account.

After-treatment should be regulated in accordance with the locality. Where at this season these plants are grown out of doors along now they may still remain there, but bear in mind that heavy downpours of rain are most injurious to newly-potted plants, specimens in particular being at the same time deceptive as to watering. Should the weather on the other hand be warm and sunny, then a few light syringings will be decidedly beneficial as the sun declines. Watering is in itself a subject that requires practice and close observation; it should not be a matter of changing from one pair of hands to another, but be rather performed always by the same person. By so doing it is far easier to gauge the exact requirements of the plants than if done first by one and then by another. For some little time after potting a rose should be used upon the can, a steady watering being palpably better. Nothing in any case betokens carelessness in work more than pouring out the water in such force as to wash away the soil as if it were of no material importance. It will not be advisable in any case to plunge the plants in ashes; it may be done with plants that have their pots well filled with roots, but not in the case of newly-potted ones. Allow the plants plenty of room also, shading the outer ones at the roots if needed with other and dwarfier plants or by means of thin boarding, so that the sun does not shine directly on the pots.

JAS. HUDSON.

ORCHIDS.

MANY of the *Dendrobiums* have almost completed this year's growth, and should be placed in a position where they can obtain light and warmth. As soon as growth is completed it is usual to remove the plants into a cooler and more airy position, but it will be observed that the roots are in a very active condition; consequently it is not desirable that they should have a sudden check, and it would be well to see that the growth is quite completed before their removal. Over-dryness at the roots at this season of the year might give the plants too much of a check and cause them to finish up suddenly, and might be one reason why such species as *D. Wadianum* starts into a second

growth at this season of the year. It is only by careful attention to the minor details of the work that success in their culture is obtained. Many species and varieties of *Dendrobium* lose their vigour owing to some fault in culture which may escape the notice of even an experienced cultivator. One point of primary importance is this—that a plant should make but one set of growths in a year, and they should be gradually ripened. When it is thought the growths are fully matured, the plants may be removed to a vinery from which the Grapes are being gathered, or have been gathered. The plants should be in a light position and receive sufficient water to prevent the roots from shrivelling. Even *D. Wadianum*, which above all others is most liable to go wrong, rarely starts to grow a second time under this treatment. We manage our *Dendrobiums* in this way: As soon as the house is cleared of the early Melons, the *Dendrobiums* which are in early stages of growth are placed in it, a very light shade only is put over the glass in bright sunshine, and it is removed early in the afternoon, so that the plants have a very high temperature with abundant atmospheric moisture. They do not, of course, all ripen their growths at one time, and here it is where the thoughtful cultivator, who watches his plants and knows exactly when they have arrived at the stage for removal, has the advantage, for scarcely two of them are ready for removal at the same time. The plants which are removed first are *D. Wadianum*, *D. nobile*, *D. Leechianum*, *D. crassinode*, *D. heterocarpum*, and seedlings raised from them. Considering that a succession of bloom is maintained by those species and varieties from January to June, it is quite impossible that they can be ripened at the same time. The evergreen species of *Dendrobiums*, especially those of the *nigro-hirsute* section, require rather different treatment from the deciduous kinds. *D. formosum*, for instance, requires a very warm house to grow in, but the very nearly allied *D. Jamesianum* should be grown in the cool house, where it makes splendid long growths in a position not far removed from the roof glass. When growth is completed they require much less water of course, but over-dryness is injurious rather than otherwise. *D. formosum giganteum* will soon be producing its large handsome flowers, which last at least six weeks in good condition, and if allowed to remain on the plants for that length of time may cause exhaustion, unless water is freely supplied.

Another section of *Dendrobiums* is comprised in the *D. thyrsiflorum* group, the best of which are *D. densiflorum*, *D. Farmeri*, *D. Griffithianum*, *D. Schroederi*, *D. Paxtoni*, &c. These are grown with the deciduous species, but few of them have yet reached the middle of their growing season. When growth is complete they are best removed to the intermediate house, where water is gradually withheld, but not to the extent of causing the growths to shrivel. They are kept in the intermediate house, and receive much the same treatment as the *Cattleyas* all the year round, except for the two or three summer months when making their growth.

A very pretty plant flowering at this time is the elegant *Dendrochilum filiforme*. The flowers are fully open before growth is completed; consequently water must be freely supplied to it, not only to support the flowers, but also to assist the plant to complete its growth. The plant has a beautiful effect raised above the others and placed in a light position in the warmest house. The spring-flowering *D. glumaceum* grows even more freely under the same cultural conditions. It has not yet finished its growth, and also requires a plentiful supply of water. A good time to repot either of them is just before they start into growth. An equal portion of *Sphagnum Moss* and brown fibrous peat is the best material to plant them in. One of the more important details of the gardener's work is repotting and attending to seedling Orchids, and they require a very great deal of attention to keep them in life and health. The potting material is apt to become sour from frequent watering, and in this state it cannot but be injurious to the plants; therefore

they must be repotted. Thrips will also attack them at this season and sadly disfigure them. The plants must either be dipped in a tobacco solution or fumigated with tobacco smoke, and when in the early stages of their growth should never be allowed to become dry. At this season the Sphagnum Moss is apt to become dry, and frequently dies off altogether. This can only be avoided by careful attention to the atmospheric conditions of the house. The outside temperature has fallen considerably, and copious showers of rain have made quite a change in the external conditions. There is not so much danger of dry heated air getting into the cool house and injuring the plants, so that air may be more freely admitted both over and under the plants. Green fly had become very troublesome amongst the *Odontoglossums*, and to avoid the trouble of dipping them the house was fumigated. A freer ventilation will maintain a more healthy condition. All the houses may be now more freely ventilated when the weather is mild, but avoid exposing the plants to drying east winds. J. DOUGLAS.

STOVE AND GREENHOUSE.

TUBEROUS BEGONIAS.*

The origin of many old garden plants is involved in obscurity, and it is doubtful whether the account given of several of them is anything more than the merest supposition. This is not the case, however, with the garden race of tuberous Begonias. In no other class of plants has the improvement been so rapid or so extensive, a fact due, no doubt, to the diligence of hybridists, combined with the readiness with which the wild types lend themselves to hybridisation, and the progeny to cross-breeding. Six species have been utilised in the creation of the summer-flowering race, and the difference in the foliage of the parents, in the habit of the plants, and in the colour of the flowers, together with the new conditions created by cultivation, has enabled such rapid progress to be made. The number of seeds that a plant, or even a single pod, will yield enables the raiser to multiply Begonias at a greater rate, perhaps, than any other garden plant. Rarely is it given within a lifetime to accomplish such magnificent results as have been achieved. Twenty years ago no one could have predicted, and far less believed, what would have been accomplished in the time, judging, at least, from the first hybrids that were sent out. All the varieties of Chinese Primulas, and of Carnations and Pinks, for example, have been raised in each case from a single species, and, consequently, the variation and selection of seedlings has been a slow process. Zonal Pelargoniums, on the other hand, furnish an example in which a vast number of garden varieties have been raised by the hybridisation of two or more species; but as they produce comparatively few seeds, a long time has been required to achieve present results. A large proportion of Pelargonium seedlings, again, is useless for bedding; but the seedlings of a good strain of Begonias can always be depended on to make a good display, as the quality is relatively even. Therefore, with this facility for raising seedlings, only the most rigorous selection should be made of varieties worthy of a name, and to be propagated by cuttings for pot culture. *B. boliviensis* was the first species introduced; it was brought to this country in 1864. The characteristics of the plant are its narrow leaves and drooping, elongated cinnabar-

scarlet and Fuchsia-like flowers. A large number of my double varieties at one time showed the influence of this species by their narrow leaves and elongated, many-centred flowers. It was also the seed parent of the first hybrid, *B. Sedeni*, sent out in 1870. Even now it is something more than a botanical curiosity. The next species introduced was *B. Pearcei*, in 1865. It was the chief factor in the production of the yellow, buff, and orange-coloured varieties. Its broad, oblique, olive-green leaves, more or less ornamented with silvery or pale green veins, can be distinctly traced in a large number of the choice modern kinds. *B. Veitchii* followed in 1867, characterised by its broad, orbicular leaves, and large round flowers of a brilliant vermilion. Many of the finest varieties, both single and double, now in existence owe their origin and their fine qualities to it. In the same year *B. roseiflora* was brought home, and was utilised to a small extent only in the production of some of the earliest hybrids. Light-coloured seedlings of it gave rise to *Queen of Whites*, put into commerce in 1878, and destined to be a most important factor in subsequent varieties of the same colour. *B. roseiflora* has broad, orbicular leaves and pale red flowers like those of the Sweet Brier. *B. Davisii* reached this country in 1876, and was much utilised, for a time at least, in the production of new kinds. Its neat dwarf habit and warm scarlet flowers, carried well above the foliage, made it a favourite with hybridists. It gave rise to numerous dwarf, erect-habited kinds, with small but brightly coloured flowers. *B. Clarkei* was introduced in the same year as *B. Veitchii* and *B. roseiflora*, but, like the latter, was not much used as a parent. It resembles *B. Veitchii* to some extent, and is of tall habit, with rose-red flowers. It was, moreover, the seed parent of *Vesuvius* and *Emperor*, two important varieties which long held their own, either as pot plants or for bedding out.

Leaving out of consideration the race of winter flowering kinds, the present race has sprung from these six species; but the first three are most in evidence to-day. The parents have been left so far behind that there is no occasion to use them further for improving the race; and the types are in danger of being lost to cultivation, unless they be preserved by enthusiasts or others of a botanical turn of mind. The first five of the six species above named were introduced by Messrs. Veitch, who put them into commerce, together with some of the first noteworthy hybrids they had made, and they were thus the pioneers in the great work which was on the eve of taking the horticultural world by surprise. Other eager workers, both in this country and on the Continent, were soon in the field, helping forward the great movement at a more or less rapid pace. I commenced hybridising and cross-breeding in 1875, with *B. boliviensis*, *B. Veitchii*, and *B. Pearcei*, together with the varieties *Vesuvius*, *Dr. Hooker*, *Dr. Masters*, and *Mrs. Masters*; but

The best laid schemes o' mice and men
Gang aft agley,

and nothing very striking resulted in the following year. But as "sma' beginnins hae sometimes big endins," I set to work in earnest by obtaining the finest of continental as well as of home-raised seedlings, and was encouraged by considerably better results. In January, 1878, I sowed seeds of fifty-seven different crosses, obtained by cross-breeding with the best sorts I could secure. The seedlings, when they flowered, foreshadowed possibilities I never dreamt of before, and I was awarded the gold

medal of the Royal Horticultural Society for a group of seedlings, as well as some first-class certificates. The astonished public also began to appreciate the "coming flower." That same year I secured *Queen of Whites* and *Henderson's White Queen*, and made numerous reciprocal crosses, from which, in 1879, I obtained 500 white-flowered seedlings; the tall ones I assorted under the name of *Reine Blanche*, and the dwarf ones I named *Stanstead Bride*. The greatest improvement, *Stanstead Rival*, having orbicular flowers and erect flower-stems, came out of the same batch. Besides other fine types, a small-flowered, nearly black variety made its appearance, and was kept for breeding purposes. It is represented in such modern types as *Duke of Edinburgh* and *H. M. Stanley*, with maroon-crimson flowers. By the autumn of that year I had made 161 different crosses of carefully selected parents, single and double, using *Stanstead Rival*, *Reine Blanche*, and *Lady Hume Campbell*, the first-named most extensively on account of its stiff upright habit.

Although it is interesting to know the first steps in the progress of development in this fine race of garden plants, the subsequent records of cross-breeding would be as futile to science as bewildering to anyone who might wish to trace the genealogy to the present time. Suffice it to say, the best types only were and are used as parents to sustain the onward march of progress. Size, shape, texture, and colour of the flowers, as well as the habit of the plant, were always kept in view. As far as size is concerned, the legitimate or desirable limit has been reached in the eight varieties named *Royal Begonias* sent out in 1886, particularly in *Victoria*, which has flowers measuring 7 inches across when well grown.

SINGLES.

The aim in this section is to get as many distinct and well-defined colours as possible, as well as an upright habit, with a profusion of flowers that do not require staking. Naturally the dwarf-habited and freely-branched sorts are the best parents to select from for the latter purpose. Some few there are, such as *Leviathan*, with stems like miniature hop poles, but their admirers are few. The texture of the flowers has made wonderful strides within the last few years. Orbicular flowers, as round as the compass could make them, have always been the aim of the florist, and are well represented by *Mrs. R. Ballantine*, *E. G. Hill*, *H. M. Stanley*, *Lady Scott*, *Fringed White*, *Lord Hillingdon*, *Lady Pigott*, and others. These are some of last year's acquisitions, and *Duchess of Leinster* and *Duchess of Westminster* are also quite recent. The last-named is one of a white-centred race; and I am now working on a dark-centred strain, with promising results. *Lady Whitehead* bears six to eight large flowers in a truss and represents a floriferous type. I still believe that improvement is possible, after all my previous efforts.

DOUBLES.

Good double varieties are more difficult to obtain than single ones, on account of the difficulty of getting pollen. The continental growers were the most successful with this section in the earliest stages of its development, but home-raised varieties are now far superior to the earlier types. My varieties of to-day show a marked improvement upon those of as recent a date as 1887. They were then globular, densely crowded with petals, lumpy and heavy, although better than the ragged and unshapely flowers of previous years. Those that obtained first-class certificates five years ago would not now attract

* Paper read by Mr. John Laing before the Royal Horticultural Society, August 23, 1892.

attention, far less merit approval. During the early days of the development of the flower we had to be content with size and colour, with little regard to either shape or refinement. One named Glow was a great acquisition in its day, being large, globular, and bright scarlet, but it consisted of numerous centres or secondary flowers resembling a truss of a double Pelargonium. Many of the largest-flowered varieties I have recently obtained have short, stout stalks and are self-supporting, bearing their huge blooms erect without staking. My aim is now to select and perpetuate only varieties with broad, even petals, arranged round a common centre, and having the refinement of either the Rose, Camellia, or Picotee, or displaying the crimped petals of the double Hollyhock. The first is represented by Princess May, white; Lady Wantage, rosy-pink; Laing's Rosebud, blush-pink; W. Clifford, rose; Laing's Triumph, rosy carmine; and Sir Trevor Lawrence, like a bunch of crimson Tea Roses when half expanded. The Camellia and Picotee types are represented by varieties bearing those names. A great many of the single-centred flowers may be compared to double Hollyhocks or Petunias, on account of their wavy, undulated, or crimped petals, and people appreciate these forms. They are well exemplified by Glory of Staustead, white flushed pink; Lady Brooke, salmon-red; Duke of Fife, salmon; Lady Dorrington, blush-pink; and Baroness Burdett-Contts, salmon-rose. The Duchess of Teck is like a bunch of Primroses. Various other comparisons might be made, but enough has been said to indicate the present lines on which double Begonias are being refined and improved, for the variation of colour seems endless.

USES.

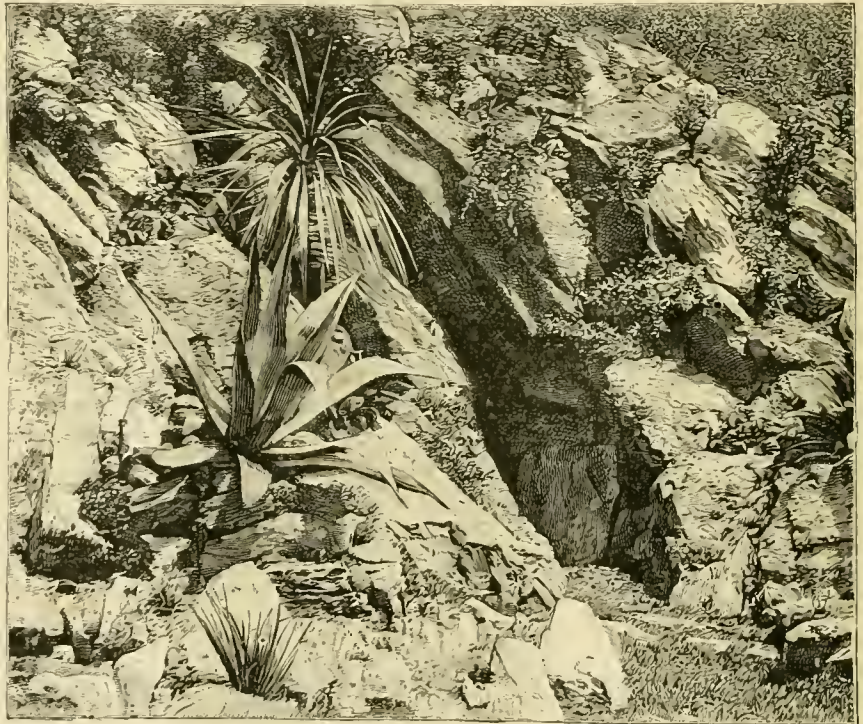
One of the most important uses to which Begonias can be put is for indoor decoration in pots, and to a smaller extent in baskets. A fine display may be kept up from April to November by starting them in batches at different periods, retarding some, and raising seedlings for late blooming. Single-flowered varieties are the showiest, but a batch of choice and refined doubles is an acquisition to any establishment, and gives most satisfaction under glass. Some of the more floriferous and drooping habited kinds, after the style of *B. boliviensis*, are very effective when grown in pots or baskets and suspended from the roof of the house. Even here choice kinds may be used, having medium-sized and not too heavy flowers. Some are decidedly fragrant, and if encouragement is given to their selection, a scented strain might yet be a reality. Maréchal Niel and Fragrant Rose have this quality.

For exhibition purposes Begonias are most effective in tastefully and judiciously arranged groups; but even here quality is often overlooked, and preference given to mere display. Only medium-sized plants are capable of being worked into arrangements of this kind, with dwarf and erect-flowering kinds for the front. Large specimens are not so popular as they might be, for they are bold and effective when well grown and tastefully manipulated, so that the staking is hidden.

There is a promising future for tuberous Begonias as bedding plants. Pelargoniums in a wet season grow like Cabbages, but are as green as Kale. Whether it rains or shines, Begonias flower abundantly, and they are always dwarf and short-jointed out of doors. Of course, to make sure of a good display early in the season, tubers at least one year old should be employed. They may be started sufficiently early in pits or heated frames, so as

to have them fairly into growth, but not showing bloom, and hardened off so that they may be safely planted out about the beginning of June. Thus treated, they do not experience the check that plants in bloom are certain to get if the weather immediately after should prove cold or dry. Seedlings selected as to colour are most suitable for this purpose, and those of stiff, erect habit and free-flowering character produce the finest display. Double varieties are more adapted for pot work, as the flowers are generally too heavy to withstand the effects of storms or wind or pelting rain. They will be still more extensively grown for indoor decoration, while the singles will be grown in thousands for bedding purposes. Figures would fail me to give exact data as to the number I have raised since I commenced the culture of this noble race of plants; they may safely be computed by hundreds of thousands, if not millions. About half a million

make the best cuttings, and may be inserted any time during the growing season, but the earlier they are taken the better will they root and form tubers. A few of the young growths that arise from the tubers in spring may also be taken; but the fact must not be overlooked that to take the same liberties with them as with Dahlias would be ruinous to a good display of bloom on the old plants for a season. The cuttings should be inserted singly against the side of 2½-inch pots, in a compost consisting of loam, leaf-soil, and sand in about equal proportions, and plunged in cocoa-nut fibre in the bed of a propagating pit or frame, and shaded till they have emitted roots, when they may be grown on if required for late blooming; but the young plants should preferably be kept in the cutting pots until the following spring, and this is the more essential in the case of late-struck cuttings, though, where practicable, these latter should be potted and kept growing.



No. 1. A cleft in the rock.

were pricked off into boxes last spring, and two-thirds, consisting of seedlings of single kinds, were planted out in June, besides several houses 100 feet in length filled with pot plants, and several ranges of frames.

A pleasing feature of the nomenclature of Begonias is the rational method of giving purely garden names, which, although not rigorously adhered to, is very generally adopted.

PROPAGATION.

There are at least four different methods of propagating tuberous Begonias, namely, by seeds, cuttings, leaf cuttings (as in the case of *B. Rex*), and division of the tubers. I approve of the first two methods only, for they are certainly the best, most practicable and profitable. Increase by cuttings is only essential in the case of choice standard kinds requiring to be preserved true to name. These are mostly used for pot culture, and are regarded as the most improved or advanced types of the race from whence the finest strain of seed is derived. Young shoots from near the base of the plants

Propagation by seed is at once the most legitimate, speedy, profitable, and certain mode of increasing this class of Begonias, either for pot culture or for summer bedding. There will always be a certain amount of speculation with regard to the colour, habit, and character of the seedlings the first year; but, if derived from a good strain, they seldom fail to give satisfaction, and may be assorted for future work as they come into bloom. They may be sown almost at any time of the year, according to the convenience and requirements of the grower. For my own purpose, I find that the third or fourth week in January is the most suitable; and those who have a sufficient command of fire-heat will find it advantageous to sow early in the year, as the seedlings are less liable to damp off than when they are raised in May, June, or July.

The seeds are sown in pans or in shallow wooden boxes, in a compost of light, porous material, consisting of flaky leaf-soil, a little loam, and plenty of sharp sand. This is mixed, and used in a rough state, with some finely

sifted material on the top to form a smooth and level seed-bed, which is pressed firm, watered, or more suitably dipped, and then the diminutive seeds carefully sown upon it. The pans or boxes are placed in a temperature of 65° to 70°, with more bottom heat. As soon as they can be handled, the seedlings are pricked out from time to time into other boxes with a finely pointed piece of wood, divided at the point so as to lift the seedlings. As they germinate very unequally and in succession, the work of pricking them off employs some men and boys for weeks together. When the pricked-off seedlings begin to get crowded, they are transplanted into other boxes at a greater distance apart. By the middle of May they are ready for hardening off. During the first three weeks of last June a staff of men and boys was constantly employed in planting those now in the open ground. By that time a large proportion of them had commenced to bloom, and several thousand of the most promising doubles, some of them gems, were transferred to 4½-inch pots, and placed in new houses specially built for their reception.

The ground in which the seedlings are planted out is heavily manured and roughly dug up to the action of frost in autumn. Old tubers intended for bedding out should be started about the last week in March or the beginning of April; small-sized pots will be quite sufficient for them. A warm and showery month of June, with rather drier weather in July and August, is the most favourable to Begonias in the open ground.

POT PLANTS.

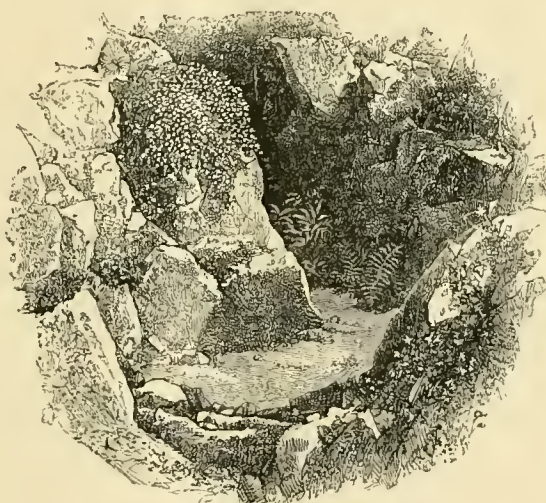
One-year-old tubers are the most generally useful for pot work; but those of two or three years' growth make the finest specimen plants. When four years old they begin to degenerate, some sooner, some later; hence the necessity of raising young plants to keep up the standard of perfection. The first batch of plants may be started about the end of January or the beginning of February, and they will flower in April or May, according to the amount of sunshine they enjoy and of artificial heat used. Successional batches of tubers may be put into heat during March or April to flower in June or July, and be it observed that the more slowly they are brought forward the more sturdy and durable they will be. Put them singly into small pots proportionate to the size of the tubers, in a compost consisting of equal parts of fibrous loam, leaf-soil, and sand, in a rough or lumpy condition. Press the soil rather firmly if short growth and a long season are desired, merely covering the top of the tuber. Stand the pots on a bed of cocoa nut fibre or plunge them in it, and keep the temperature of the house at from 65° to 70°. Should the soil be dry at potting time give it a watering; after that water should be applied with discretion till the plants begin to grow freely. Tubers that have been wintered in pots may be put into heat, watered a little, and afterwards damped down with the syringe till they start into growth, and then repotted into suitably smaller sizes. Light is of great importance in the early months of the year, and it is all-important that the plants should be kept as near the glass as possible after they have started into growth, to encourage a short-jointed and sturdy growth. Repot the plants before they become root-bound, and as the season advances and the temperature outside becomes milder, gradually give more and more ventilation, as upon a cool and airy atmosphere a great deal of the success in Begonia culture depends. Low span-roofed houses give most satisfaction. The soft and watery tissue of Begonias soon

responds to favourable or unfavourable conditions; therefore, let them have a house to themselves where possible, and no make-shift permitted. The smaller plants may be grown on the side shelves on ashes or cocoa-nut fibre, while all the larger and taller specimens may be elevated on shelving—staging tier above tier in the centre of the house and near the glass. A free play of air amongst the foliage keeps it fresh and healthy, and a dry atmosphere prevents the spotting of either flowers or foliage, as the weather gets warm about April and onwards. More or less shading during the heat of the day will be required after that month. When the plants have finished flowering, or become useless for decorative purposes, stand them out of doors in a sunny position, but sheltered from wind, and keep them watered till the leaves show signs of decay, after which water may gradually be withheld till the tubers ripen and the stems drop away. Remove them indoors on the approach of frosty nights.

THE ROCK GARDEN.

CAVERNS.

AMONG mountain scenery no rocks have a greater fascination for the lover of the pic-



No. 2. Rocky passage leading to cave.

turesque than those cleft asunder by violent convulsions during bygone ages, or pierced by mysterious caverns, which latter not only in themselves enhance the grandeur of the scene, but offer a welcome retreat to the tourist seeking repose within these shady recesses. The desire of possessing the delights of a natural cave in the rock garden has probably induced many an amateur to attempt the construction of a more or less elaborate cave in his own garden. It is seldom, however, that we meet with artificial caverns of which it can be said that they are true to Nature. Oftener than not such structures are merely a hideous arch of the beehive or baker's-oven pattern unless the work was carried out by skilled hands. From past experience I may venture the assertion that the construction of a cavern possessing the requisite stability and having at the same time a picturesque interior and exterior (apparently formed by Nature) is more difficult and requires more thought and skill than any other part of the rock garden. At the same time it cannot be denied that, if really well done, a cave should be the crowning point of the work and a most attractive feature, calculated to enhance the

charm of a rock garden, not only by its outward appearance, but by providing a delightful resting-place among the plants we love.

A natural appearance must be above all things the first consideration, and when this is wanting, a repulsive, instead of an attractive feature must be the inevitable result. I have seen artificial caves built with stones of the sandstone formation ornamented (1) with stalactites. Such an absurdity would be impossible in Nature. From Nature, therefore, we must again seek information and study the laws which governed the

FORMATION OF NATURAL CAVES.

Nature's caves among rocks of the unstratified class are generally the direct result of violent volcanic action, which by, perhaps, repeated upheavals from the direction of the interior of the earth caused huge blocks of rock to topple over and fall in such a manner as to leave a large irregular hollow space beneath. Subsequent floods of water may have lent their aid in widening the passage by abrasion of the rocks, but the primary cause in most cases is only too plainly evident. Caves among stratified rocks may sometimes be formed by water dissolving and removing the softer and more soluble portions of rock. Especially is this the case with limestone; but even here we have often plenty of evidence of primeval convulsions which caused the rocks enclosing the cave to show the strata almost horizontal in one place and almost vertical, or forming angles of various degrees, in another. Caves in Nature are thus formed sometimes by mechanical and sometimes by chemical action, or a combination of both, and I will now apply the practical lessons taught by Nature to the

FORMATION OF ARTIFICIAL CAVES.

In my opinion caves in the rock garden should be suggestive of that powerful and stupendous agency which formed most caverns in Nature, viz., volcanic action. An artificial cave, which has the rocks around it arranged in horizontal strata built with painful accuracy, looks stiff and unnatural when compared with a cave which has the appearance of large blocks of rock having been hurled together so as to form a natural self-supporting roof over the hollow space beneath. It is not necessary that both sides of the cave should have this appearance of having tumbled together, but sometimes it would look even more realistic to let it appear as if the rocks on one side of the cavern had remained stationary, while through some violent disturbance the other side had been thrown against them. If the rocks are of the stratified nature, we might in such a case show the strata in the part supposed to be stationary, and the strata in the rocks which are supposed to have fallen, almost in juxtaposition, just as we would often find them in Nature. If such a cave can be arranged beneath a waterfall, the effect is bold and extremely picturesque.

In constructing caves in the rock garden much must of course depend on the extent of the work and on the purpose for which the cave is to be constructed. It is, therefore, of importance to know beforehand whether the cave is to be accessible, or to be seen only from a distance, whether it is to be furnished with plants or not, and whether water is available.

If the rock garden is on a large scale, there is no reason why several caves of different shapes and sizes should not occur, some serving the purpose of a cosy retreat, others being mere clefts in the rock furnished with plants, and calculated more for distant effect.

A CLEFT IN THE ROCK.

This kind of cave is not generally intended for access. Outwardly it should appear as a large open fissure, the exact depth of which cannot be gauged owing to the end being hidden from view. This is easily arranged by constructing this cavity so that the darkest part of the recess is extended around a corner, and that the exact extent of it can never be seen from the outside. This will have the effect of making the dark recess appear very much deeper than it really is. The illustration No. 1 shows a cave of this kind which I constructed a few years ago. The plants used for the decoration of such a place must of course be shade-loving kinds only, and it would be necessary to arrange the rocks in such a way that rain falling outside the little cave could penetrate through specially made crevices in order to supply the plants within with the necessary moisture. By choosing thin flat stones for the construction of the interior of such caves, this is easily provided for. Where these thin stones do not fit exactly, the crevice between them is covered from behind with pieces of tough peat or turf and then filled up with other soil, so that light would be excluded except that reaching the recess through the cleft itself. Where space permits, the pieces of peat and turf just referred to may be planted with Ferns and other suitable plants. Sometimes a cleft of this kind can be made so as to branch off into several smaller recesses constructed on the same principle, and if well arranged and suitably planted, a very natural effect may thus be produced. It should be borne in mind, however, that such recesses, if not accessible, might easily become a safe and convenient hiding place for all kinds of vermin and garden pests, and it would be well to make them wide enough at least for a boy to be able to enter them occasionally.

LARGER CAVES.

The chief object of an accessible cave in the rock garden should be to form a cosy recess for seats, &c. It should, therefore, be shady and large enough to allow several persons to be able to find rest and shelter at the same time. The roof should be such as to form a safeguard against a shower of rain or the rays of a scorching summer sun. A decoration of the interior with suitable plants would be most desirable, and for this purpose it can often be so arranged that the roof of the cave, though apparently formed by large boulders, is fissured here and there, and admits light, air, and even rain to the places where the principal plants are to be grown. It would, of course, be a mistake to leave such rain-admitting fissures in that portion of the cave which is intended for seats, but farther away, in the irregular recesses at the sides, the partial admission of rain, light and air is most desirable, and would tend not only to lessen the labour required in looking after the plants in the cave, but also to purify the air, making the cave a more pleasant abode on that account. It must be pointed out, however, that these air holes require to be carefully arranged and distributed so as to prevent draught. A charmingly refreshing and cooling effect can be introduced into such a cave by water dripping from the roof here and there, and wetting

with its spray the Ferns and other plants without interfering with the comfort of visitors in that part of the cave which has been reserved for seats. As I have already treated the subject of a dripping waterfall, I need here only add that water thus dropping from the roof of the cave should be collected in a small irregular pond from which it might be dipped up as required for watering perhaps such plants in the cave to which rain and dripping waterfalls would have no access.

As already hinted at the beginning of this chapter, the construction of such a cave is not altogether an easy matter, and as the greatest difficulty consists in the combining of bold effects with stability, a few words on this subject may not be amiss. If the cave is an extensive one it will be found difficult to construct a firm roof of natural appearance, as stones of enormous size and particular shape would be required. The boldest roof is that appearing like a huge solid block which has fallen against other rocks. But a block of stone of the required proportion would be in most cases very unwieldy and most difficult to obtain. An arch of masonry would be a substantial support, but to hide its stiff and artificial appearance would be very difficult. I will, therefore, recommend two other methods based on experience and often employed by myself when constructing caves.

The first method consists in building the large boulder which is supposed to have fallen so as to form the roof of the cave on the same principle as explained in the article on "Stability" when treating on the subject of constructing projecting or overhanging rocks. The manner in which rocks of this kind are best built by means of large flat pieces of stone is best explained by sketch No. 5 on page 209 (see THE GARDEN of March 18). But sufficient stress cannot be laid on the fact that stones used for this purpose must be absolutely free from flaws or faults of any kind which might endanger their stability.

The second method consists in forming the desired large boulder or boulders artificially by means of strong iron supports embedded in concrete. If the length of the required boulder is not more than 12 feet or so, a few iron rails, such as used for railway metals, will answer the purpose very well, but if a still larger size should be necessary, iron girders, specially constructed according to the weight, would be best. After these irons have been placed in a position showing the desired angle of inclination, they are connected by other pieces of iron placed crosswise, so as to distribute the pressure. A firm scaffold is then built reaching within a foot or two of the irons. This scaffold is next covered with soil, which must be pressed firmly, and into which depressions or elevations are made here and there to produce irregularity. The whole surface is then covered with cement concrete consisting of four or five parts broken stones and sand mixed with one part of cement. During this operation care must, of course, be taken to have the irons well surrounded with the concrete, which should be packed very tightly. A layer about 12 inches in thickness should be sufficient for this concrete, which after two weeks will have hardened sufficiently to bear an enormous weight, and the soil which formed the mould and the scaffolding supporting it can now be removed. When this artificial boulder is sufficiently dry, it is coloured the same shade as the other stones used in the rock garden, and if really well done anyone not in the secret will never suspect the artificial origin of the boulder thus formed. An additional

feature should be graceful creepers, which might hang naturally over the entrance to the cave, and of which more will be said anon when speaking of plants.

A cavern, to look natural, should not be too open and conspicuous, but other rocks should if possible be in front of the entrance and a rocky passage, such as the one here illustrated (see illustration No. 2, "rocky passage leading to cave") will enhance the charm. When a cavern is introduced into the rock garden, care should also be taken to have higher masses of rocks than those forming the cave arranged in the background, as without such an arrangement the cavern will look unnatural and out of place.

STALACTITE CAVERNS.

That stalactite caves or grottoes in Nature are as a rule furnished with the most exquisite and weird ornaments is only too well known. They occur almost exclusively in limestone. The water, on percolating through these rocks, becomes charged with carbonate of lime, which is precipitated and forms more or less icicle-shaped deposits hanging down from the ceiling (stalactite), or cone-shaped or fantastically expanded masses on the floor of the cave (stalagmite). So delicate and lovely are often the shapes of these crystalline formations, that they have been termed Nature's drapery.

Cox's cavern and Gough's cavern at Cheddar, Somerset, are, perhaps, the best examples in the country, not for the size of the caverns, but for the beauty of the weird formations decking the interior. Plants are never found in caves of this kind, and could not live in them. As a general rule, therefore, the introduction of stalactites into our rock gardens should be avoided. When, however, the rock garden is on a very extensive scale, and contains caves and subterranean passages never intended for plants, there is no reason why such places should not be turned into caves for stalactites, provided the work can be done so as to resemble the work of Nature. I have myself constructed such a cave at Bystock, near Exmouth, where it was desirable to form an underground passage through the boldest and most massive part of the rocks. This cavern is about 60 feet in length and divided into several chambers. It is delightfully cool on a hot summer day, and is occasionally lit up with electric light, throwing a red glare over the drops of water falling from the stalactites to their corresponding stalagmites below. The foundation consists of brick arches, columns, and iron girders, the masking of which with grotesque formations has been so successfully carried out as to look perfectly natural. But it is only when such work can be carried out on a somewhat elaborate scale that stalactite grottoes can be introduced into our rock gardens, and to associate such caves with small rock gardens cannot be too strongly condemned.

F. W. MEYER.

Exeter.

(To be continued.)

Hardiness of bulbs.—The comparative hardiness of bulbs not in general culture is of interest to those consulting the by-pages of catalogues. Under cap glasses on a southern border *Freesias* and *Calochorti* were planted in October, and in due time appeared. The glasses were not covered during the winter. The *Calochorti* grew and have bloomed excellently; the *Freesias* were killed. The foliage of the former is thin and sparse, of the

Freesias fleshy and full; hence the different result. Near these were plants of *Ixiolirion* and of *Anomatheca*. This latter is a very pretty button-hole flower, and the patch had been in the same spot for years. The *Ixiolirion* flowered charmingly, but the *Anomatheca* has disappeared. Three *Crimums* have thriven in one spot for years; only one has recently appeared, and now only exists. Such are the uncertainties of winter frost.—J. S. B., Bath.

FLOWER GARDEN.

HARDY FLOWERS.

I CONSIDER a paper like that written by "J. C. L.," July 8 (page 31) on hardy flowers a most useful contribution to floral knowledge. It gives the writer's failures, his hopes and fears, his likes and his dislikes, and enables others to compare notes as to what they can do with the same plants. I propose to run through his paper and note those plants I have had any experience with. First of all come alpine *Ranunculi*. Let me, however, premise. My soil is of a light very brashy character, quite unretentive of moisture. I find these quite unmanageable. *R. amplexicaulis* grows and blossoms fairly, but it does not take at all kindly to my soil. I saw it growing rampantly once in stiff clay, and I have clay under mine. *R. anemonoides* is growing well in a friend's garden here, planted in partial shade on a raised rock-work, chiefly peat. Both he and I have tried various other alpine *Ranunculi*, but they invariably die after one season. *Anemones* of all kinds do well with me. I find no difficulty whatever with *A. palmata*; the secret is, I think, in planting it quite deeply; therefore the roots should be got in the dormant season and planted at least 6 inches or even 9 inches below the surface. *Anemone sylvestris* is one of the gems of my garden. I had some trouble to get it established; now, however, it is quite at home. In burnt earth and shade *Anemone sulphurea* grows well, but has not blossomed yet. *A. patens* flowers yearly, and *A. Pulsatilla* grandly, and so it ought, for its native home is on the Wolds, not a hundred miles away. *Delphiniums* of the "species" I find very uncertain. *Brunonianum* and *cashmerianum* are both with me biennial; on the other hand, *nudicaule* is, and has been, for years on a raised rockwork composed of road scrapings and scorched by the sun. Here it never fails to show its vivid colour. I cannot praise *Clematis erecta* too much, it is perfectly hardy, growing about 4 feet high, looking not unlike *Thalictrum aquilegifolium* in habit; it is not scented, otherwise like *Clematis Vitalba* in flower.

*Dianthus*es, unlike "J. C. L.," I am very fond of. *D. alpinus* does very well in a raised position amongst crushed limestone, making a good clump; it is easily raised from seed or cuttings. It is apt to go off unaccountably sometimes. I lost a fine clump in the winter of 1892. I know several plants of *D. neglectus* doing well in a hot position

on a ledge of rock covered with a bare sprinkling of earth. *D. callizonus* I am keeping my eyes open for, but *D. cinnabarinus*, with its salmon-scarlet blossoms, is quite hardy and certain. *D. caesus* I have in a wall, immense tufts hanging down, as it does on its native Cheddar cliffs. *Orobanchus varius*—what is the true plant? I have tried many nurseries, but the descriptions I get do not by any means accord. I saw it in the nursery of a man who has it in its true form if anyone has, and I fell quite in love with its salmon-coloured blossoms, but I consider the price too high, as I have no doubt, like others of its family, it seeds freely. *Orobanchus aurantiacus* does grandly in a neighbour's garden, and did in mine till I moved it; now, alas, I fear the heat has settled it. However, I have seed, and it comes up freely. I grow a lovely lilac *Vicia* I should be glad if anyone could name for me; it is almost like the rare wild *Vicia sylvatica* (which grows here), beautifully pencilled, but not more than a foot or 18 inches high. *Meconopsis* and *Romneya* I get up from seed easily, but never get a plant through a winter. *Polemonium confertum* I do not consider at all difficult; it is growing splendidly on the top of a raised rockwork in full sun. *Galax* and *Shortia*, alas, I cannot give a good account of. I saw half a dozen plants of *Shortia* here in bloom in a peat rock bed quite shady, but I should be sorry to say how many plants had been bought beforehand. After this hot weather they do not look at all comfortable. Close by it *Veronica cypressoides* is growing rampantly, raising its altogether *Veronica*-unlike foliage about a foot high and wide. *Gentians* I love, especially *acaulis*, though I can never get it to grow. It lives, and that is all I can say, and blooms occasionally; yet within a hundred yards, used like Box as an edging in a front garden, it grows luxuriantly. I am quite unable to grow the American bog plants "J. C. L." names. My soil being so dry, I have made a small square pit, filled it with leaf-mould and peat, and keep it continually moist. Here *Cypripedium spectabile*, *Primula rosea*, *P. Munroi*, *P. sikkimensis*, *Chrysobactron Hookeri*, and some *Arisæmas* grow freely. I feel quite proud to say I have *Tropaecolum speciosum* covering a rustic arch, with its roots in the deepest shade between the arch and a wall, and there are many more plants of it growing in a still more rampant manner on another house. I will conclude these notes by saying *Lilium testaceum* appears to be everywhere good this year, and the hot weather has suited *Eryngiums* to perfection.

North Gloucestershire.

J. R. N.

Hollyhocks.—Amongst the various floral attractions at Hampton Court Gardens just now are some excellent spikes of *Hollyhocks*. Not that the flowers are perhaps of the finest quality, but they are very good, and there are few gardens where such plants in bloom would not be eagerly welcomed. It is perhaps all the more interesting to find such sturdy, healthy *Hollyhock* plants at Hampton Court during such a hot, dry season as is the present, for the pestilent

fungus which preys so severely upon the plants is usually far more harmful in dry seasons than in moist ones. If there be any particular evidence of the presence of the fungus now on the stoutest of plants, at least the recent rains should do much to keep it in check. I have observed in many directions that single *Hollyhocks* are now grown. It may be that these are less liable to the attacks of the fungus than are the double forms, but pretty as these singles may be, the doubles, so long with us, have spoiled our taste for them, and they will hardly again find considerable favour as garden flowers. It is not too late yet to sow *Hollyhock* seed, even out doors, for it will soon germinate and give nice, stout plants in October for transplanting. These would certainly bloom the following year, and if a little late, so much the better, as they will then follow the *Delphiniums*. It is of no use to be particular as to doubleness. It is much to get a strain that seems at once to be free from fungus, and has bright, variously coloured and fairly double flowers. —A. D.

GARDEN SCENERY.

IN the view at Baycliffe Hall in THE GARDEN of May 13 there is a harmonious blending of forest-trees with others of more shrubby growth, the effect being likewise enhanced by the lake scene, as well as that portion devoted to the lawn and the combination of hardy flowers interspersed amongst the shrubs. Herein is a happy association of woodland scenery with that of the garden proper. Our landscape gardeners would do well to study such examples as that now given ere they attempt to further enhance the appearance of a garden or proceed to lay out an entirely new one. Too much reliance is oftentimes placed upon what may be termed future effect without taking due advantage of present surroundings for immediate effect. At a glance one can note in the picture the grand appearance possessed by the forest trees in the distant view on the banks and down to the water's edge. These are trees of no formal outline (fortunately, they have for many years been beyond the reach of the clipping fraternity or the geometrical gardener), giving a massive appearance, and thereby greatly adding to the effect as a whole. Suppose for one moment these trees were removed, and then replace them in one's imagination with *Fir* trees of pyramidal outline, the effect would be spoiled in a large measure, as it would not blend with the foreground. Again, remove any other and put in their stead others of erect growth, as the *Fir* trees or those conifers possessing the same outline, and the harmony would be lost. I consider the grouping and the wavy appearance of the trees as seen in this example of a landscape scene to be in good accord. In no part of it could a tree of erect pyramidal growth be introduced without detracting from the whole. True, the majority of the trees are deciduous, but many of these are the finest we possess; evergreens, however, play an important part in the foreground, and compensate for any deficiency in that respect.

In making these remarks, it must not for one moment be inferred that I am condemning the use of trees of erect growth as *Firs* and other conifers; far from it, for they are indispensable, but it is the mixture I object to in distant scenery. Group the *Firs*, making them the leading and prominent features, and then will be seen their true value, not when planted individually between or mixed up with trees of more massive growth. Those who have viewed an alpine or a Norwegian scene can rightly estimate their value, or, for an instance, nearer home we have the same effect, but in a somewhat lesser degree, in the *Fir* forests of Scotland, more particularly in the Highlands. It is only when such trees are seen towering aloft and in masses that their true grandeur can be fully appreciated. In a smaller degree I have seen them to advantage in North Wales. It is the dotting about here and there without any due regard to the surroundings which should be avoided in the

case of trees of somewhat formal outline, as many of the Abies, Piceas and Pinuses.

Some would suggest, perhaps, that a flower bed (of formal outline, of course) should be introduced upon the expanse of turf. Not so, however, by any means, for such an addition would spoil the effect in the foreground. It will be at once noted that there is no encouragement given to plants of a tender character. This also is a happy thought in the arrangement, the constant attention in planting and replanting not only taking time, but valuable room also in the glass department when not in the beds. By relying more upon hardy plants, these being chosen to suit various soils and localities, then planting them in groups or masses, avoiding, again, the dotting system, the charm of a garden would be enhanced and the resources of a gardener not nearly so much taxed as in the production of tender plants by the thousand. Another feature in the picture is the employment in certain parts of plants of low or bushy growth; the view is not, therefore, detracted from, but added to, and an idea of greater expanse is given to the view. The planting of suitable aquatic plants along the margins of lakes is not nearly enough studied. This is obvious in the case of sheets of water that are not in any sense formal; but where there is a formal edge or outline, and this left bare, it is offensive to the eye of anyone who admires the natural and informal. Again, such plants as are in harmony with water scenes should be more used. Bamboos (hardy, of course), Pampas Grasses, the Eulalias and other plants of similar character should be more employed in landscape scenery.

I have one fault or two to find, however, with the view new under consideration. These are to be found in the foreground, the most immediate part of which is a path. Next this path is a narrow verge of turf of uniform width and a clearly defined edge to the shrubbery border. These are two mistakes that should be carefully avoided. The turf should lose itself amongst the shrubs, or else the margin should not run parallel with the pathway. These are matters that can be avoided in a fairly easy manner. Such examples do, however, slip in at times, but are more plainly visible when the line is straight or prolonged at an easy curve. Paths are oftentimes introduced in too free a manner, and that without any justifiable reason whatever. They do not add to the charm of any view, but rather obtrude upon the sight.

SIMPLEX.

Clematises.—Possibly attributable to the unusual heat of the season, but most certainly, in whatever position or on what aspect growing, Clematises, and especially rubella and Jackmanni, have flowered most luxuriantly this summer and also unusually early. I saw the latter variety in abundant bloom by the middle of June, and still plants look as if they would flower for several weeks longer. In the suburbs of London these Clematises have been flowering superbly and apparently irrespective of aspect, as they are doing equally well on either side of the streets. It is a matter for surprise that with so many other good summer bloomers we should see Jackmanni chiefly and any other sort very rarely. Perhaps it is, after all, the best general doer; still, its popularity and exceeding beauty this year should help to call greater attention to hardy Clematises for house or porch decoration. Very beautiful are they, too, when employed, as at Isleworth, to cover posts and form festoons beside garden walks or to cover arbours, or, indeed, be employed for decoration in many ways. The very worst use to put these charming climbers is to make of them globe-shaped plants, as sometimes seen, but, happily, rarely. Clematises are cheap. They can be purchased in pots and be planted out where desired to be grown just as well now as at any time. The only thing is to secure strong growing varieties.—A. D.

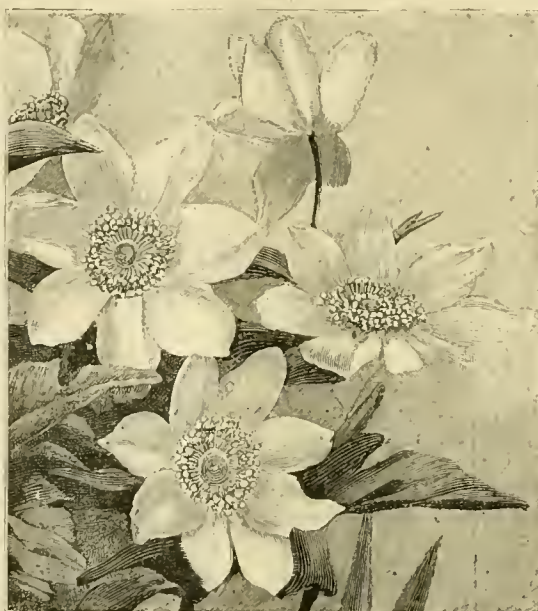
Chamærops Fortunei.—A question has been asked and a notice written about this plant lately, so it may be of some interest to state that one I planted in South Oxfordshire many years since

on a by no means sheltered lawn has flourished well, and flowers continuously and abundantly. I cannot remember exactly how old it was when it took to flowering, but considerably under twenty years (the age mentioned by your correspondent). For many years it used to be protected by matting in winter, not, however, overhead. Now it is never covered with matting and seems perfectly hardy. The soil where it is planted is one where Rhododendrons refuse to grow and but few conifers flourish. Here, where both the latter do well, I have tried it repeatedly, but severe winters like 1879 and 1890 kill it outright even when planted near a wall. A Paliurus (rather a tender thing) was planted close by the last Palm. The Palm died, but the Paliurus escaped the winter of 1890.—M. A. R., *Liphook*.

THE SKY-BLUE WINDFLOWER.

(ANEMONE ROBINSONIANA.)

THIS Anemone, well known to our readers who care for hardy flowers, has been charming with us this dry year. In well-exposed beds, in



Anemone Robinsoniana.

which we had many of it, it went rather quickly, as all spring flowers have done this year; but in places where it was used as a carpet under evergreen and other shrubs rather openly placed, the slight shade kept the blooms a long time fresh, and the leaves in some cases are not yet withered, whilst in the sun they are quite gone. We have grown it largely in dry positions, and, in comparison with many other things, it is, perhaps, the most charming of all spring flowers.

Notes on Lilies.—In the culture of Lilies we do not take into consideration the differences of soil; some thrive anywhere, while others are more fastidious. The green sand suits to perfection the auratum and its allies, which cannot be perpetuated in many other soils, take what pains you may. The white Lilies were recently referred to, but nowhere have they been more beautiful than those I recently saw in the gardens of East Kent. L. Hansonii has increased and done fairly well with me, but in five years I have not yet seen a blossom, and where L. Szovitzianum and the varieties of speciosum refuse to live pardalium has much multiplied, though very dwarf compared with

specimens in the Dorking sands. The observations recently made on the removal of this Lily I can quite confirm; the patch was so crowded I lifted the bulbs, and as carefully replanted them in fresh soil. This year none have had more than one blossom; many have had none. Leave it alone, is the lesson.—J. S. B., *Bath*.

Heuchera sanguinea.—In THE GARDEN of July 1 "W. R. B." asks for information about growing Heuchera sanguinea. I find it flowers best when planted in very narrow deep crevices of the rocks, in soil containing a large proportion of sharp sand and leaf-mould. In our rockery we have two plants which have had twelve and twenty-eight spikes of flowers respectively. We have about twelve more strong plants, but they had only two or three spikes between them; these are planted in large pockets. Writing to THE GARDEN a few weeks ago, I mentioned two plants of H. sanguinea as having twelve and twenty spikes respectively, but since writing, one has thrown up eight more spikes. I should advise "W. R. B." to plant in narrow crevices, or if in large pockets to put a number of large stones in the soil so that the roots have only very narrow places to run through.—R. W. HOSIER, *Swaylands*.

"W. R. B." complains (page 11, July 1) of this not flowering, and inquires if it does not surely require some special treatment. Here it flowers year after year brilliantly and abundantly without the slightest attention being paid to it either in rock garden or border. The soil here is of the nature which suits Rhododendrons.—M. A. R., *Liphook*.

For some years I have been in much the same case as "W. R. B." with respect to the above plant, but did not care to give up trying, so when I was at the recent show at the Inner Temple I asked the advice of Mr. Maurice Pritchard, of the Christchurch nurseries, who was exhibiting a nice lot of this plant. He strongly advised me not to give it up, but to try dividing the plants into single crowns in August, replanting in the sunniest spot at command. If this should meet the eye of Mr. Pritchard I should be thankful if he would add some further hints as to soil, and whether elevation above the surrounding soil would be likely to do good. I have grown it in quite a sunny spot at the foot of a south wall, but in a rather rich soil prepared especially for Roses. Here the plants make strong growth, but never flower. The same thing has occurred with those tried in

pots.—J. C. TALLACK.

I quite agree with the remarks of "W. R. B." in THE GARDEN of July 1 as to the shy blooming of Heuchera sanguinea. I have seen it in very many gardens, and in one where I have seen it flowering well I have seen a dozen where it is just the reverse. I have tried it in many positions and various soils—light loam, heavy loam, gritty soil, leaf-mould—and in various aspects; but in no case can I depend on its flowering freely. I have been at some trouble to try and get a good result and have experimented with quite young plants up to three and four years old, but in my garden and in the majority I have seen, it is, alas! undoubtedly a shy bloomer. I sometimes think that atmosphere has a good deal to do with the shy flowering of some plants: Certainly it often has as to their thriving. Do what you will to imitate the conditions as to soil, aspect and position of some plants that you see doing well, you cannot arrive at a like result. You can to a great extent alter and make any soil and position, but you cannot change the atmosphere.—M. C., *Loxwood House, Birlingshurst*.

Phyllocactuses.—The note on these plants in THE GARDEN, July 8 (p. 38), referred rather to the prices we have seen them realise at auction sales.

At the late Mr. Peacock's sale of Cactuses not many years ago the prices were absurd; in fact, the plants were practically given away. In some catalogues doubtless they will be priced high, but by keeping a sharp look-out for sales, or going to less pretentious firms, there should be no difficulty in getting them very cheap.

A large form of the white Everlasting Pea.—One of the best of hardy garden plants is the old white perennial Pea, but a form of it now flowering with us—a plant that has been in its position several years—is superb and altogether in advance of the type. There is no mistaking its superiority; it is too evident in the bold racemes of flowers, which are very long and numerous flowered. Others were planted at the same time, all having been raised from seed, but the remainder show no advance upon the ordinary kind. These Peas are usually shy seed-producers, but this year is favourable and there is a fair crop of pods, so that we may hope to get some seed. Increase in any other way is a slow process with these things.

FLOWER GARDEN NOTES.

As a slight addition to the reference to border Carnations in a recent paragraph in "Flower Garden Notes," I should like to note the fact that when well grown these flowers pay very well indeed, and a fair-sized piece of ground will, if planted with them, give a very fair return to the planter. If thoroughly well rooted, sturdy layers of the free flowering varieties are put out say early in October one can depend on an average of at least twelve good blooms per plant the following summer; these will sell readily at 6d. per dozen, and given plants at 18 inches apart, the conclusion as to the good return obtainable is obvious. It is gratifying to record this year the return to form of the old crimson Clove. I have had it for the last two or three seasons growing side by side with other border varieties, with its foliage completely wrecked by the disease peculiar to it and to the tree Carnations; indeed, so bad was it last year, that I decided to have nothing more to do with it. Some score of layers were, however, planted out, and are this year doing admirably, throwing some capital flowers with the grass perfectly clean.

Various plants raised from seed, besides the seedling Petunias referred to in last week's notes are doing very well. East Lothian Stocks, especially autumn-sown stuff, are making a brave show. Buds of Margaret Carnations are plumping fast, and to all appearance will furnish plenty of bloom before the border varieties are over. There is, I think, still existing an impression that all, or nearly all, summer-flowering plants raised from seed are necessarily short-lived, but that is not so, for in addition to the Stocks and seedling Carnations already mentioned, we have such things as the Sweet Tobacco, Verbenas, Petunias, French Marigolds, Phlox Drummondii, and Sweet Peas, all of which will, if sown early, come quickly into flower and bloom profusely until the end of the season. Perhaps I should add if properly attended to, for in some cases (notably in that of Sweet Peas and the Marigolds, especially the varieties of *Calendula*) they will not keep up a continuous supply of flower unless seed-pods are promptly removed. Gardeners are alive to the necessity for such an operation, but amateurs need reminding of the fact. Only the other day, for instance, in looking round some gardens I came across what had been a remarkably fine row of Sweet Peas, and was told "they are over for the season." There was no doubt of the fact under the existing circumstances, for the row was simply loaded with seed-pods.

As the season for cottage shows is now close upon us, I should like to draw attention to the value of exhibits of hardy cut flowers. I have for some four or five years dropped at our local show the groups of stove and greenhouse plants (of no particular interest to cottagers), and in lieu thereof have staged a large collection of cut hardy flowers suitable for cottage gardens. They make of them-

selves a brave exhibit mixed with feathery Asparagus foliage, and a light and graceful effect can be produced by introducing between the vases or jugs employed for the flowers occasional plants of Fern or *Isolepis gracilis*. We shall run rather short of subjects this year; many things employed on previous occasions will, owing to the early-flowering season, be almost or quite over. Still, there will be Gaultheria, hardy Fuchsias, Starworts, Erigerons, Gaillardias, Spiræas, Campanulas, Everlasting Peas, Veronicas, Peruvian and Day Lilies and plenty of border Carnations and Violas.

An important lesson to be learnt from the present season so far as herbaceous borders are concerned is the absolute necessity of making any proposed alterations in the way of lifting, division and replanting early in the autumn, not later, at any rate, than the middle of November. Sometimes the operation gets delayed from week to week until the verdict goes forth, "We will leave it until after Christmas." Frost sets in probably with the new year, and it is nearly February before one can get on the ground. The work is run through rapidly—too fast by half, and if a season like that of 1893 follows, one half the transplanted stuff does no good at all; the other half just manages to struggle along, but there is no grand summer and early autumn display of flower. Let all such work by all means be finished by the middle of November, and then if a good mulching follows careful planting, things are not likely to suffer in any average season. Several new things likely to play a prominent part in the flower garden are on trial this year, but it is impossible to give an impartial judgment as to their merits, handicapped, as they have been, by the exceptional weather. Among the new seedling Carnations is a flower very like Ruby, only several shades darker, Clove scented and with very vigorous Clove foliage. If it proves free and a non-splitter, all layers will be secured.

Claremont.

E. BURRELL.

NOTES ON HARDY PLANTS.

Cypripedium spectabile.—We must feel much indebted to E. Laney for the interesting remarks on the culture of this flower, but, after all, though some of us, indeed I very many of us, have managed to rear fine groups, yet it is not a plant that may be set and left to itself in the off-handed manner implied with good results. It may be so in the native country of the species, but surely all the experience of so many of us cannot go for nothing, and we have the stubborn fact that many of our best plantmen have only succeeded with the utmost trouble in getting the plant to live healthily for years in succession. Moreover, do we not know well how hard it is to get even some of our own native orchidaceous species to settle and flourish in gardens but a field or two's distance from their self-found home? We may be told that we have merely to set the plant in such and such soil and it is sure to grow, and we may be told so in good faith, but hundreds will bear me out that this is a plant hard to succeed with. Our American friend must not forget that one fact alone may be of some moment in hindering success. To have to deal with imported roots that have been mutilated and otherwise badly treated, at once seriously handicaps the English grower. I do not by any means wish to discourage the culture of this grand Slipper-wort; neither do I wish it to be believed that aught will be gained by indifferent or off-handed planting, which is rather implied when we are told that we pamper the plant too much.

Heuchera sanguinea.—"W. R. B." (July 1, p. 11) is not alone in his experience of this plant not flowering well; indeed, many have grown it, and grown it well, year after year without getting a single flower. May I suggest that the bulky flower-buds which form in the previous summer become injured during the winter owing to the shape of the stipules and their somewhat rough character. They are capable of absorbing and holding a deal of moisture during winter, and the bulkier the buds the more liable they are to injury

from wet and frost, and it is no uncommon thing to see all the prominent buds or points go black in spring. Then, instead of flowers, new growth must begin, often in the form of numerous and somewhat weakly side shoots, so that there is but a verdant mass of foliage without flowers. Supposing this to be the cause, the remedy would be to shelter the crowns from wet during winter. It is certain that the plant wants no protection from cold. Another thing that the plant wants is very liberal mulchings, for it makes a somewhat rhizomatose stem, and when the rhizomes can find a good rooting medium to the extent of their verdant parts, they are all the more vigorous, and without vigorous foliage you can have no flowers. As already hinted, flowers may fail to appear when there has been vigorous growth in the event of a changeable and wet winter.

Streptopus amplexifolius.—This is a charming Solomon's Seal-like plant, but with paler green leafage and more slender habit. The flowers are small and somewhat greenish yellow in colour, and as such of no account. Later, however, a most pleasing and desirable feature develops. Berries set freely. They are of large size, bright scarlet, and hang in beautiful array underneath the arching stems and foliage. The plant proved quite hardy with me last winter.

Gaultheria trichophylla.—Under this name I have grown a charming little creeper not more than an inch high, with crisp leaves and woody stems, the former being scarcely larger than the leaves of common Thyme, but thickly beset with bristly hairs. The plant is evergreen, but the flowers are small and not easily found, though freely produced. The chief attraction about this plant is its wonderful berries. They are bigger than the biggest black Currant, and the colour is even more remarkable. It is a delicate sky-blue, or as some would say, turquoise-blue, but perhaps the most familiar comparison that can be made for colour is its resemblance to the rich and beautiful blue Delphinium Belladonna. The berries are somewhat egg-shaped, the apex being slightly puckered or clawed. They rest on the surface of the ground, and are borne on the underside of the flat twigs. I see it is an Indian species, and that it has been growing here since the year 1888. I received it with another Gaultheria under the name of carnea, but carnea proved less hardy. The plants have stood in pots plunged in cocoa-nut fibre and sand. Two or three winters ago one pot became split, the roots escaped with the plunging material, and the result has been more vigorous growth and fruit. I have taken the hint and planted the whole stock in the fibre and sand, which, being very old, is well rotted, but also quite sweet. Supposing we can grow this plant vigorously on our rockeries, what a charming little evergreen it must be, with its bright blue berries that remain on the plants for many weeks. My memoranda in connection with this plant are somewhat incomplete, and I remember that I had at one time its habitat and altitude. If anyone identifying the plant meant can furnish these particulars, they together with any other might prove interesting in connection with such a distinct and charming creeper.

Geum parviflorum.—This New Zealand plant promised well from its neat habit and dwarfness, but I believe it is not destined to long hold a place in our gardens. The flowers are few and small, the bulky centres are disproportionate to the small thin petals, but the worst feature of all is that the white flowers are extremely fugacious. It may be that the present summer has been too hot for it; anyhow, I had quite a little colony of the plant, and all the flowers were over in a few days.

Woodville, Kirkstall.

J. WOOD.

The blue Rock Bindweed (*Campanula mauritanica*).—It is curious how a plant sometimes behaves altogether contrary to our notions and expectations, and this one certainly does to our gain. A native of South Europe, in this country it requires, or is supposed to require a free,

light soil and a sunny situation; but in a favoured garden with such a soil it never lived through the winter, and I only kept it by taking cuttings each autumn and planting again in spring. It is worth this trouble, but it is best where it lives in the ground, and to my astonishment it does this in a border of close, heavy soil, where one would have supposed it must inevitably perish. Plants of several years' standing have been magnificent for weeks, and some of them spread over quite a square yard of ground. It makes a perfect mat of grey-green, studded with soft mauve-blue flowers, which come profusely and in succession all through the summer.—A. H.

SHORT NOTES.—FLOWER.

Epimedium colchicum.—What are the distinctive characteristics of this plant? Nurserymen listing it appear to disagree amongst themselves as to the plant which goes under that name.—NORTH CORNWALL.

Platycodon grandiflorum.—Flowers of this come from "C. H." for a name. The flowers are of a rich deep blue colour and each nearly 3 inches across. It is a plant which I would recommend my readers to plant more often than appears to be done. It grows to the height of 1 foot or 18 inches, and the growths are surmounted with large clusters of these large rich blue flowers.—G.

A charming flower bed.—On the terrace at Gunnersbury House, Acton, can be seen a very pleasing and effective circular bed, showing some evidence of originality in design. In the centre is a standard plant of *Prunus Pissardi*, and round this a few plants of *Acer Negundo variegata*, admirably variegated, with the branches of the *Prunus* rising above them. The centre of the bed is carpeted with yellow *Calceolarias*, round them is a ring of blue tufted Pansy, with an edging next the Grass of a white Pansy.—R. D.

NOTES OF THE WEEK.

Ruellia longiflora is worth a note for the bright crimson or rather scarlet colour of its tubular-shaped flowers. A number of plants are in bloom in the Cape house at Kew, and the flowers stand out conspicuously from the abundant shining green leaves. It is a native of Peru.

The Oswego Tea (*Monarda didyma*) is a familiar plant, but one does not often see a fine mass of it in gardens. This note was prompted by a colony of it at Kew, where in a moist recess in the rockery the plant has quite established itself, making at the present time a brave show of bold crimson heads of flowers. It is a suitable thing for moist, even quite wet spots.

White Fairy Rose, one of the *Polyanthas*, is represented largely at Kew, where there are single beds of it. This variety justifies such liberal planting, as the plants have been a mass of bloom for several weeks past, whilst there is no evidence of a decrease. The flowers are not large, but of neat, compact shape and pure white.

Bartonia aurea is a well-known annual, but we draw attention to it this year as it is remarkably fine, whilst annuals, as a rule, are very poor. This kind is of great beauty when in perfection, as we saw it a few days ago in the Broxbourne nursery of Messrs. Paul and Son, where a long row of it was in full bloom. *B. aurea* makes a spreading growth, the flowers rich golden yellow and of bold form. It is effective in a group.

Chrysanthemum Lady Fitzwigram.—This first-rate new white is likely to become as popular as the early-flowering *Mme. Desgrange*. In several respects it is an improvement on the older sort, the blooms being of greater size, the growth of the plant also being stronger. It may be had in bloom from July, and perfects a dozen really fine flowers on a plant of a peculiarly dwarf nature.—H. S.

Plumbago capensis for bedding.—This charming plant is usually thought more of as a

greenhouse climber, but it is a good plant for summer beds, as testified not only by the large specimens in Hyde Park, but by the small beds of it in the Chiswick Gardens. It is used here with excellent effect, and the light sky-blue flowers are plentifully produced, making a pleasing effect, also a change from the usual things seen in bedding arrangements.

A fine Adam's Needle.—Mr. R. W. Hosier, in sending us an excellent photograph of *Yucca gloriosa* growing in the garden at Swaylands House, Penshurst, Kent, says:—

The flowers were past their best when the photograph was taken. The spike is 4 feet 6 inches in length, and about 1 foot 6 inches through, and is flowered to the bottom. It would probably have been much higher, but is in a very dry position. I think a good clump of *Yuccas* looks well on a high position in the rock garden.

The pink Broom of New Zealand, botanically known as *Notospartium Carmichaeliae*, we recently noted in flower in the nursery of Messrs. J. Veitch and Sons at Coombe Wood. It is a very distinct species of the Pea tribe, and when in full bloom not without decided beauty. The flowers are of a pretty pink shade and appear in dense racemes—a contrast to the rich green branches. Although not so hardy as one could wish, it is worth planting in the more southern districts of England.

Rudbeckia purpurea is a very fine hardy plant in full bloom now. It gains in interest and beauty when seen in a large group, as we recently noted it in the nursery of Messrs. Paul and Son, Broxbourne. The stems, rising about 3 feet or 4 feet high, are terminated by large flowers. In a well-drained, deep soil it makes splendid growth, and is a fine thing to associate with the *Eryngiums* or plants of similar character in the border. Another name for it is *Echinacea purpurea*, but it is more usually classed with the *Rudbeckias*.

Two good Yuccas.—All the *Yuccas* are fine in form and aspect, but the larger species flower only occasionally. There are two species, however, for which a place should be found in the smallest garden of hardy flowers. These are *filamentosa* and *flaccida*. If there is a small group of each, several plants will flower annually. One of the best features in the garden at the present time is these two *Yuccas*. Their spikes, nearly 5 feet high, are bearing numerous large flowers, ivory white in colour, and most conspicuous at all times, but especially in the evening.

Lilium pardalinum is superb at present in the Royal Gardens, Kew, and it is worth a journey to see the two large beds of it near the Palm house. We have never seen a finer mass of this Californian Lily, the tall, graceful stems rising from a groundwork of dwarf shrubs and bearing a profusion of flowers, orange, heavily spotted with chocolate. The tall stems swinging gently in the summer breeze are delightful. It would not be easy to find two such masses in any garden. Hard by *Lilium longiflorum* is in full beauty, its ivory white flowers appearing just above the shrubs.

Spiraea gigantea by the waterside.—We were admiring recently this fine *Spiraea* planted by the side of a lake. The *Spiraeas* are too little used for this purpose, but they are exactly the type of plant to use, *S. palmata* in particular, which makes a glow of crimson in summer. *S. gigantea* is well named. It is the giant of the family, and was first shown under the name of *S. kamschatkana*. When in good soil it will grow fully 8 feet in height and bears large white clusters, like those of *S. palmata*, much magnified. It is not exactly the type of plant for the border, but has a fine effect by the waterside or in the wilder parts of the garden.

Terrific storm.—About 4 p.m. on Saturday, July 8, the district of Snaith, South-west Yorks, was visited by a storm of thunder, lightning, rain and hail, lasting about an hour, during which hailstones, some as large as pigeon's eggs, fell, breaking a large amount of glass in the extensive vineries

here. At the end of the storm the Vine borders were covered with hail as if there had been an inch of snow. Great damage has been done to the Apple, Pear and Plum crops, quantities falling to the ground, and of those left on the trees many are shattered and useless. In and around Snaith some hothouses had every pane of glass broken, and fields of Peas, Potatoes, Swede Turnips, Mustard and Barley are quite destroyed.—W. S. CAMPBELL, *Cawick Park, Snaith, R.S.O., Yorks.*

Solanum Wendlandi, illustrated by a coloured plate in *THE GARDEN*, February 1, 1890, is in full beauty in the Water Lily house in the Royal Gardens, Kew, where it has been blooming since the spring. But it is during the summer season that it is in perfection, and then one may see how much beauty is lost to large conservatories by not planting this noble climber. The flower-heads are of very large size, and the individual blooms, lilac-blue, touched with purple, are also of great breadth, making a rich effect. We do not see this much in gardens, and the reason is possibly that it is insufficiently known. Such a fine climber, free in bloom and vigorous in constitution, should be made good note of by all who have large plant houses to clothe with beauty.

Hippeastrum procerum, popularly called the "Blue Amaryllis," is in bloom in the succulent house at Kew. A group of it is planted out and forms one of the more interesting features in the Royal Gardens at this time. It was figured in the "Flore des Serres," t. 2077, as *Amaryllis procerum*, and in the *Botanical Magazine*, t. 5883, as *A. Rayneri*, but whatever its name, it is a beautiful thing, the flowers refined, mauve-blue in colour, the segments spotted with red towards the base, the abundant glaucous leaves being margined with white. Even for its evergreen foliage alone it is worth growing. *H. procerum* was introduced from Southern Brazil in 1863, going first into Belgium, so that it is by no means new.

Delphinium Belladonna, one of the most beautiful of the perennial Larkspurs, was represented by a large group in bloom a few days ago in Mr. Gifford's nursery at Tottenham. This fine variety is not grown so largely as formerly, although more charming than many of the newer kinds that have been raised of recent years. The colour of this kind is exquisite—a soft, bright and distinct sky blue, the flowers appearing throughout the summer. It is naturally dwarf in height, not more than 3 feet, vigorous and useful for grouping in the front of deep green-leaved shrubs. This *Delphinium* should not be overlooked in the search for mere novelties. Its flowers are of value for cutting and may be used in the choicest arrangements.

Carnation Alice.—We have tried hundreds of Carnations at different times with a view to finding out the freest and best for planting in bold groups in the flower garden. The least success was with whites and yellows, but happily in white we now have Alice, which for garden decoration surpasses by far anything we have ever seen. It is a grand kind, as hardy as any, full of vigour and amazing in its exceeding profusion of bloom. Among other whites Mrs. Muir has been much praised, but we find it comes very short of Alice, and it is a florists' variety with the regulation flower, smooth and intensely formal. The petals of Alice are much fringed, and in colour a pure unspotted white. The opening bud has a tint of cream about it. In all respects it is first-rate and never splits. It was raised by Mr. Rogers, of Whittlesea, Cambs.

Nymphaea Laydekeri rosea.—This is another great acquisition to hardy Water Lilies, and very rich and bright in colour. The flowers are not so large as those of most of the newer hybrids, but doubtless will be larger when the plants are quite established. The plants were only put out in April this year. All the other good kinds were planted at the same time, but this was the first to flower, and it has continued for several weeks. M. Marliac says it blooms freely and uninterruptedly from April to October. It has a very showy appearance, the petals being sharply

pointed. On the first day of expanding it is of a clear rosy pink, but it deepens in tint daily for several days, and when at its best is of a rich carmine-rose hue with bright orange centre. From a considerable distance it looks quite red as it lies upon the water.—A. H.

The Tigridias, or Tiger Flowers, as they are popularly called, are in bloom now in gardens. We saw a group of them recently, and in the full sun the gorgeous colour of the flowers is most pronounced. The type, *T. pavonina*, was the species used, and this year it is blooming, like all things, earlier than usual. Many fail in their culture through not planting them in suitable positions. They like a warm, light, dry soil, and we have seen them to best advantage in a sunny south border. There are many kinds, but the type must not be overlooked. The Tigridias make variety in the border at a season when a change is required, and the splendour of the flower colouring is in its way unique. *T. conchiflora*, which has a yellow ground spotted with scarlet; *T. speciosa*, deep scarlet, and other kinds in cultivation are all worthy of attention. When planted put the bulbs in clumps to get effect from the gorgeous flowers.

Aerides Sanderianum.—Although described by Reichenbach as a species on its introduction in 1884, this Orchid is now looked upon as a variety of *A. Lawrenceae* by botanists. It is, no doubt, the finest of all the *Aerides* in the odoratum group. There is a good specimen now in flower in the warm Orchid house at Kew. The stem is 3 feet high clothed to the base with strap-shaped leathery leaves a foot long. The two flower-spikes are pendent, considerably longer than the leaves, and carry about twenty-five flowers each. The sepals and petals are creamy-white, conspicuously blotched at the tips with rich magenta-purple, whilst the remarkable horn-shaped lip is yellow marked with small spots of purple. In addition to its beauty it has the further attraction of a very pleasant fragrance. The flower measures $1\frac{1}{2}$ inches in depth, scarcely so much in width. Both this plant and its ally, *A. Lawrenceae*, are to be counted amongst the Orchid treasures added by Mr. Sander to our collections. The native home of both is in the Philippine Islands.—B.

Lilium longiflorum var. formosanum.—For about three weeks during the latter part of June and the beginning of July a group of this beautiful Lily has made a charming picture in the Bamboo garden at Kew. It consists of about 200 plants, which had been raised from seed ripened in the autumn of 1891. This is one of the rarest as well as one of the finest forms of *Lilium longiflorum* in cultivation, but its easy propagation as evidenced by these plants should soon make it one of the most popular of Lilies. Although the bulbs are only two years old, some of the stems have borne four flowers, the majority two and three. These flowers are trumpet-shaped, 5 inches long, pure white inside, but strongly tinged with reddish purple on the outside. The anthers are yellow. All these plants were raised from seeds produced on a single stem, which flowered in the temperate house two years ago. The seeds were sown early in 1892 on a bed of soil in a cool, light greenhouse, and they grew so freely that some of the seedlings developed one flower the first season. After they had died down in the autumn the bulbs were taken up and planted in rich open loam in the Bamboo garden. The graceful stems of the Bamboos with their wealth of feathery foliage have made a perfect setting for the flowers.

Crinum Powelli.—This *Crinum* is a hybrid raised from *C. longifolium* and *C. Moorei*. In the south of England (from London downwards) it is quite hardy, but for the cool or unheated greenhouse it has also proved a valuable acquisition, flowering as it does some six or eight weeks sooner there than outside. Wherever it is grown it should if possible be planted out, pot culture being unsuitable for it on account of the length of its bulbs, which require to be planted a foot or so deep. The flower-spikes are about 2 feet high and carry some six or eight flowers, which vary considerably in colour. In the typical form they are of

a rose-tinted white, whilst in the var. *roseum* they are of a clear pale rose. On June 20 last the pure white variety known as *album* was exhibited at the Drill Hall by Mr. P. W. Moore, of Glasnevin, and received a first-class certificate. It is also in flower at the present time in the large temperate house at Kew, planted in one of the beds; it is certainly a lovely thing. There is yet another form, and in this the flowers are white, striped with rose. But in any variety this *Crinum* is a most delightful plant, none of the forms being poor. When planted out of doors, a sheltered position with a southern aspect should be selected, giving it a rich, yet open leam to grow in.

New Lilies.—We have to welcome two Lilies that promise to get popular when better known and more plentiful. They were both shown at the meeting of the Royal Horticultural Society on July 11, and in each case a first-class certificate was given. *Lilium Alexandre* came from Messrs. Wallace and Co., of Colchester, and Messrs. J. Veitch and Sons. It is a hybrid form and has for its parents *L. longiflorum* and probably *L. auratum*; at least the flowers betray close affinity to this species. It has been already described in our report (p. 61), but justifies another allusion to it. A great point is its dwarf habit, which adapts it well for cultivation in pots. The other Lily that deserves mention is *Lilium Lowi*, which is of a different type. From the description one will see that its flowers are of distinct colour, white, freely dotted with a purplish crimson colour, that shows up to advantage on the pure ground. In time this will prove a useful, and we think popular Lily.

Too many Sweet Peas.—We welcome the improvement of any fine garden flowers, but the wisdom of giving so many names is at least doubtful. It tends to confusion and distracts attention from the things that are really good and distinct. Taking up a few seed lists, there would not be the least difficulty in compiling a list of thirty or forty named varieties, all of which are claimed to be distinct, but many are too much alike. Within the past few years great advances have been made and many new colours brought out among Sweet Peas, but the naming is overdone. Anyone who has time and space can test this by growing a collection. A few good things will be discovered, and many that rightly should never have been named at all, as, for example, Princess of Wales, a mauve-shaded, but altogether undecided colour, changing from day to day, hardly ever pretty, and of no value whatever. On the other hand, there is Princess Beatrice, than which no better kind has been sent out since the improvement first began. It is very clear, bright in colour and popular apparently, as it may often be seen in the London flower shops. We are greatly indebted to those who have spent so much labour among Sweet Peas, but it is to the interests of all concerned that those sent out as new should be distinct, and only when this is the case can the interest and popularity of the flower be sustained and extended.

PUBLIC GARDENS.

NOTES FROM THE PARKS.

ALTHOUGH the season has not been favourable for flowers, the parks are bright with colour, and each year the arrangements of various things undergo a pleasing change. It is worthy of note that the usual rigid style of bedding out, carpet designs, and set patterns of severe type are practically abolished. A few reminders of a once debased fashion remain, and whilst similar plants are used as formerly, they are set out in a wholly different way. As usual, the flowers in Hyde Park are very fine, distressed somewhat by the drought, but not seriously. Such things as *Plumbago capensis*, *Fuchsias*, *Pelargoniums*, *Palms*, *Bamboos*, and fine-foliaged subjects of like character are

boldly grouped. This feature of the Hyde Park summer arrangements should be followed also in other parks, where, however, we are pleased to see that hardy perennials are largely used. A very familiar flower is the Carnation, and both along Park Lane and in Regent's Park it is well planted. A few days ago the flowers were rapidly expanding, and in Hyde Park the variety *Alice Ayres* occupies one bed, the groundwork *Lysimachia nummularia aurea*, and the edging tufted *Pansy lilacina*, of a pleasing shade of blue. The Carnation has a large, full, white flower cut into with rose. It is pleasant to see that the edgings to the beds are diversified as much as possible, not the same things repeated until one gets weary of them, and in Regent's Park especially the London Pride, Creeping Jenny, and mossy Saxifrage are more largely planted than the *Pyrethrum* or other familiar edging things.

One of the most beautiful beds we have seen is in Hyde Park. The groundwork is *Alternanthera*, and the edging *Antennaria tomentosa*, whilst the surface is broken in a charming way by raised plants of blue *Lobelia*, *Carex riparia variegata*, the variegated *Phalangium*, scarlet tuberous *Begonias*, *Draena indivisa*, and *Grevillea robusta*. The colouring is of quiet beauty, and a relief from more gaudy arrangements. We think a little more variety might be introduced amongst the tufted Pansies, as there is a host of kinds, strong in growth, free, and representing considerable range of colours. The distinct beds of them are very fine, and show what may be accomplished by a free and bold use of this plant. *Pelargoniums* are a leading feature in the majority of beds, but garish effect is prevented by suitable contrast. A pink-flowered *Pelargonium* mixed with tufted *Pansy lilacina*, then a line of *Iresine Lindeni*, and an edging of white *Lobelia Snowball* form a very distinct and attractive bed. Again, the same tufted *Pansy* is used with *Pelargonium Aspasia*, the flowers of which are white, and the contrast is distinctly pleasing. It is not often one sees the Rose succeeding creditably in London, but a bed of several varieties is not without attraction, Harrison's Musk covering the surface of the ground, and the edging is blue *Lobelia*. The familiar Musk is a delightful flower for bedding, covering the surface and harmonising well with the majority of things.

Where the space to be dealt with is large, it is essential to get variety in the various beds. A tufted *Pansy* named *Beauty of Chipping Norton*, which has deep blue flowers, looks well in association with white Stocks. Of recent years *Lobelia cardinalis* has been largely planted, and a bed in which it is a feature mixed with tufted *Pansy Mrs. Turner*, the flowers light lavender in colour, and the edging of *Fuchsia Cloth of Gold*, results in a fine contrast. There is also now a departure in the matter of edgings. In one arrangement the bed has three rows of tufted *Pansy Snowflake*, a very good kind, of sturdy habit and throwing its white flowers well above the leafage. We greatly admire this way of planting the tufted *Pansy*. The groups of *Heliotropes* and the various other things that have been mentioned will have a hard time against the drought and hot sun, which in London, even in the parks, is intense. Artificial watering does something, but nothing atones for genial showers and shade at times.

The flowers at Regent's Park are planted in quite a distinct way, and this has become a very charming spot in summer. We have already referred to the edgings of hardy plants

used well and in perfect agreement with the subjects associated with them. In the outer portions and against evergreen shrubs large masses of *Lilium croceum* were, at the time of our visit, in full beauty, also of *L. umbellatum*—two species that succeed remarkably well under such conditions.

Another plant in full bloom was *Erigeron speciosus*, the flowers making a sea of light lilac-purple. The beds in this park are boldly planted. In one we see tufted Pansies of distinct colours, and in another Pink Her Majesty, associated with Carnation Guiding Star. A succession of bloom over a fairly long season is thus secured, the stems of the Carnation appearing freely from the dense mass of glaucous leafage as a groundwork. Around the border are standard Fuchsias, tuberous Begonias, *Polygoniums*, and other plants arranged in distinct blocks to get rich effect. A very pretty contrast is obtained with white Canterbury Bells and blue Cornflower. Delphiniums with flowers of various shades of blue are imposing in front of dark leaved shrubs, and we hope that this vigorous style of flower gardening will be still further extended in the future. A very pretty arrangement is that in which the leading features are *Asparagus plumosus*, the variegated *Dactylis*, and *Begonia floribunda* rosea, the flowers rose in colour edged with a lighter shade. There is room still for further development in the way of hardy perennials, but we must say that the contrasts of colour to be seen are in good taste, rich, and effective, yet not garish. The beds of large-flowered *Petunias* are, however, a mistake. We have noted them on more than one occasion. The big, flabby flowers are quite wanting in vigour and the purple shades of colour most displeasing. If *Petunias* are used, the varieties should have small, brightly coloured flowers, which are far more effective than the later productions of the raiser.

Lincoln's Inn Gardens.—On Monday next, according to a custom which has prevailed for some years past, the gardens of Lincoln's Inn will, by permission of the Benchers, be thrown open for the benefit of the poor children inhabiting the surrounding neighbourhoods from 3 o'clock until dusk; and on and after August 14 until September 15 the gardens will be open from 5 o'clock until dusk.

Open space for Shoreditch.—On Saturday evening, outside Hoxton Church, a demonstration, convened by the local workmen's clubs, was held to demand, for the people of Shoreditch, the site of the Haberdashers' Schools as an open space. A representative local committee, headed by Mr. Stuart, M.P., is urging the desirability of granting the school site as a public garden and playground, there being at present absolutely no such open space in Shoreditch. The following resolution was proposed by Mr. J. Field, seconded by Mr. Knight (O.B.S.), supported by Mr. C. Freake, L.C.C., and carried unanimously, "That this meeting of inhabitants of Shoreditch respectfully urges the Charity Commissioners, in dealing with Aske's charity and the Haberdashers' Schools, to take into consideration the great need for an open space for the people of this densely-populated district." Another resolution, desiring the local M.P.'s and other elected representatives to press the matter forward, was also passed.

The weather in West Herts.—The past week has been the first week which has been in any way unseasonably cold since the middle of January. An unbroken record of twenty-five consecutive warm weeks, or six months, is certainly very remarkable, if not unprecedented in the present century. I call last week a cool one, but after all, the mean temperature was only slightly below

the average for the month. The ground still remains very warm even for midsummer, the temperature at 1 foot deep being 65° and at 2 feet deep 64°, or respectively 7° and 6° warmer than at the same time last year. Although rain has fallen on most days this month, the aggregate amount measures less than three-quarters of an inch, which, after such a long spell of dry weather, is almost valueless. The lawns are certainly greener than for some months past, but vegetation generally, notwithstanding the warmth of the ground, makes little progress. Even heavy waterings in such a season appear to do little good while the atmosphere and subsoil remain so dry. Mr. G. J. Symons, F.R.S., states in this month's *Meteorological Magazine* that only 1.12 inches of rain fell at Greenwich during the 113 days ending June 22, making this the longest partial drought on record in this country. During the same period 1.94 inches of rain fell in this part of Hertfordshire. —E. M., *Berkhamsted*.

Notes from Almondsbury.—A *Crinum* seedling is blooming well with me in the greenhouse. I have cared for it eight years. This year it has burst its pot and rushed up a spike of bloom. The spike is 3 feet long; there are fourteen blooms, six out now; the leaves are 4 feet long. Next to it stands a fine old plant of *Schubertia grandiflora* in bloom. Some persons like its nutty odour. On the surface soil of the pot I grow several plants of *Streptocarpus* hybrids. How charming these are! In a sheltered bed outside the greenhouse I grow choice Daffodils, *Stuartia virginica*, Fortune's Yellow Rose, *Iris aurea*, *Lapeyrousia grandiflora*, *Abutilon vitifolium* album, *Habrothamnus elegans*, and a carpet of the variegated white-leaved Strawberry, with the variegated Blackberry. I fear there is hardly room for all, but the combination at present is interesting. I can confirm all the praise given to *Iris aurea*, *Monnierii*, and *ochroleuca*. With me they have resisted nobly the great drought of 1893. *Alstroemerias* are my great failure this year, except *aurantiaca* in a damp spot. I believe a sunny ditch is the best place for most of the *Alstroemerias*; very rich soil, and yet not to be too wet in winter. It is these happy combinations of soil and position that are the trouble of the gardener. To make places suitable for all plants "passes the wit of man." Mulleins have been very fine; also Carnations, but as many leaves are falling and many Michaelmas Daisies are over, what shall we have in our gardens in September? All Delphiniums should be cut down and mulched and great care taken of Dahlias. An old clump of *Iris Milesi* was crowded with bloom this year. A warm wall in the south of England suits this well. *Antholyza paniculata* is blooming freely now.—C. O. MILES.

Rosa lucida in Berks.—I send a photo of *Rosa lucida plena*. The plant, a standard, is some twenty years old, 7 feet through the head and about 8 feet high, and forms a lovely object when in bloom. It is on a Brier stock budded by my father at Sulhamstead, near Reading.—J. E. STRANGE, *Aldermaston, Reading*.

BOOKS.

"Further Recollections of a Happy Life."—Those who read Miss North's earlier book will welcome a further issue of what is in fact the autobiography of a remarkable woman. The present volume is a record of some of Miss North's earlier journeys in remote parts of Europe and in Egypt and Palestine—journeys of thirty years ago, when travelling was not made so easy as at present, but when the places visited were fresher and better worth seeing. The power of keen and shrewd observation that is evident throughout Miss North's writings, and the genial and widely sympathetic human kindness that endeared her to all who knew her, are as conspicuous in this as in the larger book.—G. J.

* "Further Recollections of a Happy Life." By Marianne North. London: Macmillan and Co.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will take place on Tuesday, July 25, at the Drill Hall, James' Street, Victoria Street, Westminster. The fruit, floral, and Orchid committees will assemble at 12 o'clock as usual, and at 3 p.m. a paper on "Alpine Houses and Plants" will be read by Mr. H. Selfe-Leonard.

Wasps as gardeners' friends.—It is seldom that a good word is said concerning wasps; but this season they have proved quite gardeners' friends, as they have destroyed many of the insect pests so prevalent this season. Although fruit is ripe much earlier than usual, wasps have not yet attacked it. In a gentleman's garden close by a Morello Cherry tree had a bad attack of black aphids, but the wasps soon cleared them, leaving the Cherries, which were turning colour fast, unmolested.—A. YOUNG.

Salt as a manure for Celery.—I have used salt for Celery for some years and generally give two dressings, the first just after the plants have become established. Only a mere sprinkling is given along each side of the rows, keeping it away from the plants. At the same time the soil is broken down so as to form a top-dressing of about an inch. Into this the roots work very freely and the plants take on a healthy growth. The other dressing is given at the first earthing-up.—A. YOUNG.

English gardeners for India.—The Government of India have under consideration (says the *Bombay Gazette*) a scheme by which European gardeners for gardens in the various provinces will be regularly supplied from Kew, and will be retained on conditions more satisfactory than at present.

Lilies from Weybridge.—I have brought you up a few Lilies, including *L. Martagon dalmaticum* in four distinct varieties. This Lily has been unusually fine this season; one stem had thirty-nine flowers, another thirty-eight. I have also brought you *L. Humboldtii*, three varieties, and *L. Batemanniae*, a fine growth with thirteen flowers and buds.—G. F. WILSON.

BOOKS RECEIVED.

"Bulbous Irises." By Prof. Michael Foster, R.H.S., 117, Victoria Street, S.W.

"A Synopsis of the Genera and Species of Musae." By G. Baker, F.R.S., F.L.S., Keeper of the Herbarium, Kew.

"Catalogue of Plants in the Broome Botanical Garden, Royal Victoria Park, Bath." By J. W. Morris, F.L.S. F. Curtis, X.L.C.R. Press, Bridge Street, Bath.

"Handbook of the Flora of New South Wales." By Chas. Moore, Government Botanist and Director Botanic Gardens, Sydney, assisted by Ernst Betche, Botanical Collector. Charles Potter, Philip Street, Sydney.

Names of plants.—*Dunum*.—Send better specimens.—*H. May*.—Please number specimens.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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"Hardy Flowers."—Giving descriptions of upwards of thirteen hundred of the most ornamental species, with directions for their arrangement, culture, &c. Fifth and Popular Edition, 1s.; post free, 1s. 3d.

"The Garden Annual" for 1893.—Contains Alphabetical Lists of all Branches of the Horticultural Trade. The Lists of Gardens and Country Seats (containing over 9000) have been very carefully and extensively revised, and are admitted to be the most complete ever published. Price 1s.; by post, 1s. 3d.

All of our readers who are interested in the improvement of cottage homes are invited to help us to make Cottage Gardening known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, E.C.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

ORCHIDS.

ACINETAS.

ALTHOUGH only a small genus of Orchids, the *Acinetas* known in gardens are, with scarcely an exception, well worthy of cultivation; yet they cannot be said to occupy so prominent a position in collections now as they appear to have done forty or fifty years ago. This, of course, is easily accounted for when we consider the remarkable success which has since that period attended the labours of Orchid collectors in South and Central American regions in introducing to European gardens species of other genera with which, in showiness and wealth of colouring, the *Acinetas* cannot compare. Nevertheless, during July and August, when the best of them are most frequently to be seen in bloom, there are few Orchids more welcome than they are, not only because of their large and striking racemes of handsome flowers, but also for the interest which attaches to their curious method of flowering, as is hereafter described. There are now probably about ten species known, all of which are natives of Central American countries either above or below the Isthmus of Panama. The identity of one or two is, however, somewhat confused with members of the closely allied genera *Læcena* and *Luddemannia*, which are very similar in leaf and pseudo-bulb. In regard to habit, *Acinetas* may certainly be included amongst the handsomest of Central American Orchids, having large, leathery deep green leaves, frequently from 1 foot to 1½ feet long, and stout, angular pseudo-bulbs, also dark green. The flower racemes in every species known to me are pendulous, issuing from the base of the pseudo bulb. As a rule they push straight downwards through the soil, coming out through the bottom of the basket in which the plants are growing. More than once I have noticed plants growing in pots where the flower-spike had pushed through the soil and drainage and found its way through the hole at the bottom, the large raceme of flowers presenting in that position an extremely curious appearance.

In regard to their cultivation, *Acinetas* present no particular difficulty. They should, on account of the peculiar method of flowering, be grown exclusively in baskets, and for the same reason large flat pieces of potsherds for drainage should not be used, preferring instead rather large lumps of charcoal, arranged so that the spike has no difficulty in pushing between them. I have seen *Acinetas* described as shy-flowering, but my experience with them has been the contrary, healthy plants flowering regularly every year. I believe that this description of them has arisen through their being so frequently grown in pots, for, notwithstanding the marvelous knack the flower-spike has of finding an outlet, I have on several occasions noticed the remains of old spikes curled up amongst the crocks in pot-grown plants. Above the drainage a layer of good *Sphagnum* should be placed, using, finally, as a compost sound peat-fibre and *Sphagnum*. On account of the inadvisability of using much drainage, it is better to select baskets that are rather broad and

shallow. From March to July or August the plants may be grown in the East Indian house, the coolest part of which is preferable. If such a position be not available the intermediate house will do, and in any case during the time the plants are in flower and at rest they should always be kept in this house. Water is needed in abundance during active growth, but after flowering the supply should be gradually reduced until in winter no more is needed than will keep the pseudo-bulbs and leaves plump and fresh. They like a position near the glass, but should be carefully guarded from the hottest rays of the sun. When in flower it is, of course, necessary for them to be suspended from the roof.

The following are the sorts generally grown—

A. BARKERI.—According to Mr. Bateman, who figured this species in his magnificent work, "The Orchidaceæ of Mexico and Guatemala," it was discovered in 1837 by Mr. J. Ross in one of the many dark ravines which occur in the neighbourhood of Xalapa, in Mexico. It was first flowered in this country in 1838 by Mr. Barker, whose collection of Orchids near Birmingham was at that period one of the most renowned in England, and in honour of whom Lindley gave it the name it bears. The last specimen I had in bloom bore a raceme of nearly twenty flowers, which were bright yellow, spotted with brownish red.

A. CHRYSANTHA.—This is one of the rarest of *Acinetas*, and, after having been lost to cultivation for nearly fifty years, re-appeared at Kew in 1888, having been sent there from New Granada by M. Patin and recognised on its flowering the next year by Mr. Rolfe. It has flowered several times since that date. The raceme is pendulous as in the other species, the flowers being bright yellow, the lip alone heavily blotched with crimson. Mr. Rolfe says it is distinguished from all other *Acinetas* by the strong curved horn at the base of the crest. In one of the continental figures of this plant the raceme is depicted as erect, an error which has led to considerable confusion in regard to not only the characters of this plant, but also those of the genus, none of whose species, so far as I am aware, have other than pendulous racemes.

A. DENSA.—This species and *A. Humboldtii* are probably the best known in gardens, yet neither of them can be described as other than comparatively rare Orchids. *A. densa* was introduced from Costa Rica about 1850, having been discovered by Warszewicz. It carries (generally during the month of August) a long raceme of handsome flowers, each of which is 2 inches across. They are somewhat cup-shaped by reason of the incurving of the sepals and petals, which also overlap each other. The sepals are entirely of a rich yellow, the petals, which have the same ground colour, being spotted with brownish crimson, a character that is still more markedly present in the lip. All the parts are singularly thick and fleshy in texture, and the flowers remain in good condition about a fortnight. The raceme as a rule is a little over 1 foot long and carries sixteen to twenty flowers.

A. HRUBYANA is a little-known species introduced for the first time by Mr. Sander, of St. Albans, about twelve years ago and flowered in 1882 by Baron Hruby in Bohemia, after whom it was named by Reichenbach. That botanist describes it as a fine plant, distinct from all other species of *Acineta*, the flowers being white, with a few purple spots on the lip.

A. HUMBERTII.—Lindley first figured this species in the *Botanical Register* for 1843 as *Peristeria Humboldtii*, and he there stated that the plant was imported from Porto Caballo, in Venezuela, by Mr. J. Wilmore, of Oldford, near Birmingham, three years previously. It first flowered in March, 1842, carrying a spike 2 feet long. It had, however, been discovered many years previously by Humboldt and Bonpland in Peru both wild and cultivated. In the typical form of the species the flowers are reddish brown, spotted with dull

purple; in the variety *fulva* the ground colour of the sepals and petals is a tawny yellow, and a brighter yellow on the lip. A variety known as *staminea* has pale straw-coloured flowers. All the forms are extremely handsome, but, unfortunately, the flowers do not last many days in perfection.

A. SULCATA is a very rare species; it is, however, given in the list of Orchids which flowered at Kew in 1890. It was first seen in Mr. Christopher Sykes' garden at Brough, in East Yorkshire, and although no definite information appears to exist respecting its origio, Reichenbach concluded that it came from either New Granada or Ecuador, as he had a sketch made by Wallis which agreed with the flowers sent him from Brough. The flowers are yellow, spotted with brown-purple, and resemble those of *A. Humboldtii fulva*; it is, however, distinguished by having a hairy column. It flowers during July.

Other species which may be mentioned as completing the list of known *Acinetas* are *erythroantha* (occasionally seen in cultivation), *Schilleriana*, *cryptodonta*, and *sella-turcica*. None of them are of importance to gardeners.

B.

Orchids at Cheltenham.—A gathering of beautiful flowers comes to hand from Mr. Cypher, Queen's Road Nursery, amongst them being the grand and lovely *Sobralia xantholenca*. The flowers, which are large and showy, last several days in beauty, and when they go off they are succeeded by others from the same sheath, so that a good display is maintained. The sepals and petals are of a primrose-yellow, the large lip being somewhat frilled, of a deeper yellow, which passes into deep orange at the base. With this also comes a good flower of *Catasetum Bungei*, which was introduced a few years ago by M. Linden. This, with its pure ivory white flowers, has done much to popularise this genus of plants. It appears to be a very free bloomer. Mr. Cypher also sends a very good form of *Lælia tenebrosa*, with its bronzy sepals and petals and its richly coloured lip. Amongst the Slipper family is a very fine form of *Cypripedium cardinale* and one of its near relatives, the ivory-white *C. Sedeni candidulum*. *C. Curtisii* was also included. The first bloom this season of a fine dark form of the beautiful *Dendrobium Phalenopsis Schroederianum* was also sent. Of this plant Mr. Cypher says he has some wonderful growths, much finer and stronger than on the imported bulbs.—G.

Masdevallia Dayana.—This plant flowered for the first time in the famous collection of Mr. John Day, of Tottenham, nearly twenty years ago. It has recently been taken from the genus *Masdevallia*, and the almost unpronounceable name of *Cryptoporphanthus* has been given it. The plant is now in flower in the Burford Lodge collection of Sir Trevor Lawrence. The flowers, like those of all the *Masdevallias*, depend for their beauty on the sepals, which are joined together at their points, leaving an opening or slit at the sides; they are greenish white, spotted reddish brown, below wholly deep brown. This is a charming companion to the *M. fenestrata* which I used to grow and flower some years ago.—G.

Maxillaria Sanderiana.—G. Horrocks sends me a flower of this the grandest of all the plants known in the genus. It was introduced from Ecuador by Mr. Sander, of St. Albans, about ten years ago, and is now getting strong and established, and flowering very freely in many gardens. The flower sent, with a question as to its being a new variety, differs from that figured in THE GARDEN of July 23, 1887, inasmuch as it has a yellow lip. It is over 6 inches across, and a massive dark bloom. I cannot say it is a new variety, for I have seen it before flowering in the collection of Mr. Measures, The Woodlands, Stratford. This gentleman remarked that the lip was yellow, while the figure in THE GARDEN showed a white lip, but he did not deem it of much importance; neither did I, but what I did note with pleasure was the freedom with which the plant

was flowering. It was grown in the same house with the *Lælia*s and *Cattleya*s, and this fact I would wish to impress upon the minds of my readers who have been trying to grow this plant in the cool house.—W. H. G.

Coryanthes maculata.—J. Buckley sends a flower for a name which I think must be a variety of this species, which is very variable in colour, and has received several names. He says this plant was sent to him by some friends in Demerara, and it was there or in some other part of British Guiana that it was first found. The flower now before me is tawny yellow without any spotting whatever; still, by the shape of the helmet and the bucket I think it belongs to this species. The genus comes very near to *Stanhopea*, but the flowers are infinitely more curious and interesting. The *Coryanthes* require the hottest position in the East Indian house with full exposure to the sun coupled with a nice moist atmosphere, and at no season of the year should the plants be allowed to become dry.—W. H. G.

Dendrobium canaliculatum.—D. Maurice sends a spike of a very fragrant species, which I had some difficulty in naming at first. He said it was sent to him by a friend from North Australia. The sepals and petals are not so pale as usual, being of a greenish rose and the lip rosy purple. This plant, introduced by Mr. John Gould Veitch, was figured in the *Botanical Magazine*, and described by Bateman under the name of *D. Tattonianum*, but it had been previously described by Robert Brown under the name given above. It is one of the most fragrant species of this genus, and although the spike sent had but six flowers we are told that it sometimes has as many as eighteen to twenty. It requires to be grown in considerable heat, for although from Australia, it must be borne in mind it is from the north of that country.—W. H. G.

CATTELEYA GUTTATA LEOPOLDI.

This species, which appears to have been introduced over sixty years ago, was first figured in the "Transactions of the Horticultural Society." It now, however, is seldom seen in our gardens, larger and more richly coloured kinds taking its place. The variety we now have under consideration was introduced some forty years ago by one of the *Verschaffelt*s then in business in Ghent, and named by him in honour of the King of the Belgians. Of this variety I have received two splendid forms from M. Linden, of Brussels, the fine spikes making really quite a gorgeous display, and showing what a fine plant this is for decorating stoves at this season of the year. M. Linden informs me that these varieties were sent to him from Pernambuco, but as this is a province covering a greater surface than the whole of England, it does not give any clue to its whereabouts. The varieties are of great merit and the flowers richly coloured. The larger flower of the two measures 4 inches across, and the spike carries twelve of these flowers, the sepals and petals having a ground colour of tawny yellowish-green profusely spotted with crimson. The side lobes are white, suffused with rose, middle lobe clawed and of a deep rosy purple. In the other variety the blooms measure half an inch less across, the spike carrying fourteen flowers, which are richer and warmer in colour, the sepals and petals being of a rich bronzy hue, liberally spotted and blotched with deep crimson, the lip similar to that of the last named, but the side lobes of a deeper colour, and the front lobe of a rich amethyst-purple. I also received a fine spike of this variety from Mr. Seeger, of Dulwich, bearing twenty-five flowers. This variety comes about midway between the two forms sent by M. Linden. This plant Mr. Seeger tells me was imported

with others from the province of Santa Catharina, which is again larger than England, and from the same district I received some years ago the very finest form of this variety I have ever seen. This plant appears to have a wide distribution in Brazil, and, like many of the Brazilian *Cattleya*s, it requires considerable care to maintain it in a healthy condition for many years in succession. This comes about in a great measure from importing the plant in too large masses, and these having to be so much divided, many of them break from latent eyes only, and consequently the growths from these eyes are very weak. Some twenty years ago I remember cutting a fine plant out of an imported mass; it had thirteen growths, nine of which had the leaves entire, and last year I had the pleasure of seeing the same plant which had grown into a remarkably fine specimen. The old stems are pruned away when they become leafless, and this is the only system of pruning that I believe in. The plant turned out to be a very nice variety of this *Leopoldi*, and it proves that the plant is capable of being kept for some years in a state of cultivation. *Cattleya guttata Leopoldi* requires to be potted in good brown peat fibre, mixed with chopped *Sphagnum Moss*, or in the fibre of *Polypodium vulgare*, some flakes of which I recently saw which quite astonished me. It requires to be potted on a little cone or mound of soil above the pot's rim, and the pot itself should be exceptionally well drained. The plant should be grown along with *Lælia elegans*, and such like plants that require slightly more heat than do the New Grenadian *Cattleya*s, but they are at one with these plants for the supply of water during the summer months, but during the winter they like to be always just moist, for I believe this plant has been destroyed principally from being kept too dry, and in not being kept warm enough in the winter. It grows and flowers well with the usual occupants of a stove, requiring only to occupy a nice, light and sunny spot, and never to be syringed overhead.

WILLIAM HUGH GOWER.

SHORT NOTES.—ORCHIDS.

Cymbidium canaliculatum (*D. Maurice*).—This came home with *Dendrobium canaliculatum*, and, curiously enough, it has the same specific name, but it is not a very showy species. It nevertheless shows that the different genera which are prevalent in the Indian Islands extend also to the coast of Australia. This species has been found in New South Wales as well as in Queensland.—G.

Cynoches chlorochilon (*G. Snell, Exeter*).—This is the name of the flower you send. The yellowish green fragrant flowers are the male ones; I have never seen the female blooms. It is not new, having been introduced between fifty and sixty years ago, and is popularly known as the Swan's-neck Orchid. It appears to be a native of British Guiana. You may keep it dry during the winter.—G.

Cattleya superba is worth a note for the rich colour of the flowers. It is appropriately named "superba," and is a native of British Guiana. We noticed a good plant of it in bloom a few days ago at Kew. The flowers are compact in shape, sepals and petals rich purple-rose, except the lip, which is intense crimson, touched with yellow at the base, on which appear veins of a purplish tone. It is a bright and handsome species.

Epidendrum Frederici-Guilielmi.—This comes from Charles Roberts, and I am pleased to see so fine a variety of this plant. It was first introduced as a living plant some years ago by M. Linden, of Brussels, but it remained very scarce for some time afterwards. The flowers are each some 2 inches across and of a deep reddish purple

hue. They are produced in a many-flowered panicle, and they last long in full beauty. This plant does best in the cool house with the *Odontoglossums*.—W. H. G.

ORCHARD AND FRUIT GARDEN.

PLANTING OUT POT STRAWBERRIES.

THE present season has been most unfavourable for planting out Strawberries that have been fruited under glass. Many have doubtless delayed doing this work in the hope that a change of weather would render the prospect of success more certain. The earlier they are planted, however, the finer will be the crop next season. If the ground is in good order the roots will go down quite 9 inches by the close of the autumn, that is if planting is done sufficiently early, and by the time the berries begin to swell the plants will have got such a hold of the soil as to ensure the ripening off of a heavy crop of fruit satisfactorily. In the case of plants that have several crowns, I see no great advantage in keeping all the foliage. It is a peculiarity of the Strawberry that picking off some of the old leaves induces the production of new ones. If all the leaves are allowed to remain where the plants are turned out of doors they will remain for some time in the same condition, but cut all the foliage off and a new crop of leaves will immediately push up. This complete defoliation I do not, however, advise being done, but some of the oldest leaves may be taken off when the plants have done fruiting. This will be beneficial in more ways than one, diminishing the labour of watering until the plants can be put into the ground and rendering cleansing, also much easier. As all know who have had anything to do with Strawberry culture under glass, red spider is sure to attack the foliage in the latter stages of growth. If the weather should happen to be hot and dry after the plants are put into the open ground they will make little or no progress when this is allowed to remain. They will also be a source of danger to everything near them. Every plant should be dipped in soft soap water at the rate of 3 ozs. to the gallon, with enough sulphur to thoroughly coat the leaves. I much prefer black sulphur for this purpose, as it is much stronger than the yellow, and there is little danger of injuring the matured foliage, especially if dipping is not done till the plants have been a week or two in the open air. In any case it is preferable to run the risk of injuring a few leaves to leaving any spider on them. When the black sulphur is used the mixture must be kept well stirred, as it, unlike the yellow sulphur, does not float, but sinks to the bottom. There is some danger of the plants suffering from want of moisture after being put into the ground, as water does not easily penetrate the old ball of soil. I have always made it a practice to pierce the ball in several places with a skewer, as this allows of the freer entry of water, both from rain and the watering pot. Before planting, the ground should be rolled or trodden as hard as possible and made very firm round the old balls, leaving a shallow basin round each plant. If put into the ground in a rough-and-ready manner the old balls of soil are apt to get very dry, the water passing away round them, and when this is the case they never start away into free growth. Should the weather be very hot and dry, a few Pea sticks laid over the crowns will be very beneficial, affording grateful shade to the foliage and helping to keep the roots cool and moist. As soon as the plants start into growth the hoe should be used freely among them, and they will give no further trouble. J. C. B.

Early Apples.—No doubt Red Juneating, Mr. Gladstone, Red Astrachan, Yellow Harvest, Beauty of Bath, Red Quarrenden, Lady Sudeley, and others will be ripe and gathered by the end of August,

so fast have they been pushed on. It seems very doubtful whether in any way we shall improve upon our earliest summer sorts. Perhaps they are not worth much trouble being taken to do so. It does seem so evident that we can get little of flavour into Apples until cooler weather prevails, that we shall always have to be content with indifferent quality in the summer varieties. Very few trees of any of them suffice, usually about one tree of a sort, just to give an occasional dish at dessert.—A. D.

Jargonelle Pear.—This Pear, like most other fruits, has ripened unusually early this year. I was able to gather good large fruit of this Pear quite yellow and soft on July 18 from some old trees growing on a south wall of the abbey. This is fully a month earlier than in 1891 and a fortnight earlier than last year. It is strange how large the Pears are from these trees this year, although the weather has been so abnormally dry, with the roots under turf and in a carriage drive.—J. CROOK, *Forde Abbey*.

NECTARINES FAILING.

I SHOULD very much like to have your opinion regarding the failure of the Nectarines which I enclose for your inspection. The trees have been very much neglected, not having been pruned during the winter previous to flowering and fruiting this summer. The trees then being one mass of brown scale, to clean them I had them gone over with a brush dipped in paraffin, and was careful not to touch the leaves or any joints. In the house are two Peach trees either side of this Nectarine, and the fruit got to a fair size. The branches of the trees have kept dying here and there during the summer. I have used cow manure water to them, half manure and half clear water. The bed is 2 feet 6 inches in depth and 3 feet across. The soil is very strong loam, called wharpe, made from the river overflowing. The bed has not been dry in the least to my knowledge.—S.

* * The trees not having been pruned had nothing to do with this failure, though it may have been responsible for the weakness of the growth. I have seen some enormous crops taken from trees that received no more pruning than might be given to a Quick-set hedge, but it was a bad thing in the end, such trees soon failing. One year's neglect of pruning is also ruinous as far as the form of the trees is concerned, it being a very difficult matter to recover them to a more satisfactory state. Alluvial soil is usually considered very good for all purposes, and in this case was not the cause of failure. If it had not been suitable for them, the Peach and Nectarine trees would never have started well in it. The cow manure water—and which I presume is simply the draining from a cow-yard or stalls—naturally varies in strength considerably, very much depending upon the amount of water that may be run down. As a rule it ought not to be used so strong as "S." seems to have applied it. Probably it would have been safer and more effective if diluted at the rate of 4 gallons of water to one of the manure. Even if this had been used too strong the consequences would have been different or more nearly approaching a wholesale collapse. Personally, I have no doubt the mischief was brought about by the use of crude paraffin, or, more properly speaking, petroleum. The symptoms are exactly the same as when Vines have been injured by a too free use of this powerful insecticide, laterals or branches failing at intervals and after the first growth has been made. Petroleum is of a very penetrating nature, and the bark of Peach and Nectarine trees, though less porous than that of Grape Vines, is far from being proof against it. Not till the supplies are cut off or, in other words, not till the decay first started by the petroleum has spread completely round a branch do the leaves flag and the fruit shrivel. A dry brush would have been quite as effective against the scale; at any rate using the petroleum did not save time. When petroleum is used as an insecticide the trees ought to be at rest, and even then it is not safe to use it

undiluted. I have repeatedly warned the readers of THE GARDEN against a reckless use of petroleum, and as often stated how it might be safely and effectively applied as a remedy for brown scale, mealy bug, and such like. For the benefit of "S." and other readers, I will once more give the formula. To every 3 gallons of water heated to 120° or thereabouts add 2 ozs. of soft soap and 6 ozs., or three wineglassfuls, of petroleum. Stir it well by means of a syringe, and apply to the trees while hot. The petroleum should be prevented from collecting on the top, the usual plan being to discharge every second syringe full forcibly back into the can, or two syringes can be employed, one being kept constantly discharging its contents back into the can. Petroleum is not nearly so effective when used with cold water. I ought perhaps to add that if I am right as to the cause of branches dying there is no remedy, and most probably new trees will have to be planted next autumn or winter.—W. I.

Pears and the drought.—The crop of Pears is this season exceptionally abundant, and where the means for keeping the trees well supplied with moisture at the roots has been at hand the fruit ought to be very fine, for up to the present I find but very little cracking of the skin, and trees that on several occasions have had their fruit crack badly are this year quite free of this. On well-drained soils Pears require a very heavy supply of water and liquid manure, and it is useless looking for anything beyond the ordinary run unless extra feeding is given. Luckily for the Pear crop generally, some heavy rains have fallen lately, which, although too late to help the early kinds, will be of great assistance to the late ones, and should be supplemented by artificial waterings and mulchings as well. With me Pitmaston Duchess, one of the best market Pears grown, is swelling up well. Beurré d'Amanlis, very heavily cropped, as usual, promises to be very good; also Beurré Bosc, Beurré Diel, Beurré Superfin, Beurré Clairgeau, Marie Louise, Seckel, and others. I find that the exceptionally forcing weather early in the summer brought on the very early kinds like Citron des Carmes, Jargonelle, &c., considerably in advance of their ordinary season, but with cooler and moister weather the later ones have a far more favourable opportunity of attaining their full size, and doubtless those who continue to apply plenty of liquid stimulants will have the best results, for my own observations lead me to think that Pear trees seldom (even in wet seasons) get enough moisture at the root.—J. G., *Gosport*.

Wasps eating Grapes.—In reply to "J. W.'s" inquiry with regard to flies and wasps eating Grapes, I would suggest that he hunt up all the wasps' nests he can find in his neighbourhood and destroy them, as there is no remedy that he can use in the house that would do any good. He will not find the flies destructive if the fruit is not punctured by the wasps. In this district the wasps' nests are very strong as well as numerous on account of the favourable weather we had in March. Cyanide of potassium is the best thing to use for destroying them, three ounces in a pint and half of water. Put about half an ounce in each hole. It is best done in the daytime. Within half a mile of here over 200 nests have been destroyed, but there is still a great number left.—J. C., *Billing*.

HARDY FRUITS AT HAM.

IN the matter of Apples, Pears and Plums, but especially in connection with the two former fruits, Mr. J. Walker's market fruit farm at Ham Common presents most useful study, and is an admirable object lesson. The soil is, if deep, at least very sandy, and generally all sorts of trees thrive well in it. I was the other day much surprised to see how well the trees had stood the long drought, but still it is fair to say that as many trees carry but exceedingly light crops, they have not been distressed in the same way that heavily fruited

ones are. Still, there are many trees of particular sorts that have good crops, and in every case whilst the fruits may be somewhat smaller perhaps than usual, yet the trees seem to have made as good growth as ever; indeed it is most marked in this respect that for the time of year with yet some three months of growing season before them, the appearance of the trees should be so robust and healthy. Now whilst Apples generally are on the Paradise stock, and have on that in this soil made growth that may be described almost as luxuriant, yet Pears on the Quince certainly do not thrive so well as do those on the Pear stock; indeed the sandy soil seems to suit the Pear stock admirably, and no trees could well be cleaner, healthier, or more perfect in every way than are Marie Louise, Fertility, Marie Louise d'Uccle, Louise Bonne, Doyenné du Comice, and Williams' Bon Chrétien, although some other excellent Pears could be named. Several of these named are fruiting very well, others sparsely, but at Ham, Pears are not abundant, and it is worthy of note that in almost all cases the bloom was profuse and the set considerable, but the fruits fell soon after. If the aspect of the Pear crop here were to be taken as indicative of its general state, the return would be a poor one, but I have seen splendid crops on older or standard trees about the country; indeed, between my house at Kingston and Ham there is growing on a spare building plot between two villas a tall Marie Louise that has on it a really good crop of fruit; a finer for such a tree I have rarely seen, and all round Reigate recently I found splendid crops of Pears. So far as Apples are concerned, at Ham the crops curiously enough are best of large-fruited and large-leaved varieties, all small fruited being very sparsely cropped. The only exception is Yellow Ingestre, but that is cropping very moderately. Here one is surprised to find that so good a variety as Warner's King is being displaced by Lord Grosvenor. All the former have been beheaded and grafted with the latter, whilst Lord Suffield, here somewhat disposed to canker, is being grafted with Bismarck. Sorts that are fruiting fairly well are Lord Suffield, what few trees are left; Grenadier, always a good cropper; Stirling Castle, heavy crop; New Hawthornden, good; also Lord Grosvenor and Peter the Great. Prince Albert does well and is cropping freely. Manks Codlin also has been good. All Apples are ripening very early, and unless heavy rains come soon the fruits must be small. Mr. Walker first planted his trees at 8 feet by 9 feet apart, but the distance at which he plants now is 12 feet by 8 feet. Naturally the first planted trees now need much more room and moisture badly. All the same growth and leafage are good, and whilst wood is being early matured, fruit spurs are being rapidly formed. In the case of Apples, as of Pears, the heaviest crops seem this year to be on the standard trees. A. D.

Wasps as gardeners' friends.—The note from A. Young (page 88) contains the first notice that I have come across of these pests being in any way aids to the gardener. Mr. Young is very much favoured, too, by the wasps not molesting his fruit. Here they attack Peaches and Pears long before the fruit is ripe, and this year they have also attacked the Red Currants, which in other years I have gathered in October. At present to all appearance we shall have a difficulty in obtaining any in August. Surely it is not necessary to depend upon these pests for the cleansing of the trees from black fly when the removal of this insect is so simple a matter.—S.

Cherries on north walls.—Like "W. S. H." (p. 51) I consider it a good plan to plant a few sweet Cherries on north walls. It is in seasons like the present when these planted on north walls prove doubly valuable. In this garden I have two or three trees planted in this position, and during the last five years they have not failed to bear well. This year they kept up the supply three weeks after those on west walls were over, and I find they hang far better than when on walls which are warmer. It is the Bigarreau class that

are mostly prized here, and of this we have one tree and a Late Duke on a north aspect. Again, there is another advantage in having trees on different aspects, namely, often when the blooms are forward and destroyed by frost on warmer walls, those on the colder aspects escape from the trees being later in blooming. Cherries enjoy plenty of moisture at the root. In proof of this I have a large Morello on a north wall which has borne abundant crops for several years. Last summer when it was in full bearing and stoning it began to look distressed. Accordingly, I made a large bay of soil round it and deluged it three or four times with manure water with the best results. Again this year we treated it in like manner, and now we are gathering a splendid crop from it. — DORSET.

NOTES OF THE WEEK.

A seedling Crinum.—This was sent to Sunny Hill, Shirehampton, by Sir C. Strickland. If very near C. Powell, kindly say so.—C. O. MILES, *Almondsbury, Bristol.*

*** A pretty flower. No doubt near C. Powell, but more delicate in colour.—Ed.

Cape Coast Lily (p. 44).—Surely not giganteum which has pure white flowers without tinge and a very moderate-sized bulb, with short, broad spreading leaves. If the plant has long, erect, smooth leaves and tall flower-stem it may be longiflorum (Baker), or your correspondent may be lucky enough to have got the rare and superb Forbesianum.—R. T. C., *Wellton Place, Daventry.*

The Bamboo garden at Kew.—Visitors to Kew should not miss the newly-formed Bamboo garden, which leads into the Rhododendron walk near the river. The plants are getting thoroughly well established, and this new feature is one of the best additions that have been made to the outdoor attractions of the Royal Gardens.

Carnation Celia.—This very pretty, fragrant, and good Carnation comes to us from Mr. Allan, of Gunton Park Gardens, whose good judgment in raising plants we are pleased to see turned to the Carnation. There is room for a vigorous race of fragrant kinds, as most of the Cloves are not continuous bloomers or good growers on all soils.

A pleasing annual flower is *Linaria reticulata anrea purpurea*. We noticed a line of it in the Chiswick gardens, and it is a useful kind for edging, or a good mass of it would be a bright and distinct feature. The flowers are crimson-purple and yellow, the leaves quite grass-like. It is a charming annual and not grown so much as one might expect.

Antirrhinum Tom Thumb is not the type of *Antirrhinum*. Several plants of this class are in bloom in a bed at Kew, but merely, we think, to show how completely this plant can be spoilt by this absurd system of dwarfing, and thus changing its naturally graceful habit. The growth is only a few inches in height, and the flowers are produced immediately above the leaves.

Hippeastrum brachyandrum is flowering in an open border at Kew. It is an interesting species and well worthy of note. The flowers are of a rosy lilac shade enriched with crimson at the base of the segments, and they measure about 4 inches in length. Each sturdy scape produces one bloom, and when several specimens are in perfection a pleasing display is made.

Strobilanthes Dyerianus, of which we made a note in Messrs. J. Veitch and Sons' nursery at Chelsea, and also in Messrs. Sander's, St. Albans, is a strikingly handsome stove plant. It is likely to be largely grown in the future for the rich metallic-purple colour of its leaves, veined and margined with deep green—a fine contrast. The growth is very free, and the whole aspect of the plant reminds one strongly of a *Bertolonia*.

Streptocarpuses are largely grown as pot plants, but those who have big houses like the

succulent house at Kew to embellish with flowers should make a note of them for planting out as an edging. At the edge of the beds and in a peaty soil they form a distinct and attractive margin, producing a wealth of the finely coloured flowers. The long distance from the glass seems to have no effect upon them.

Annual Larkspurs.—These have done uncommonly well with us here this season. We have much pleasure in sending you a few spikes. Perhaps you may consider them worth figuring in *THE GARDEN*. We do not recollect having seen a plate of annual Larkspurs. The Larkspurs have been in fine bloom for some weeks, and will continue some time longer.—DOBIE & Co, *Beaulieu.*

*** Beautiful things, extremely soft and rich in colour. There are so many things in our gardens that people are interested in, that they often forget some of the most interesting annuals. These are even prettier in the shape of the spike than double Rockets, while in addition to white they have delicate mauves, pinks and rich purples.—Ed.

The Brush Bush (*Eucryphia pinnata*) is one of the most precious flowering shrubs that adorn English gardens. We recently saw a photograph of the specimen in the Coombe nursery of Messrs. J. Veitch and Sons which was upwards of 10 feet in height. One can well understand that such an example would be of unusual beauty, and it also shows that the shrub is quite hardy. It is a native of Southern Chili, the flowers being produced in great profusion and pure white. They are not unlike those of the St. John's Wort in expression and size. This large specimen in the Coombe Wood nursery was smothered with bloom, a picture of vigorous growth and flowers, in fine contrast to the deep green leaves.

Carnation Leander.—Almost all who have grown Carnations in quantity out of doors have had failures with the yellows, and there was hardly one really reliable kind in this colour till Germania appeared. Mr. Gifford, of Tottenham, however, who, happily, is concentrating most of his attention upon the fine selfs, which are the most important in the flower garden, sent us last autumn some plants of Leander. It appears a most promising yellow kind. Its flower-spike has run up tall, but the flowers have been very full and fine, not bursting, and of a clear soft yellow colour. It seems to have a robust habit and good constitution, and doubtless will prove a decided acquisition. With the Carnation so satisfactory in its other varied shades, it is strange that yellows as a class are scarce, weak, and disappointing.—A. H.

Solanum Seaforthianum is very beautiful in the Water Lily house at Kew. A coloured plate was given of this fine climber in *THE GARDEN*, December 10, 1892, p. 519. It is one of the most useful stove climbers that can be planted, the growth being rapid, whilst it is evergreen and exceptionally free. One hopes that such climbers as this and *S. Wendlandi* will get popular, but at present they are very little known outside botanic gardens. *S. Seaforthianum* is not really new, although rare. Mr. Watson, in his description accompanying the coloured plate, says that it has been introduced into England several times, as shown by the figures of it published at the beginning of the present century and again twenty-three years ago. It was then figured in the *Botanical Magazine*, t. 5823, under the name of *S. venustum*. This species is a native of the West Indies, and is very common in Trinidad, climbing up bushes and festooning them with its masses of purplish flowers. All who have stoves should make note of this fine climber. There is far too much sameness in the plants in these structures.

Epidendrum vitellinum majus.—I beg to enclose a spray of *Epidendrum vitellinum majus*. You will see besides the main stem there are five branches from it bearing altogether forty-one flowers. The plant newly imported was bought in January, 1891. Last year it blossomed well, one spray having besides the main stem four branches. Is not this unusual, and are not the flowers very rich in colour and large in size? This spray has

been over two months in bloom. It is grown in an intermediate house, falling to 50° in winter, with a roof of ground glass in which Orchids in flower are kept. I have kept it constantly growing since I have had it, and the bulbs are of a very large size.—W. A. G., *Trewyn.*

*** *Epidendrum vitellinum giganteum* is the name under which the variety sent by you is figured by Mr. Warner in the third volume of "Select Orchidaceous Plants," but the figure, if I recollect it right, is not so much paniculate as this plant—in fact, I have never seen a plant carrying such a spike, and it should be carefully preserved; the flowers are large and of a very rich colour, and its growing under a roof of ground glass does not point to its requiring much sun.—W. H. G.

Renanthera matutina.—Amongst the rarest and most interesting Orchids exhibited at the recent show in the Chiswick Gardens was a flowering specimen of *Renanthera matutina*. Although discovered as long ago as 1824 and introduced by Messrs. Veitch twenty-two years later, it has never become a common Orchid. Recent importations may, however, make it better known. The plant at Chiswick was about 2½ feet high, with narrow, leathery leaves 8 inches long, notched at the apex and arranged on the stem in two opposite rows. It carried a pair of long, slender, branching spikes, the flowers being 2½ inches across, yellow, blotched with reddish crimson, the older flowers, however, having almost entirely changed to yellow. The beauty and distinct character of this Orchid certainly entitle it to notice from cultivators, especially as the only other representative of the curious genus to which it belongs that is common enough to be generally available is *R. coccinea*, and this can scarcely be recommended for most establishments on account of its inconvenient habit and shy-flowering character. *R. matutina* is a native of Java, and, not coming from high altitudes, should be placed in the East Indian house, growing in *Sphagnum* alone.

Brassavola Digbyana.—In a group of plants staged by Messrs. Williams, of Holloway, at Chiswick on July 11 was a good representative of this remarkable Orchid. It has been known in English gardens since 1846, having in that year been sent from Honduras. In habit the plant is very like a short-stemmed *Cattleya*, having dwarf compressed pseudo-bulbs, each carrying a single, fleshy, grey-green leaf. The flowers are produced singly on the spike and measure 5 inches in diameter. The sepals and petals are pretty nearly alike, being narrow and of a dull yellow, tinged with green. It is the creamy white lip which gives to the flower its remarkable character. At its widest part it is close upon 4 inches across. The central part is heart-shaped, with the upper edges folded above the column. It is, however, almost entirely surrounded at the margin by a fringe three-quarters of an inch in depth, which gives it a most striking appearance. In this respect it may be classed with *Dendrobium Brymerianum* and *Nanodes Medusa*. It should be grown in a compost such as is in general use for *Cattleyas*, but requires during the period of growth somewhat warmer conditions than the majority of that genus. One of the most striking as well as the most beautiful hybrids ever raised owes its parentage to this species and *Cattleya Mossiae*. It was raised by Mr. Seden in the Chelsea nursery, and was first exhibited in flower at a meeting of the Royal Horticultural Society in May, 1889. Uniting as it does the striking peculiarity of lip displayed by the *Brassavola* with the colour of *Cattleya Mossiae*, it may with certainty be considered one of the greatest triumphs ever obtained by Orchid hybridists. It is known as *Lælia Digbyana-Mossiae*, Bentham having placed this *Brassavola* under *Lælia*.—B.

Lilium elegans armeniacum is one of the most charming of the dwarfed Lilies. If planted amongst quite low shrubs, the bold, clear apricot flowers appear just above the dense massive leafage. Its appearance a few days ago was very fine.

TREES AND SHRUBS.

RHODODENDRON AUCKLANDI.

It is not generally known, I believe, that this species is fairly hardy, but that it is so I was able to prove last winter. Having a plant which had become too large for the houses, it was allowed to remain out all the winter, just protecting the roots. We had nearly six weeks of frost, and during that spell of severe weather the frost varied between 14° and 18° where the plant was standing, and I was delighted to find on the frost giving way to more genial weather that *R. Aucklandi* had borne the ordeal without apparently receiving the least injury. Early in April I had the satisfaction to find that the buds almost without exception were

Genista tinctoria.—I should have included this native species of *Genista* among the leguminous shrubs in bloom on page 57, for it is now flowering beautifully in many places, and there are really few subjects that yield so showy a display at this season. It reaches a height of 2 feet to 3 feet, and when at its best it is quite a mass of golden blossoms.—T.

Wistaria sinensis.—I was very much surprised the other day to see a plant which I had seen flower before earlier in the season again in bloom. This plant is not one of the fine old trees mentioned in your note, but it has stood in the spot it now occupies, in front of a cottage, for at least twenty-five years. Has anyone remarked the *Wistaria* flowering twice in other quarters?—H., *Tooting*.

*** We lately noticed a large plant in Chiswick flowering in the same way, and another plant in the same district we have frequently noted producing a second crop of bloom.—Ed.

Golden Elder.—This is very effective when suitably placed. It ought never to be put among tall growing things, but rather among shrubs of

the flowers and otherwise destroying it, this makes one of the best and prettiest I know. Planted in a young state about 2 feet apart and allowed to grow from 3 feet to 4 feet high, at which height it can be kept by careful knife-pruning, which may be done immediately after flowering or in the early spring, it forms a most charming hedge. The foliage is at all times green and pretty, and at this season the plants when covered with masses of the small white flowers are most effective. The other day near Exeter I saw it used as a short dividing hedge between two gardens, and here standard Roses had been planted between and allowed to peep just above the top of the hedge, together forming a novel yet very effective boundary.—W. MKY.

FLOWERING AND ORNAMENTAL TREES AND SHRUBS AT EXETER.

By this post I send you a few branches of flowering shrubs culled in the nurseries of Messrs. Robert Veitch and Son, Exeter.

COLUTEA ARBORESCENS PURPUREA.—This novelty has flowered all the summer and is still in full bloom in spite of the exceptionally dry weather. The flowers are much darker than those of the better-known type, *C. arborescens*, the vexillum being of a bronze-purple colour with a distinctly divided yellow spot at the base. The keel is also of a bronze colour, having a yellow stripe at the base shading into dark purplish brown at the point. The leaves are glaucous and very distinct. Not the least ornament of this handsome shrub is the large bladder-shaped seed-pods, which are very freely produced. Messrs. Veitch find it a free grower, and no garden should be without it.

CYTISUS NIGRICANS.—This is most valuable on account of its late flowering habit. The pendulous racemes of bright yellow flowers are nearly a foot in length, and often last till September. Owing to the abundance of bright sunshine it is flowering earlier than usual this year.

CLETHRA PANICULATA.—The white fragrant flowers of this variety seem larger and more robust than those of *Clethra alnifolia*. It should be a useful shrub where sweet-scented white flowers during the latter part of the summer are required.

ROBINIA SEMPERFLORENS.—This is now blooming most abundantly, the flowers being white and very sweet-scented. I also send you a flowering branch of the beautiful Rose *Acacia* (*R. hispida*).

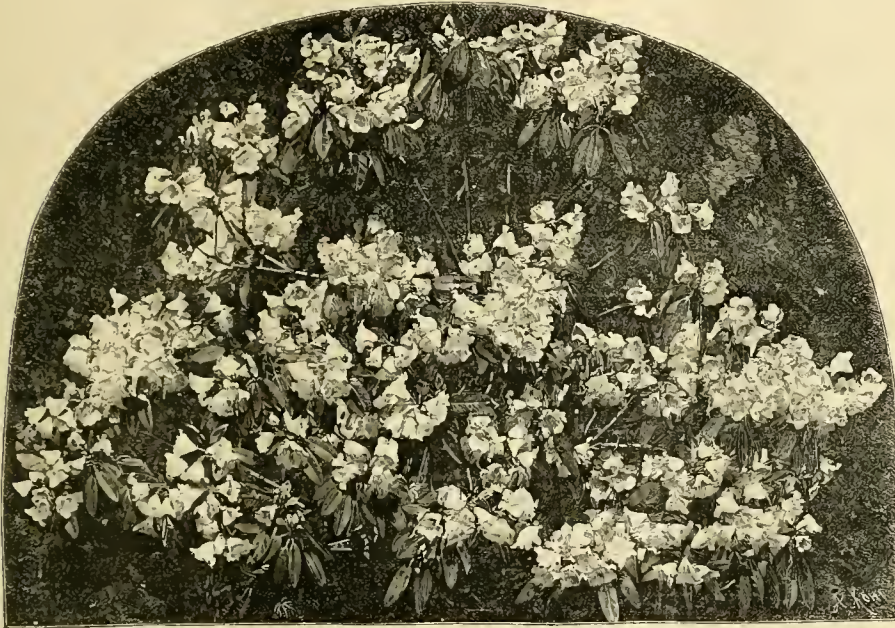
DIPLOPAPPUS CHRYSOPHYLLUS.—The flowers of this, which are white and produced in great abundance, though small in size, are, as you will see, not quite open. Perhaps the best ornament of this handsome evergreen shrub is the minute dark green leaves, the underside of which as well as the stems is of a golden-yellow, giving the whole plant a more or less golden appearance. It is perfectly hardy in the west of England.

CYTISUS CAPITATUS.—The stem, leaves and even the calyx of the flower of this pretty shrub are covered with a dense pubescence. It is only just coming into bloom. The bright yellow flowers are produced in large heads at the end of upright branches, and appear almost like an umbel. It is of dwarf habit, and should be a most useful plant for the front row of a shrubbery.

CEANOTHUS GLOIRE DE VERSAILLES.—Of this I also enclose a bunch of flowers. It seems to be blooming much earlier than usual this year, but its handsome large blue flowers are always welcome.

I also send you branches of the following trees and shrubs, useful on account of their ornamental foliage. These specimens were also obtained at Messrs. Robert Veitch and Son's Royal Nursery, Exeter:—

SORBUS ARIA LUTESCENS.—The foliage of this is very distinct and handsome, quite different from that of the typical *S. Aria*. The serrated leaves are round or oval and covered with a thick pubescence of a glaucous tint, shading slightly to yellow.



Rhododendron Aucklandi in the gardens at Upcott House, Barnstaple. Engraved for THE GARDEN from a photograph sent by Mr. W. Harris.

going to open, and by the middle of the month the plant had on it in buds and expanded flowers as near as could be counted about eleven hundred. I then had it photographed, and, as will be seen by the annexed engraving, it presented a fine head of bloom. The plant is a half-standard, having a clean stem of 2 feet or 3 feet, the head being about 8 feet through. It is now planted out permanently, and it will be interesting to watch how it will behave. For a large conservatory it is a grand subject. In a small state it does not appear to bloom freely, but on attaining age and size it flowers very freely. The plant was brought by Sir R. Williams, Bart., from Tregullog, in Cornwall, about six years ago on his leaving there to take up his residence in N. Devon, and must be from sixteen to twenty years old or more.

WM. HARRIS.

Upcott, Barnstaple.

moderate growth, so that the foliage is fully exposed to the influence of sun and air. It seems to require a lot of exposure to develop the rich golden hue that constitutes its great charm. The best specimens I ever saw were placed among Laurels and Rhododendrons, so that their heads were quite open to the sun. Where light and air cannot sufficiently freely come, the leaves take on a sickly hue, which is the reverse of ornamental.—J. C. B.

Olearia Haasti is one of the more important shrubs in bloom now, and we have noticed it more than once in full flower in nurseries and gardens. But this note is prompted by its fine effect when grouped on the outskirts of the lawn, its heavy masses of small, deep green leaves relieved by a profusion of white clusters of flowers. The bush is almost covered with them, and this year it wears this welcome aspect earlier owing to the drought. It is exactly the type of shrub to thus group on the lawn, as it grows between 3 feet and 4 feet high and even when not in bloom is no eyesore; moreover, no fear need be felt as to its hardness if not in too heavy soil.

Olearia Haasti as a hedge plant.—For hedges out of the reach of cattle and where rude hands cannot come near to damage by plucking

low. The tree seen from a distance appears more like a variety of *Eucalyptus* than a variety of the Service Tree.

SORBUS ARIA LACINIATA.—This is not so distinct as the former when seen from a distance, as the leaves are not so light in colour, and therefore less conspicuous. They are, however, deeply lobed and handsome when seen close at hand.

PTELEA TRIFOLIATA AUREA.—The brilliant sunshine of the present season seems to bring out particularly well the bright golden foliage of this telling shrub, which should be a desideratum where contrast of foliage is required.

CORNUS SPATHI.—This is another shrub with golden foliage. The portion of the leaf which is close to the midrib is mottled with green, but the greatest part of the leaf is of a deep golden yellow colour.

ACER PSEUDO-PLATANUS ATRO-PURPUREUM.—The leaves of this variety are large and of a bronze-green colour on the upper side. The lower side of the leaf, however, is of a distinct bright purple, which is very telling, especially if the tree is planted on an elevation so that the under side of the leaves can be easily seen.

SAMBUCUS CANADENSIS FILICIFOLIA.—The foliage of this cut-leaved variety of the Canadian Elder is very distinct and Fern-like in appearance, and as it is easily grown it should soon become as popular as the cut-leaved *Sumach*.

ARALIA MAXIMOWICZI (syn., *Acanthopanax ricinifolia*).—This is of a decidedly sub-tropical appearance, and though not ornamental in winter (when it looks more like a dry stick than a plant), it is highly ornamental when the large palmate leaves are fully developed. It is not particular as to soil. The stem is erect and covered with spines. F. W. MEYER.

Exeter.

HARDY HEATHS.

I WAS looking over the Heath borders the other day, and I thought it would interest your readers to know some of the kinds that are in bloom; also the strongest growers of the vulgaris varieties:—

Erica vulgaris alba Hammondi is a tall light green-foliaged variety; blooms in August.

E. v. Alporti is a tall, dark-foliaged, crimson variety; blooms in August.

E. v. tenuis is a dark-foliaged compact grower; flower a bright scarlet; free bloomer; blooms in August; not so tall as *Alporti*.

E. v. alba rigida.—A light green compact grower; free-blooming variety; blooms in August.

E. v. alba minor and *E. v. a. minor pumila* are free-blooming, compact, light green varieties; bloom in August.

E. v. alba Serlei is a tall, light green, rough-foliaged variety; blooms in September and October.

E. v. fl.-pl. is a dark-foliaged, strong grower with pretty double flowers, and blooms in September and October.

E. v. alba tomentosa.—A tall, light green, woolly foliaged variety; blooms in September and October.

E. aurea is a bright golden variety; free grower. It ought to be in every collection; blooms in September.

E. v. cuprea is a copper-coloured variety; free-growing; blooms in August and September.

E. v. argentea is a silvery foliaged, free-growing variety; blooms in August and September.

E. vagans is a free-blooming and distinct kind. There are several colours of this, and it is in bloom from August to October.

E. tetralix.—There are several sorts and colours. The best white is *tetralix alba mollis*, and the best crimson is *Mackiana*. They are in bloom from July to October.

E. ciliaris is a very good kind, but it is not so hardy as some of the others.

Hardy Heaths are among the most beautiful of small-growing plants, and by having a good assortment it is possible to have them in flower from March till October. There is a great variety of colour and foliage, and there can be nothing more beautiful than a bed of Heaths when in bloom. The best time for removing them is September or

October. They thrive best in peat or leaf-mould, but will grow and bloom well in maiden soil and prefer airy situations. C. REEVES.

Two Dales, near Matlock.

Lonicera japonica.—There are different forms of these Japanese Honeysuckles, but it is very probable they could all be included under one species. That to which the above-named is usually applied is a free growing climber, with hairy branchlets and large ovate pale green leaves. The flowers, which are borne in terminal clusters, are creamy white when first expanded, but become yellow as they fade, the contrast between the two tints being very noticeable. In one form the exterior of the bloom is suffused with pink. In one respect, however, they all agree, and that is in the delicious fragrance of their blossoms. *Lonicera japonica* should certainly have a place among the best Honeysuckles. Being a vigorous climber, it is well suited for arbours, arches, trellises, or similar purposes. It needs a spot fully exposed to the sun, as it will then bloom freely, while in the case of the flowers suffused with pink that hue is intensified when in full sunshine.—T.

Moving Cydonia japonica (H. O'B.).—The best time for transplanting this is in the autumn, as if delayed too late it will probably have commenced growing. It is by no means a difficult subject to propagate, and this can in some cases be done to a limited extent by detaching a few suckers that have roots of their own when a specimen is being removed. Cuttings, too, will strike in the open ground if they are taken at a length of from 8 inches to 10 inches and inserted firmly for the greater part of their length in a fairly moist, yet somewhat sandy soil. Again, if cuttings of the growing shoots are taken now at a length of about 6 inches, cut off at a joint, and inserted into well-drained pots of sandy soil, they will, if kept close in an ordinary garden frame and shaded during bright sunshine, often strike before the winter and be well rooted by the spring. *Cydonia japonica* may also be readily increased by layers, but such a mode of propagation cannot always be carried out.—T.

FLOWER GARDEN.

HARDY FLOWERS.

LILIES AND LILIACEÆ.

I RECOLLECT some time last spring that there appeared in THE GARDEN (Vol. XLII., p. 158) an article by Dr. Wallace entitled "Lilies v. Roses." I read it at the time, but I have not again referred to it except to identify the vol. and page; neither do I propose to criticise any part of it except the heading, which I mean to take as the text for a little sermon of my own. Why *versus* Roses? or, indeed, why *versus* any large and important class of hardy garden plants? Apart from any idea of direct opposition in the word *versus*, and which, I daresay, may have been disclaimed, the term obviously implies that the two are matched on equal terms, more or less, and that the ordinary gardener may get with Lilies the same or nearly the same variety at the same or nearly the same expense, and under the same or nearly the same ordinary conditions. If, however, any such proposition as these be put forward, I for one meet them with a direct negative for the benefit of your readers (if any such there be) who may be still sufficiently backward in gardening knowledge as to accept them for sound. In horticulture, as in other matters, it is no use crying "peace" when there is no peace, and in writing on gardening there are few things that are more the reverse of useful

than lumping into the same category and serving up to the public as "desirable and easily grown" plants of the same genus some of which are easy and some of which are difficult or impossible to grow or keep. You may say, for instance, of Crown Imperials and *F. recurva*, that both are Fritillaries, both are hardy and both are desirable, but if you omit to say that the one will grow almost anywhere and that the other will probably grow nowhere at all, you have not told possible purchasers all that it is good for them to know. It is not my object to disparage

LILIES

nor to discourage their cultivation, and if Dr. Wallace or anybody else thinks these the most beautiful of all flowers, I am ready to agree with them. They are unequalled in beauty of form and in texture and are not surpassed in colour, and although most people would probably rather be without the scent of Lilies in a room, there is no denying there is plenty of it. But there is probably no class of hardy plants, at once so large and so desirable, that occasions so much trouble and disappointment to those who try to cultivate them in any quantity or variety. Lilies, it is true, when growing in the open are not covered morning and evening with green-fly, as were the Roses day after day during the present season; but the drought and east winds and late frosts are more absolutely fatal to them than to anything else in the garden that is at all worth caring about. The common white Lily (*L. candidum*) does well here, but the great drought (no rain fell in my garden from March 1 to May 15) damaged even these to a considerable extent, and except these and a good clump of the white Martagon (*L. Martagon album*), which I have at last got to do well, I have had scarcely a decent Lily in the garden during the summer of 1893. As a matter of fact, the Lilies here have distinctly deteriorated where they have not disappeared altogether, though I am in hopes that some of them in another year, with a more favourable season, may again come to the front. *L. Hansonii*, a Lily that increases so fast that one wonders its price remains so high, grew into such a clump that it ceased to flower, probably from having exhausted the soil, and I was obliged to dig it up, divide, and replant it. The plants look healthy enough, but I have had no flowers this year, for, like all Lilies, and especially Martagons, it greatly resents moving. For some years, and up to 1891, I had several fine bulbs of *L. colchicum*, the prince of all yellow Lilies, but the late May frost of 1892 ruined and killed the finer and stronger plants of these, and I have had to replace them, and consequently shall have to wait a year or two before I can hope for good blooms. This, however, is one of the easiest Lilies to grow, and it must have loam, for, as far as my experience goes, it dies out at once in peat. I had at one time three or four strong clumps of *L. pardalinum* in variety, though the varieties by the way (except perhaps the one called *californicum*, which is of a richer colour than the others) are not worth noticing or preserving, but these, too, appeared to me to grow too thick together and to have exhausted the soil, for they gave up flowering; so I dug them up, replanted what I supposed to be some of the strongest and best rhizomes and gave the rest away to two ladies of my acquaintance. I have since heard that one of these lots has been highly successful; of the history of the other I am ignorant, though I fancy I should have heard of it if it had come to any good. My own selection never again appeared above ground in any shape or form, and if the study of modern philosophy had not

convinced me that "matter is absolutely indestructible." I should have supposed that they had vanished into thin air. I am in hopes, however, that they may have contributed something to the nutriment of some strong pieces of the same species sent me by Mr. Wolley Dod with his usual kindness, and which are growing well, though the drought or perhaps recent planting has prevented them from flowering very freely. The moral of the above is—and it may be as well to call the attention of the unwary to the fact—that in dividing this Lily the exterior or leading shoots of the rhizomes must always be preserved and planted, for they and they alone are capable of producing flowering spikes, the matted interior masses being mostly or entirely barren. *L. Parryi*, of which I once possessed a fairly good specimen, has, I regret to say, disappeared here, and though I have bought it again once or twice, I have not again succeeded with it. It is one of the choicest and most distinct of Lilies, and worth a good deal of trouble to get to do well. The scarlet Turk's-cap Lilies (*L. chalcidonicum*) take a deal of establishing. I have had to move mine lately and have bought some new bulbs, but I have never yet been really successful with these, though I see them doing finely in one or two cottage gardens in the neighbourhood. There is no better Lily than this when well grown, but I doubt if my soil suits it. The dark purple Turk's-cap (*L. Martagon dalmaticum*) is buried somewhere in my garden, and has been for the last year or two; however, it may turn up some day, as may also that most unsatisfactory little Lily, *L. pomponium verum*, as the nurserymen call it, the cultivation of which "no fellow can understand," as poor Lord Dundreary used to say. The Tiger Lily (*L. tigrinum*, called, I think, *splendens* in the catalogues) does well here. I doubt if the individual bulbs are very long-lived, but this species, either by seed or bulbils, maintains itself in my garden, and comes up here and there at odd places. It is one of the best of the later flowering sorts. The erect hybrid orange Lily, usually sold under the name of *L. davuricum*, is one of the best as well as the cheapest of all Lilies. They are best bought in mixture, as the "varieties"—slight differences in shade of colour—are of little value from the gardener's point of view. They do not appear to increase here to any appreciable extent, though they are hardy anywhere.

Anyone who reads the foregoing remarks, and who is at the same time familiar with the gist of the articles on the same subject that have appeared in this and other gardening papers within the last eight or ten years, will probably be of opinion that little or nothing is added (at any rate from the positive side) to what he knew before. The more or less common Lilies are named as doing more or less well, while other rarer sorts which he might like to hear of as successfully established are not mentioned at all. A glance back, however, through a few volumes of *THE GARDEN* will convince anybody that this is the way with all amateurs' communications on this subject, and the moral, of course, is that there is nothing else to tell. Nevertheless, it is obvious that only communications from private gardens are of much value when dealing with the history of established plants. There are many other lovely things—some of them "quite too awfully too-too," as the young ladies say—which regularly appear in Lily catalogues, but which as regularly disappear when transferred to the garden the second year after planting, if indeed (what is by no means always the case) they come up at all. There is, for instance, what I

daresay the editor will like me to call "the Silver Lily" (*L. Washingtonianum*) and its variety *rubescens*. There is *L. Humboldtii*, a very fine type of orange Lily, if it would only grow, and there are a good many others. You see these exhibited from time to time in horticultural shows, and they regularly figure in the catalogues, though if you order them at once when these latter first appear in early autumn, you will have to wait, for you buy not home-grown, but imported bulbs of these. But where, I want to know, can we see these things permanently established? I should myself have classed that lovely thing *L. Browni* among these fugitive nymphs, who only show themselves, but are too coy to be caught, but my friend "Delta," your well-known correspondent, who shares with me the east winds and other privileges incident to a residence in the premier county, has shown me that he has induced her to stay and dwell permanently in his borders, for he has at least two fine clumps of this species well established and likely to flower strongly even in such a fatal year as this. This at least is comforting.

People with walled gardens (and the garden above named is not walled) and light and warm subsoil are probably likely to be most successful, but I regret to say that neither of these advantages is mine. This is pre-eminently not a bulb garden, though there are a good many bulbs, of course, in it; but I never heard of any bulb that dies in the gardens of my friends that I can boast of being able to keep. In the death-rate I am always up to date. I have never had the Daffodil craze at all badly, and the mild attack I had some years ago has left me quite well and sane. I can read *Narcissus* catalogues without being at all upset with vain longings and imaginings (and oh, how I wish I could say the same about lists of *Oncocyclus Irises*!) Here, as in all cold soils, as is now, I conclude, well understood, the bicolors (among trumpet Daffodils) are the only sorts that do well. I can grow some of the white kinds in artificial soil, largely composed of grit and road scrapings. All, or almost all the sorts of self-coloured yellow Daffodils take themselves off after the first year. I cannot induce the common Hoop-petticoat to survive here under any conditions of soil or situation. On the other hand, the pale lemon-coloured variety (*N. Bulbocodium citrinus*) appears to have an excellent constitution. Queen of Spain is a very distinct and beautiful new type, which, as it is considerably cheaper, is, I presume, more robust than its near congener, *N. Johnstoni*; but I have not had it long enough to test its durability with me.

There are few things in the gardening line which I personally should be more interested to get together than a good collection of

FRITILLARIES.

Some year or more ago we got up a little discussion (*GARDEN*, Vol. XXXVI., pp. 544, 574) on the subject, and not long afterwards Herr Max Leichtlin in the *R. H. S.* contributed a paper on the same. But the magician of Baden-Baden has not, I suspect, yet taught the Egyptians (many of whom are empirics, not to say impostors) to do likewise with their enchantments. I have had several of them, such as *F. bucharica*, *F. liliacea*, *F. acmopetala*, and others, and have tried them both in pots and in the open. Some of them never appear above ground, while others if they put their noses through for a short time go down again with an alacrity which shows they do not like my soil, my climate, or my company. *F. Meggidgei* (a south European form which should know better)

invariably does this. *F. Barnati* bloomed pretty well last year and came up this, but withered away almost before the leaves were through the ground, no doubt from the effect of the drought. The management of the black Lily (*F. sarana* or *kamschatica*) is an art that has altogether escaped me. I used to bloom this well on the top of a rockery, but although it continues to grow and run about in its well-known weedy style, it has ceased to flower here for some years past, although, taking a hint which I believe I saw somewhere in this paper, I dug it all up and replanted it, thereby detaching the bulbs one from another. I suppose I must get a new stock, for it is a remarkable and interesting species. There is this to be said for the Fritillaries, however, that some of the very best of the species are among the easiest to grow. The common *F. Meleagris* itself is a beautiful plant, and its white varieties are lovely. I have here a very dwarf snow-white variety, given me without name some years ago by a friend, which never fails to bloom well. The new *F. aurea* is one of the very best of early spring bulbs, and apparently quite hardy in ordinary soil, though my own experience is that only a percentage (and not by any means a large percentage) come up and flower. I have found the same tendency to failures, too, in planting half dozens of *F. latifolia* from Holland. Then there is *F. pallidiflora*, a great favourite of mine; the colour is "high art"—the very highest art, I imagine. It is a pity indeed this does not bloom later in the summer, for it would serve admirably as a sort of æsthetic smelling-bottle for any high-strung soul a little upset by catching sight of *Calandrinia umbellata* unawares. However, whether or no on "art" grounds, this is a charmingly vigorous plant that is in my judgment well worth growing.

Among Tulip species I regard *Tulipa Greigi* as one of the most magnificent hardy bulbs in cultivation. The plants vary considerably in colour, some having a tendency to become orange or yellow; but the idea of naming these as varieties is much to be deprecated. It is, indeed, one of the worst forms of gardening tomfoolery. *T. Greigi* does better taken up in summer and replanted. The dwarf *T. persica* (figured in *THE GARDEN* under the name of *T. australis*) is a capital garden plant, like a yellow Anemone. It is very hardy and increases rapidly, as does also the beautiful *T. sylvestris*, the English Tulip to which some of the botany books assign the habitat "old chalk pits," but which I fancy is confined to Selborne, where it seldom or never flowers. Some of the red and crimson Tulip species appear to me to be too much alike to be of much value from a gardening point of view, but I noticed at Kew the other day a pale yellow species, called, I think, *T. retroflexa*, which struck me as distinct and worth getting.

A good many of the Alliums are most appalling weeds. I regret to say I have been weak enough to admit several such into my garden, and I fear I shall never get rid of them again. They are harpies that can never be expelled. The best species that I know are *A. pedemontanum*, *A. Ostrowskianum*, and *A. kansuense*, of which last at present I have but a small plant. *Eremurus himalaicus* is one of the finest plants I have ever bloomed here. Last year it was ruined in bloom by late frosts, and this year the exigencies of garden alterations compelled me to move it. It has survived the moving, which I regret to say *E. Bungei* has not, but this, coupled perhaps with the terrible drought, has again prevented its flowering. *E. robustus nobilis*, now called *E. Elwesianus*, will not apparently accommodate itself

to the cold of my soil, or perhaps of Kentish winters.

I have not attempted *Calochorti* in the open, but some of the species at any rate are easily grown in pots and transferred in late spring to the borders. They are among the most beautiful of bulbous plants, and add a tone to the garden at a time when there are not many things of this class in bloom.

Some of the newer forms of Day Lily (*Hemerocallis*) are very well worth growing. The one which appears to do best here was sold to me as *H. Middendorffiana*, but I am not sure but what a still dwarfer form (*H. Dumortieri*) is not even better, though a 2½-inch pot plant of this flowered and died with me. *Wachendorfia thyrsoflora*, though not quite hardy, is worth taking trouble about. J. C. L.

***Commelina cœlestis*.**—This is an old-fashioned plant, having been introduced quite early in the present century, but it is rarely seen. It forms a small mass of tuberous roots, and though hardy in many districts where the soil is well drained, to be on the safe side it is better to lift them and treat the same as Dahlias, except that the tubers of this *Commelina* being much smaller they will not resist the same amount of drought as those of Dahlias will. The *Commelina* forms a stout branching plant that reaches a height of 18 inches to 2 feet, while the flowers are freely produced. They are protected by large sheathing bracts, and though the individual blooms last but a short time, they are produced in clusters, from whence a long succession is kept up. The flowers are composed of three petals of a beautiful azure-blue tint and are about an inch in diameter. There is a variety whose flowers are pure white, but it is not nearly so effective as the other, for a good deal of its attractiveness is owing to the uncommon tint of its blossoms. It may be readily raised from seed, which will flower the first season if sown early in the spring; but plants obtained in this way do not make so good a show as those from older tubers. So freely do they seed, that on light, warm soils after a mild winter young seedlings will frequently crop up in all directions.—H. P.

***Begonia semperflorens* Crimson Gem** is a splendid plant for bedding either used by itself or with other kinds. A bed of it in full beauty in the Chiswick gardens is one of the brightest things to be seen there at present. Whilst the tuberous-rooted kinds are presenting a none too fine aspect in the majority of gardens, this kind is excellent. The plant is of strong, compact habit, the leaves dark in colour, in rich contrast to the crimson flowers.

Carnations from America by post.—Everyone will admit that we enjoy great advantages in the postal way in these days. Recently this was most forcibly brought to my notice from having had twenty Carnations of the Tree type sent me by a relative from Montreal through the parcels post. Although they were only packed in Moss (*Sphagnum*) in a cardboard box, they reached me in far better condition than I could have thought. There were ten kinds, and I am pleased to say I have not lost one of the kinds. I have now thirteen good strong plants out of the twenty growing away freely.—J. C. F.

***Begonia semperflorens* atro-purpurea** in the flower garden.—This has proved a most useful plant in the flower garden, and at the present time (July 20) it is blooming freely. I have it arranged in a bed mixed with *Veronica Andersoni* variegata. One of its great merits is the free growth it makes. As soon as it is planted out it commences to make side shoots, which begin to show bloom when only an inch or so long. This *Begonia* is easily raised from seed. In the spring of 1892 I obtained a packet of seed and raised eight plants. Two of these were given away, but from the six left I worked up a stock of eighty plants in four months. This bed is one of the

brightest we have and is admired by everyone. The object of planting the *Veronica* with it is that when the *Begonia* is destroyed by frost, then the *Veronica* will keep the bed gay till severe frost sets in.—J. C., *Forde Abbey*.

Carnation Mrs. Reynolds Hole.—This I consider the most beautiful Carnation ever raised, as it is most vigorous in habit and never fails to give an abundance of grass for layering. The only fault it has hitherto supposed to have is pod-splitting. But this season it is remarkably free from this, as out of 200 or 300 plants faulty flowers from this cause have been very few indeed. To discard any Carnation merely because it may split a few pods occasionally is certainly not a very wise proceeding, as amongst these are some of the most beautiful flowers in cultivation. Unless the petals are very few, any Carnation is apt to split a few pods if the season should not exactly suit it. This of course is an ideal season for Carnations, and we must expect fewer split pods than usual, and a variety selected this season as free from this fault may certainly develop it another season. Unless a variety is an inveterate pod-splitter it should not be discarded.—A. YOUNG.

* * Carolus Durand, a Carnation with flowers of the same shade of colour, is, we think, much better than Mrs. Reynolds Hole.—ED.

A NURSERY OF CARNATIONS.

THE Carnations grown by Mr. Gifford at Montague Nurseries, Tottenham, N., are for the most part the best self-coloured kinds, and they are planted in rows, one variety to each row, to show the effect of decided colours. We have not seen in our visits to nurseries this year a finer break of border Carnations in the open, and thus planted they create a rich picture of strong and varied colours.

Many of the kinds are of Mr. Gifford's own raising, and we are pleased to see that he is growing well the best border varieties. The other sections are not forgotten, and the considerable space of ground planted was a few days ago a mass of bright colour. On this breezy hill-top, near to Edmonton, but in quite country surroundings, the plants grow with marked vigour, protection being given only in winter. This would not be necessary if the nursery were placed in the country, at least further away from the metropolis. Heavy fog clouds envelop this neighbourhood in late autumn and winter, and to fog many losses in Carnations can be traced. Many of the varieties grown here are well-known good standard kinds. Mr. Gifford keeps this important, and we may say essential, point in view. A flower that splits badly is not thought much of. A very beautiful variety is named Mrs. F. Gifford, the flowers pure white, robust, full, and very useful for cutting, whilst they are not in the least split. A good self pink, the colour very rich and striking, is Amy Herbert, the flowers large, full, and in every way representing a fine type of Carnation. It is a variety that should be made good note of for effectiveness and clearness of tone. Both those well-known acquisitions, *Rose Celestial* and *Ruby*, were in full bloom; also a long line of *Ketton Rose*, that has been previously described in THE GARDEN. It is a full, striking flower and the plant is a sturdy grower. We do not care greatly for the yellow-coloured kinds, but Mr. Gifford has a few kinds that will be undoubtedly much grown in the future. *Leander*, one of his raising, is a very fine yellow Carnation and strong in growth—a most important point, as the great fault of this class is their weakly constitution. Even *Germania*, one of the best in its section, makes very little "grass," and the two kinds are grown near to each other, so that one may judge of their vigour. The flowers of *Leander* are large, full, and of refined yellow colour. Another of Mr. Gifford's seedlings is *Cantab*, which is a superb scarlet self and very fragrant, a rich clove scent. This, again, is a most important consideration. Too few of the new Carnations are strongly scented, and in aiming at rich fragrance in the flowers Mr. Gifford is

accomplishing a good work. We should think that this kind would become popular, the scarlet colouring being remarkably bright and the petals broad. Dazzle is a good scarlet, but the flowers are smaller.

Rose-coloured varieties are numerous in the list of good garden Carnations. Mr. Gifford's seedling *Dr. Parke* is a fine kind, the flowers of good size, full and rich self rose, a pleasing and charming shade, whilst the growth of the plant is free. Raisers hitherto, we think, have paid too little attention to the growth of the plant. A variety that is not robust and free is of little value. *Maggie Laurie*, blush-rose, is of great vigour, and a brilliant shade of rose-carmine is got in *Queen of Bedders*, which justifies its name as a bright, beautiful and effective border kind for planting in good masses. *Fiery Cross*, crimson-scarlet, a brilliant shade, is of note; also *The Moor*, one of the darkest of all Carnations. The flowers are of a deep clove colour, full, large, sweetly-scented, and produced freely. It is conspicuous in particular for its depth of shade, and grows with vigour. For contrast to other kinds it is valuable, but must not be used to excess. Three very beautiful white-flowered kinds are Mrs. F. Watts, which is too well known to describe, *Edith Brill* and *Empress*, the latter raised by Mr. Gifford.

A distinct break away somewhat in colour is *Duchess of York*, a new seedling raised by Mr. Gifford. The plant makes vigorous growth, and the flowers, large and of a charming flesh colour, appear early in the season, and are valuable for cutting. A bouquet of this type would be delightful. The growth is strong and the plant blooms with freedom. It is the deep coloured kinds that show up to the best advantage. Of this section Oxonian is noteworthy. The colour of the flowers is dark crimson, and, like the majority of the kinds in this collection, the flowers are borne with marked freedom on sturdy stems. *Bret Harte* is deep maroon, almost black, and a few plants make a change from those with lighter coloured flowers. *Herbert Railton*, carmine-rose, and *Comtesse de Paris* were in full beauty; also such familiar varieties as Mrs. Reynolds Hole.

There is a rich collection of yellow ground Carnations in this nursery, and they form a very interesting class when the varieties are of the finest character. The best of these have been described in THE GARDEN this year, so that further enumeration of names is unnecessary. Amongst other good things here we notice a variety named *Fair Rosamond*, which may be described as an improvement upon *Alice Ayres*. The flowers are larger than those of that popular kind, full, the ground white, striped with carmine. It is flowering exceptionally well, and is pleasing in form and colour. Mr. Gifford grows also bizarre and flaked Carnations remarkably well, and in the latter class we notice the variety *Lorna Doone*, a beautiful rose-pink, the flowers full and handsome. The plant grows vigorously.

We were charmed with the Carnations here, because grown in the open on a breezy exposed position, and in a way that we would recommend them to be arranged in private gardens, that is, in groups of several kinds, one variety in each group. The effect in colour is surprisingly rich, and we see the Carnation in its true light, that of a beautiful garden plant, strong, free, and of varied colours.

***Lilium candidum*.**—Many complaints as to the failures of this beautiful Lily induce me to send a few notes as to how I treat my stock that has never yet failed to produce splendid spikes of bloom in quantity. The soil here is naturally a rather light loam resting on gravel, and as we are close to the seashore it is more or less mixed with shingly stones, and possibly to the perfect drainage a good deal of the success with this Lily may be due. Various opinions are held here, as elsewhere, as to the advisability of transplanting this Lily, but I find that the best crops of bloom are gathered from beds the second and third year after transplanting, and why the plants should not be benefited by fresh unexhausted soil I have yet to

learn. I am well aware that clumps of this Lily do continue to bloom well for many years in cottage gardens here without transplanting. They are frequently mulched with road scrapings, yet they certainly do not produce such fine individual spikes as mine that have been transplanted do. I always transplant about the end of July, or very soon after the crop of bloom has been cut, when, having some fresh land deeply cultivated, I lift the Lilies with steel forks to get all the roots out intact, and proceed to plant at once in rows 2 feet apart and the bulbs $1\frac{1}{2}$ feet, working in some sharp road grit with the bulbs. They require very little attention beyond keeping clean, and produce medium-sized spikes of bloom the next season, and a splendid full crop the second and third years. Few hardy flowers sell more freely or better repay the care bestowed on them.—J. GROOM, *Gosport*.

THE GROMWELLS.

(LITHOSPERMUM.)

THE Lithospermums are as choice and interesting as the Gentians and are more satisfactory in some respects, though some of the choicest of them will not stand our winters without protection. I have spent more trouble in trying to establish

L. GASTONI than any other plant in my collection. I have at last, I hope, successfully ac-

species in cultivation, while the exquisite little south Italian

L. GRAMINIFOLIUM is the most beautiful. I should have been inclined to give this species a good character for hardiness up to last Christmas, for it lived out on my rockery (with a flat bit of glass over it to throw off rain) for some years, and when I left home for ten days on the 28th of last December, I had a very fine plant. However, "when I came back the dog was dead." Dry as it had been kept, some very hard frost hit it too hard ever to recover.

L. PETREUM (Moltkia they want to call it now, I believe), one of the loveliest of rock shrubs, has flourished on one of my rockeries for ten years. It is quite hardy when planted high and dry, and will stand anything except the north-east blast, which injures the flowering shoots sometimes.

L. TINCTORIUM is a plant that I hope Messrs. Backhouse will be able to get us again. It is beautiful and very distinct. I had it on my rockery for one or two winters, protected like Onosma, for it is evergreen, and the leaves are rough and liable to rot in winter, but it succumbed to the cold of 1890-91.

L. CANESCENS I recently obtained from Mr. T. Smith, of Newry, to whose enterprise we owe the introduction and re-introduction of many rare and choice things. I have been asking about this plant and seeking it everywhere for the last ten or twelve years, but I could not get it, nor have I seen it in flower, nor have

have the nurserymen been about all this time? For myself, I cannot yet say whether I shall succeed in establishing this, though I shall give it all care, for if it is like its portrait—and it has been figured, if I recollect aright, both in the *Botanical Magazine* and by Paxton—it is worth all the pains that can be bestowed on it. The flowers are orange-yellow, and the habit appears to be something like that of L. Gastoni. The plant, which is North American, was known at one time as *Batschia canescens*.

L. ROSMARINIFOLIUM is not only not hardy, but one cannot even bury it in a pot on the rockery and induce one's friends to believe it is growing there, for if it happens to be alive at the time, it flowers in January. It has, in fact, no place or part among hardy flowers. J. C. L.

Maidstone.

GROWING THE POT MARIGOLD.

ANYONE who has had trouble in the cultivation of our old and bold friend, the pot Marigold, may take courage from the following published in a contemporary:—

MARIGOLDS (*Calendula officinalis*).—The ash, &c., of these half-hardy annuals contain the following constituents:—

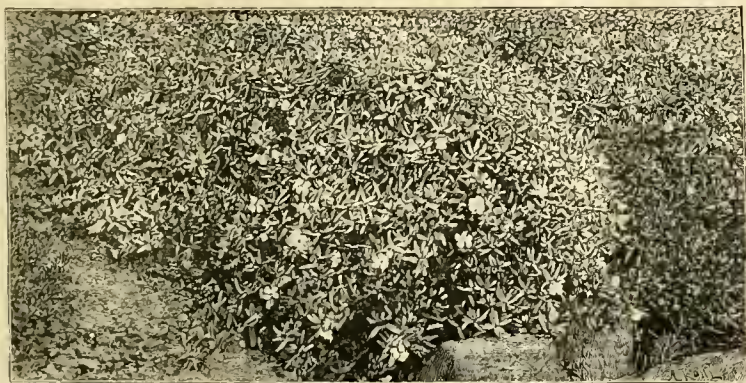
Iron oxide	0.92	Silica	2.10
Potash	39.26	Phosphoric acid	14.07
Soda	5.99	Sulphuric acid	4.68
Lime	20.82	Chlorine	2.16
Magnesia	9.63		
Albuminoids (N)	1.65 per cent.		

They are benefited by being watered with a solution containing a quarter of an ounce each of kainit, iron sulphate, superphosphate of lime and nitrate of soda to two gallons of water. This liquid manure must not be applied over the blooms!

. We suppose this must be called the "scientific horticulture!"—Ed.

Gaillardias at Tottenham.—When in Mr. Ware's nursery at Tottenham a few days ago we made note of a fine series of Gaillardias in full bloom. During recent years great improvement has been made in this charming class, and gradually the plants are getting into ordinary gardens. They will grow in only moderately good soil, stand unharmed English winters, if not unusually severe, and the gay-coloured flowers are useful for cutting, lasting when gathered several days in a fresh condition. With an advance as regards the colours of the flowers has also come a better habit of growth, the more recent kinds being dwarfer, more spreading and compact than the older type. For over three months they keep in bloom, and if a careful selection is made, some very distinct shades will be obtained. One of the most distinct Gaillardias raised is Vivian Grey, which we noticed at Tottenham and elsewhere. It has large flowers, self yellow in colour, and they are produced with great freedom. Maxima is conspicuous for the size of its blooms, but we do not think there is much gain in getting mere size. They are rich crimson in colour, with an edge of rich yellow. Aurora is of note for its quilled form, and we have now got flowers of various expression, quilled and so forth. Perfection is very dwarf in habit, and more suitable for beds than the taller kinds; its flowers are scarlet, edged with pale yellow. Surprise may be described as of a claret-red colour, the florets light yellow at the margin. We could name many other varieties, but a list of kinds merely is not very interesting. All the named varieties are valuable, and in all gardens this flower should be grown.

Varieties of Begonia semperflorens.—This Begonia is likely to play an important part in bedding arrangements of the future, and this year in more than one public park it is used. There are now several charming varieties, such as Princess Beatrice, Crimson Gem, Fairy Queen, Snowflake and Afterglow, which make a great show, the flowers being produced freely on the vigorous shoots. Some kinds, as Crimson Gem, have dark-



The Creeping Gromwell (*Lithospermum prostratum*). Engraved for THE GARDEN from a photograph sent by Mr. G. S. Symons, Chaddlewood, Plympton.

complished this feat, and though my present plant has not flowered, it has grown strongly all the summer, having come through the winter unharmed. This species wants watering during dry weather, and it is very liable to be attacked by Turnip-fly; indeed some fine pieces sent me some few years ago by Mr. Wolley Dod, and which were apparently doing well, were killed by this pest, though probably the soil beneath them was too dry.

L. OLEAFOLIUM I bought many years ago, and it lived (or rather did not die) on one or other of my rockeries for many winters, including that of 1890-91. I do not, however, suggest that it is hardy, for it did no good with me for years and never flowered. One day it occurred to me to dig it up when it was apparently *in articulo mortis*. This I did, potting the small piece of root that appeared to have any vitality after taking off the dead parts. This small plant grew vigorously all last autumn, and having been kept in a frame during the winter has flowered freely during the past season and is growing into a large plant. I do not mean to trust it out of a pot again. This is a choice and beautiful species, though less showy than some of the others, the colour being pale blue with a large admixture of the pink so characteristic of the Borage family.

L. PROSTRATUM is now doing well here in several positions. I have hitherto always failed with this, probably from planting it in positions where the roots could not find sufficient moisture. This, the commonest, is no doubt the most showy of all the

I ever known anyone who has. Mr. Wolley Dod, indeed, to whose constant kindness I owe many of my best plants and very much of what I know about them, mentioned in a letter that he had a plant labelled under this name growing on one of his rockeries, and that it had never flowered (he has recently told me, by the way, that this same plant is dead), but I could get no other scrap of information on the subject. It seems, however, that as

Many a flower is born to blush unseen,

And waste its fragrance on the desert air, so many a rare and choice plant is flourishing in English gardens whose owners are too modest or too indifferent to let an inquisitive public know of the plant. Last year, however (or it may have been two years ago), the Royal Horticultural Society promoted a sort of horticultural spelling-bee, in which we were all invited to name the best twenty or fifty or hundred plants of certain sorts and sizes. The answers or "votes" were tabulated and published in the society's journal, and from these I learned that the gardening public had agreed to place *Delphinium cardinale* (so well known for its perennial qualities!) at the head of the poll as "the most useful herbaceous perennial in cultivation over 4 feet high"; and that a sufficient number of cultivators of hardy plants had tried and succeeded with L. canescens as to place it thirty-third on the list of "the best perennial border plants under 9 inches," and above *Ranunculus pyrenaica*, "which came thirty-fourth"! What

coloured leafage, which throws into bold relief the crimson flowers. The plants are not formal in growth and are very easily grown. When lifted and potted in late summer, before frosts have touched them, they will continue to bloom during the winter. We were reminded of their great usefulness by seeing a large collection of them in the Chiswick gardens, both in beds and in pots in one of the plant houses. When in pots they are of great beauty, and may be specially commended for cultivation in this way. The growth is longer naturally and the flowers paler in colour than in those in the open, but they are abundantly produced, a perfect mass of delicate bloom. We noticed the variety Princess Bentrice especially; it is a gem for pot culture. A charming kind is named Duke of Edinburgh; it is of strong growth, almost too robust, and the flowers are individually large, touched with rich rose, whilst one named alba is, under glass, practically pure white, although here and there touched with rose. It would be worth while for gardeners to take note of this section for decoration. The neat plants, crowded with flowers, are useful, not only in the greenhouse but in rooms, in which they keep in beauty for a considerable time. They are quite as worthy of culture as the more popular tuberous Begonias, and in time we shall no doubt get greater variety.

A NEW LILY.

A CONSIDERABLE amount of interest was excited by a very beautiful Lily to which a first-class certificate was awarded at the last meeting of the Royal Horticultural Society held at Chiswick on July 11. It was exhibited by Messrs. Veitch under the name of *L. Ukeyuri*, and by Messrs. Wallace, of Colchester, as *L. Alexandrae*. These names must only be regarded as provisional, and Mr. Baker will no doubt soon bestow upon it at all events a less awkward name than the Japanese title under which it was exhibited by Messrs. Veitch. This Lily is believed to be of hybrid origin, raised in Japan, and was spoken of by Mr. Wallace on page 348 of the last volume of *THE GARDEN* as a cross between *L. speciosum* and *L. longiflorum*, but the general opinion when the plants were exhibited was that it was a hybrid between *L. auratum* and *L. longiflorum*, with which opinion I perfectly agree, or rather I should give as one parent not the typical *L. auratum*, but its broader leaved and more massive flowered variety *platyphyllum*. Whether such is its origin or not, it is a really good Lily, and one destined, I should say, to hold its own under cultivation. The plants that have come under my observation have all been about 18 inches high and with a stout erect stem, clothed in an alternate manner with rather pale green foliage. The leaves are about 5 inches or 6 inches long and three-quarters of an inch or thereabouts in width, but they become wider just at the upper part. The pedicels in the strongest examples already show signs of branching, and as they get established this may become a permanent feature. The flowers are shorter than those of *L. longiflorum* and less shallow than in *L. auratum*, their colour being a pure unspotted white, with a shading of green towards the base of the tube both inside and outside of the flower. The segments of the flower reflex prettily, though less so than in the Japanese forms of *L. longiflorum*, while the anthers have no trace of the golden colour of this last, but are of a reddish brown, as in *L. auratum*. At the first glance the bulb might be taken for that of *L. longiflorum*, being of a yellowish white tint, but closer examination reveals the fact that it has certain points of resemblance to *L. auratum*. The plants that have come under my observation have been grown in pots and given the same treatment as the Golden-rayed Lily with very good results; in fact, it has proved far more satisfactory than *L. auratum*, which is this season in many cases a comparative failure. If it should, however, prove to be perfectly hardy, it will then form a good low-growing Lily for the open ground. I had almost omitted to mention that the flowers emit a very agreeable fragrance like that of the

longiflorum group. It will remove a probable opportunity for confusion when one authentic name is bestowed upon this Lily, for up to the present the case stands as follows: It was offered by one or two of our prominent Lily dealers during the dormant season as *L. Ukeyuri*, and as such some bulbs of it were disposed of at one of the London auction rooms early in the spring. Again, in *THE GARDEN* for April 29, Mr. Wallace speaks of it as a "new hybrid Japanese Lily, *Ukeyuri*, which, anglicised, is Hooke's Lily, or *Lilium Hookei*"; and, lastly, we have the *Alexandrae* of the Chiswick show. H. P.

CLEMATISES IN FLOWER.

FROM the spring-time when the beautiful Himalayan *Clematis montana* with its profusion of pure flowers is at its best till autumn is upon us, we have a succession of *Clematis* flowers, and included among them are some of the showiest of all our outdoor climbers. While the bulk of those commonly met with consists of garden varieties, we have at the same time many of the original species or recognised varieties thereof that make a goodly show. *Clematis montana* mentioned above is one of these, and as a free-growing climber for a south wall there is little to equal it, at all events during the time of the year at which it flowers. A dozen years ago there was no *Clematis* that attracted so much attention as the Texan *C. coccinea*, which is now regarded only as a variety of *C. Viorna*. For a few years there was a great demand for it, and it was planted almost everywhere, in unsuitable as well as in suitable positions. The result was that many failed to grow and flower in a satisfactory manner, for it is really less vigorous than many of the others, and slugs are especially fond of the young shoots just as they are pushing through the soil. This, combined with the fact that some individuals are in the beauty of their blossoms a good deal inferior to others, no doubt caused this *Clematis* to be discarded by many. The peculiar shape and wax-like substance of the flower as well as its colour (for scarlet is with this exception unrepresented among hardy kinds) are points that are certain to attract attention. When first introduced there was a good deal of confusion between the scarlet *Clematis* and *C. Pitcheri*; in fact they were by some regarded as synonymous. *C. Pitcheri* is, however, compared with the other a poor plant, the flowers being of a dull purple hue. A thoroughly good *Clematis* not only for itself alone, but also for the numerous hybrid forms in whose production it has played a part, is the South European Vine Bower (*C. Viticella*), which is represented in our gardens by numerous varieties. A very richly coloured form was illustrated by a coloured plate in *THE GARDEN*, January 10, 1891. *C. Viticella* is especially noteworthy from having, in conjunction with *C. lanuginosa*, given us the beautiful *C. Jackmanni*, which, though raised about thirty years ago, is still grown to a greater extent than any other *Clematis*. *C. florida* and its variety *Sieboldi* are very distinct kinds, this latter being especially beautiful. The flowers of this are quite distinct in shape from those of any of the others, as they consist of six broad petals, which when fully expanded are creamy white. The most distinctive feature is, however, the centre of the flower, which is filled with narrow purplish petals, thus forming a double bloom. Not only do the individual blooms of *C. Sieboldi* remain in beauty for some time, but a thriving specimen will keep up a succession for months together. Our native Traveller's Joy (*C. Vitalba*) often forms a beautiful object in wood-

land scenery, while *C. flammula*, with its tangled mass of small, white, fragrant blossoms, is very pretty indeed towards the end of the summer and early in autumn. A very uncommon species is the pale yellow-flowered *C. graveolens*, that blooms much about the same time as the preceding. It is very noticeable from its distinct colour, though less showy than many of the others. The garden varieties, so much in evidence at the present season, are very numerous, but many of them closely resemble each other; in fact, the same may be said of most popular classes of plants, as a demand for any particular thing will at once cause so-called new varieties to be put on the market. Most of these summer-flowering hybrids have in the first place originated from *C. Viticella* and the large-flowered *C. lanuginosa*, while the progeny has been crossed and intercrossed with each other till the result has been the numerous and varied coloured forms now in cultivation. The largest flowered varieties owe this feature to *C. lanuginosa*, which was introduced from China over forty years ago. The varieties of this section are less robust than the others, while among them light-coloured flowers predominate. In most of them the blooms are white, blush or lavender, often with deeper stripes down the centre of each petal. The Jackmanni section, which includes several deep-coloured flowers, is admirably adapted for association with the lighter hues of the *lanuginosa* type. These different forms of *Clematis* may be used in various ways, as wall plants, for covering arches (for which they are often employed), or a beautiful effect may be produced by festooning stumps of trees with the stronger growing forms. *Clematises* are at times grown as pot specimens, and in this way are generally to be seen at some of the early summer shows in the neighbourhood of London. T.

Verbascum olympicum not the best.—

There is something so striking about this when in flower, that most of those who write about it are apt to over-estimate its importance as a garden plant, and I think "Delta" makes the same mistake on p. 47. It is not quite at home in the majority of shrubberies, and on a clay soil I find it of no use in the open. There is a *Mulleins* which is happy on all soils. It is *V. phlomoides*, the best of the family, and flowers for as many months as *V. olympicum* does weeks. I am very fond of the *Mulleins*, but I never grew *V. olympicum* really well except when planted at the foot of a wall. It is grand in leaf for a couple of seasons, for usually it does not flower till the third year. *V. phlomoides* is a true biennial, one of the best of this class of plants, and so easily grown, that if once introduced into the shrubbery it will generally perpetuate itself and come year after year from seed. It does not branch so freely and regularly as *V. olympicum*, but it is such a lasting thing, and that is the point that tells so much in its favour. The finest plant of it I ever saw I had last year. It sprang up early in the season previous in a border of deep light soil, and attained much strength. Last year its central flower-spike was over 8 feet high, and it had thirty-three lateral spikes, some of which were 4 feet.—A. H.

Forms of our native Water Lily.—Mr. Young does not say (p. 45) whether there is any difference in the size of the flowers of the two kinds of Water Lily he has. We have a very large kind that I should like to know more about. I have lately cut some flowers of it quite 6 inches across, and it makes a brave display. It is almost or quite as fine as the splendid hybrid of *M. Martiana* named *Martiana albida*. The sepals are of a bronzy green externally, and there is a slight tinge of pink internally at the base of the petals. In the excellent article from the pen of M. Vil-

morin on Water Lilies, which appeared in THE GARDEN of March 28, 1891, a large form is spoken of as having originated in Macedonia, but M. Vilmorin only knew it from description. Whether this that we have is the same I do not know, but it is a magnificent thing. Then the same writer speaks of another form named plenissima, which has a great number of petals altogether in excess of the number found in the flowers of the type and this fine variety. Does any reader of THE GARDEN know or grow it?—A. H.

Sea Hollies.—To see how large a number of varieties of Elyngiums there are in cultivation, it is needful to get into a hardy plant nursery, such as is at Long Ditton, although there have been introduced from time to time very many sorts that probably cannot now be found in commerce. In gardens even where hardy plants have been grown well and for a long time, the chief forms are the pretty blue amethystinum and the large silvery giganteum, but there are others equally, perhaps more attractive, amongst which the small-flowered and wonderfully free planum may be reckoned, and most valuable, especially for cutting. Very fine and blue in the stems is Oliverianum, but even bluer still is Oliverianum superbum, a variety that because of its very elegant form and intense blue colour should be universally grown. If to those named be added alpinum, I think the best possible half-dozen is found. It is interesting to find that although these Sea Hollies have been with us almost for centuries, yet they seem just now as if being raised from the dead. It is not at all a matter for surprise, they are so beautiful. I brought a handful of them home the other day and was frequently asked what they were, as no one seems to know them, whilst for filling vases they are most beautiful. It is unfortunate that these hardy plants cannot be propagated freely, but that seems to be impossible. All the best varieties increase slowly, and being in considerable demand, stocks are kept low.—A. D.

VARIETY IN SWEET PEAS.

I HAD an opportunity recently of seeing a large collection of Sweet Peas at Messrs. Veitch's trial grounds, Turnham Green. As is well known, to Mr. Eckford, of Wem, Salop, we are largely indebted for new colours, increase in size, and other improvements. Mr. Laxton is also working in the same field. There could scarcely be a worse season for these flowers, as, being forced into growth by the warmth during May, they produced early blooms and were over very quickly, the flowers being smaller than usual and quickly running to seed. I have also observed with these improved new Peas that unless given good culture they do not come up to the mark as regards size and substance. Sweet Peas are often sown much too thickly in private gardens; with less seed better results would be realised and a longer flowering season. The collection referred to had received no special treatment in the way of food or moisture. Many are very much alike, and many are flaked and striped. To the florist this diversity of marking is no doubt interesting, but my note is intended more for the amateur or gardener who requires a few with distinct markings, size, and long lasting when cut.

Mr. Eckford's seedlings stand out prominently despite the drought, one of the best being Her Majesty, a rosy pink self, large flowers. This is a valuable addition to the list; indeed, I prefer it to Splendour, a rose-pink of deeper shade. Venus is another variety of decided colour, a pale buff with shaded pink standards, and a beautiful flower when fully expanded. By some the colour may not be a favourite, but it is so distinct that it is a welcome addition. Mrs. Gladstone is worth room in every garden; this may be termed an improved Princess Beatrice and very much like the newer Blushing Beauty. Mrs. Saukey is another lovely flower, a pure white. This variety should be made a note of where a good white Sweet Pea is required. Another variety closely allied to these is named Emily Henderson. It is too much like the last two

varieties, but it is more robust in growth. This is of American origin. Waverley is of a distinct colour, a rose claret with shaded standards and pale blue wings. Breatton, dark brown, crimson wings and purple standards, is one of the darkest varieties and should be included in the list. Monarch is also a striking dark flower, a bronze-crimson with deep blue wings and a large bloom of good substance. Nearly allied in colour to the last named is Purple Prince. Duke of Clarence is a desirable introduction, a rosy claret self flower. Dorothy Tennant, a good mauve or fine violet; Countess of Radnor, deep lilac; and Lemon Queen, delicate blush tinted with lemon, are also good. Delight and Primrose are much alike in colour, a soft primrose shade. Isa Eckford, creamy white; Empress of India, rose-pink; Apple Blossom, somewhat like Painted Lady; Splendour, rose-pink; Orange Prince, a grand bloom, orange-red, are also distinct. Cardinal, shining crimson-scarlet, Ignea, Firefly, and the old Invincible Scarlet are the best in this colour. Among the blues, Grand Blue is fine; near to this is Invincible Blue and Captain of the Blues. I prefer the first named. Indigo King and Purple King are good. Sylva and Rising Sun, two of Mr. Laxton's seedlings, violet rose with lavender-blue edging, are good. Mme. Carnot is a fine dark purple; Etna, a dull purplish crimson, not a large flower, but a nice shade of colour; these last are some of Mr. Laxton's raising. A good selection may readily be made from the above.

G. WYTHES.

NOTES ON HARDY PLANTS.

Saxifraga virginensis.—The true plant is a very distinct one in even its big family. It has two characteristics that are well marked—the roots are tuberous with persistent fibre, and the foliage evergreen, though in no way resembling either the mossy or encrusted sections. The leaves are in flat rosettes, after the form of small Arabis foliage, and rendered dull in colour by reason of the brown hairs or down. The flowers are equally distinct, but not at all showy, not even when you have allowed for their small size. They are carried on somewhat short-forked scapes or stems, and are but mere specks of white with brownish calyces. It is reasonable for us to doubt the hardness of Virginian flowers, but in this case I am pretty sure the plant is hardy enough. I have grown it quite twelve years, and it has had no protection whatever; neither is it fickle as to soil, though I give rather more black soil than I do to most European species.

Saxifraga odontophylla.—This is another distinct or even peculiar species. It has reniform, evenly-toothed leaves of a brittle and succulent character, and clothed with long, stiff hairs. It is a little plant with a big wig of roots. The flowers are lovely, large, pure white, bell-shaped, and half filled with the anthers that are covered with pollen of a terra-cotta colour. The flowers last individually for a couple of weeks. This, too, is quite hardy, but it suffers from heavy thunder showers owing to its brittleness. Still my plants stand open to all sorts of weather.

Geum reptans.—I know no herbaceous creeper that can be claimed to be at once more suitable for and beautiful on a rockery. I think it does better in a little shade than otherwise, that is side shade and not top shade. Of the latter I think our rockeries would be better if quite free. The leaves, stems, flowers, and seeds of this plant are all distinct and beautiful. Several other plants sometimes go under the name in commerce, but once the true plant has been recognised there is little or no fear of mistaking it.

Gentiana septemfida.—This is a much more variable species than is generally supposed. The features of variation are colour of flowers, form of leaves, and general size of plants, especially stature. I have it in mature specimens with a stature of nearly 2 feet down to 8 inches or even less, and with leaves half the length of one's hand; some are lanceolate, others quite small and cor-

date, and these variations are repeated in several batches of seedlings, and I see grades of intermediate forms. As to flower-colour, there are dark indigo-blues, paling to nearly sky-blue. As this happens to be one of the best garden species—the freest to blossom and easiest to accommodate—the above facts may suggest the usefulness of seed-raising, provided quite fresh seed is obtainable. To try with old or doubtful seed is not profitable.

Clematis erecta fl.-pl.—When this can have the needful moist corner where its brittle stems will not be likely to be broken by the wind, it may be expected to make a charming and uncommon display in late summer. In the case of this Clematis, the double flowers are much superior to the typical ones in several ways, but the most valuable gain is the fact that the flowers are a better white and they last twice as long as single ones. With me the plant grows only about or scarcely 1 yard high, and, though wiry, is somewhat slender and better for some material to sustain it. Like all its family, the plant likes a free soil and plenty of moisture, and granted these, it soon forms a good-sized clump.

Erythraea diffusa.—This lovely Gentian-wort, with its bright rosy and sheeny flowers, is amongst the best and brightest of rock plants in mid-summer. Aptly it comes in the season of summer Gentians, and it is interesting to have a plant of this colour so nearly allied to the Gentians. It is a little evergreen creeper, and so nearly does it resemble the small Veronica repens in its foliage, that I have known some people pull it up under the impression that it was that weedy plant. It is, of course, totally different when in flower, the stems rising something like 4 inches or 6 inches high. If the plant has a moist place with plenty of sunshine, it will develop flowers in such masses as to cover itself, and there is no need to say how valuable such plants prove to be in July and August.

Cheiranthus Allioni.—It is a very common thing for a second crop of the dark flowers, of this desirable kind to appear in late summer, and this tendency may have been helped in the present forward summer. If the tops of the first crop are removed so as to prevent seed-bearing, a second crop of flowers will be secured. The loss of the seed may not imply much in this case, because you cannot trust seeds to produce the true form. On the other hand, when propagation is your object, by topping the plants as just stated, you not only get more flowers but fresh and earlier shoots from the base, which are the best of material for slipping off for young stock.

Veronica cupressoides.—I fear that sooner or later this is apt to go off in a sudden manner, especially in hot summers, not that I would like to say heat and drought are the cause, but so far as my experience goes, branches and even the whole plant have invariably gone off in the height of summer. There is not the least doubt as to the hardness of the plant against cold, and I am sure it is all the better for a deep root-run of light stuff with bigish stones near the surface.

Geranium balkanum.—So it seems this is only another instance of an old friend with a new name. For many years I had grown the G. macrorrhizon, with which, there is scarcely room for doubt, it is identical, until it got to the size of a door-mat, when, side by side with other Geraniums, I did not consider it worth culture as a garden flower. Such kinds as cinereum, argenteum, subcaulescens, Endrei, ibericum, Wallichianum, Lambertianum, and even the forms of lancastriense I thought were quite superior. When, as in this case, a plant is distributed with a provisional name, would it not be well to distinguish it by a query sign with the name? Two things this would at least serve to do: to put recipients on the alert as to identity, and give infinitely less trouble than correcting such errors as the present. When small roots of a supposed new plant are sent out they may for a year or two puzzle the best observer until the plants mature and flower, and the longer a plant has been carefully tended, the more keen

the disappointment when an old and discarded flower is identified. Had the untrustworthiness of the plant been indicated in some such way as above, growers might have pleased themselves as to whether they took the plant into their collections, and I certainly if they did elect to try it, annoyance might have been saved.

Oenothera marginata (syn. *eximia*).—The propagation of this glorious flower is easy or simple in the extreme if done now, but I suppose it is because the plant is now flowering so grandly that few care to mutilate it in any way at present. Sometimes you may take offsets from the running roots with a little fibre, and the big, pure white flowers of 3 inches to 4 inches across will in no way be hurt or hindered. Plants that are but one year in good fresh stuff of a light character produce this sort of material in greatest quantity. Older plants keep more compact, and then the flowering stems have to be taken as cuttings or slips. In doing this, do not fail to secure an inch or more of the brown portion at the base; such slips placed in a bed of sand and well watered, in full sunshine, will root freely in eight or twelve days, and may then be either potted or set in their permanent places. Young plants, even newly-made stock, are likely to stand a severe winter better than old plants. J. WOOD.

Woodville, Kirkstall.

PRUNING CLEMATISES.

I SHALL be glad to know when and how to prune the following Clematises, viz., *C. Jackmani*, *C. montana*, *C. Duchess of Edinburgh*, and *C. indivisa lobata*.—W. O'B.

* * The pruning required by the different kinds of Clematis enumerated above will to a great extent depend upon the position in which they are growing, for if festooning any extensive support, such as neighbouring trees, or clothing an arbour, little if any pruning will be required, while, on the other hand, if trained to a wall where space is limited, pruning is absolutely necessary in order to keep the specimen within bounds.

Clematis montana flowers from the young shoots directly they push from the old wood, and consequently any severe pruning in winter will limit the display of blossoms. All that is needed is to remove any weak or exhausted wood that is not likely to flower, but be sure and retain the vigorous shoots, as they will yield the greatest wealth of blossoms. *Clematis Jackmani*, on the other hand, forms shoots of considerable length before they flower, so that they may during the winter or early spring be pruned back to good strong buds and any weak or exhausted shoots cut out. *Clematis Duchess of Edinburgh* will require little pruning, all that is needed being the thinning out of any weak growth during the winter when dormant. *Clematis indivisa lobata*, the evergreen species that requires the protection of a greenhouse, blooms early in the spring, and all the pruning needed must be done directly the blooming season is past. Where it is necessary, the vigorous shoots may be shortened back to good strong eyes and the weak ones thinned out, but in the case of this Clematis, as with the others, the less pruning that is indulged in unless in some exceptional cases the greater will be the display of blossoms, though such a free grower as *C. Jackmani* may sometimes form too dense a tangle unless pruned back somewhat during the winter before the buds push into growth.—T.

Campanula grandiflora Mariesi.—This is perhaps better known as *Platycodon*, and one of the finest perennials in bloom now. We noticed it in the Tottenham nursery of Mr. T. S. Ware. When in good soil it makes a handsome mass, the growth not rising more than a foot in height, compact, and leafy, whilst the flowers are large, produced freely, and of a pretty shade of blue. The best position for it is the rockery, and in pots it shows to advantage, owing to its dwarf, leafy habit and

free display of flowers. We should like to see this fine Bellflower more grown in borders. Also in bloom were the type, which is still uncommon in gardens, at least not so freely planted as it deserves to be, and the variety named *alba*, which has pure white flowers.

A note on tufted Pansies.—This class is beginning to wear a rather ragged aspect, but not all varieties. Many kinds are in full bloom in the Chiswick Gardens, and those that have maintained their character from spring we have made a note of. They are from Messrs. Dobbie and Co., and comprise the finest varieties in the collection. All are of good habit, compact, and the flowers make a mass of colour. William Niel is a good kind, the flowers of bold form and rich mauve-purple, a distinct hue. Queen of Scots is in fine bloom, the flowers whitish in colour, with a deep purple centre, and note should be taken of the variety Mrs. C. Turner, a rich purple self, very effective for its intense shade of colour. Pretty in its distinctive shade is Bridesmaid, which is of various tones of primrose, deepening in the centre to rich yellow. Ardwell Gem is a well-known kind, whilst a variety named Lord Elcho is also deep yellow, but relieved in the centre by stripes or streaks of purple. One of the boldest in the collection is Champion, the flowers large, produced freely and evenly, white with a small yellow eye and central radiating streaks of rich purple. Another kind worthy of mention is The Mearns, which has large flowers, the lower portion deep maroon, but passing to a lighter shade in the upper half, the eye yellow. Besides those of Messrs. Dobbie, Dr. Stuart, who has raised many good tufted Pansies, also has a collection. Two of the most noteworthy varieties are George Muirhead, the flowers large and primrose-yellow in colour, the lower portion of a deeper shade; whilst Sylvia is a good variety; the flowers, of bold shape, are white relieved by a small yellow centre.

SHORT NOTES.—FLOWER.

Delphinium nudicaule.—This must be accounted a good hot-weather plant. We have seen it very fine in many gardens and nurseries. It is a plant that must be grown in a mass to obtain a bold display.

Pentstemon barbatus Torreyi was one of the brightest plants in bloom in mid-July. It is a graceful form, a native of Colorado, and harder than the species. The plant grows to a considerable height, the bright scarlet flowers appearing in tall, loose spikes. This fine *Pentstemon* when planted in a good mass in the border makes a fine show of colour, and continues gay for several weeks.

Eryngium alpinum.—I notice on p. 38 that *Eryngium alpinum* is said to be a weak grower. This certainly cannot be the case, or perhaps the plant alluded to was not *E. alpinum*. Both here and at several London nurseries and also in several private gardens I have always seen it, and found it to be the most robust of the family, though slower in forming a clump than the others.—M. PRICHARD, *Christchurch*.

Lilium Kramerii.—With regard to the notice of this Lily on p. 48, it may be pointed out that though now recognised as the *Lilium japonicum* of Thunberg, as stated in the article in question, yet a fact to bear in mind is that the specific name of *japonicum* is generally applied to *L. odorum*; indeed, this last mentioned Lily is more frequently sold as *L. japonicum Colchesteri* than by any other name. As a beautiful and distinct Lily *L. Kramerii* deserves all that can be said in its favour, but it is a bad traveller and, except in a few cases, a difficult Lily to grow.—H. P.

Eckford's Sweet Peas.—I purchased packets of the Sweet Peas sent out by Mr. Henry Eckford. They are (middle of June) at their best, and succession crops are coming forward strong and well. The rich and varied colours of the Peas are very beautiful and greatly valued for cutting. For first cutting I sowed the seed about the 1st of Feb-

ruary in boxes on rough leafy soil mixed with loam, covered the seed with soil sifted from refuse under the potting bench, and all I could desire has been realised.—M. TEMPLE, *Carron House, N.B.*

Some good summer flowers.—I send you specimens of *Michauxia campanuloides*, Sweet Sultan, fine *Coreopsis lanceolata*; also a spike of *Digitalis ferruginea*, although this is nearly over, and to be admired must be seen when the basal flowerets are open and the terminal ones in bud. I have had spikes 5 feet high and more, a cylindrical tapering truss, densely packed and set all round with no space between, of a quaint hue and chaste beauty, in cream and white, green and yellow, brown and purple tones.—J. H. REEVE, *North Walsham, Norfolk*.

GARDEN FLORA.

PLATE 920.

HARDY LINARIAS.

(WITH A COLOURED PLATE OF *L. DALMATICA*.)

IN a large genus like that of *Linaria* it is not a little surprising to see how few really useful species have found their way into general cultivation. Many of them are quite brilliant in their colours and markings. The annual species, chiefly confined to *L. reticulata* and its variety *aurea purpurea*, with occasionally *L. maroccana*, *spartea* and *tristis*, are far more popular than the perennial forms. The latter three, although by no means so showy as *L. reticulata*, will be found very useful, as well on account of variety as for their extremely free-flowering habit. There are numerous other species that might be added with considerable advantage; they may be cultivated in the flower borders with the greatest ease, little being required beyond sowing in late spring where they are intended to bloom, either in rows or patches, giving attention to thinning out the seedlings when they appear above ground. The perennial species, in addition to being less troublesome to manage, are as a whole more useful and varied in habit than the annuals. From the trailing *L. hepaticifolia* to the robust *L. dalmatica* of our coloured plate we have plants suitable for almost every conceivable position in the garden. The alpine *Toadflax* so brilliant and plentiful on the old moraines in the Swiss valleys, and so robust and beautiful on many rockeries, is nevertheless somewhat fastidious in many districts. In low-lying or damp gardens it is almost impossible to keep it alive, while in others the difficulty is to keep it from seeding and spoiling other weaker neighbours. Its trailing stems of glaucous leaves and numerous bluish violet flowers make it a worthy companion to the very best of our choice alpine.

L. DALMATICA, a coloured plate of which accompanies these notes, is a native of South-eastern Europe, and was introduced to this country about 1731. It is a very robust, vigorous-growing perennial, showy and useful alike for the border or the rock garden. It rarely exceeds 3½ feet in height, of a somewhat loose, straggling habit, but extremely free flowering, the flowers large and attractive. It may be increased readily from cuttings or from seed, which it ripens freely. *L. genistifolia*, a nearly allied species, is not so showy as *L. dalmatica*.

L. VULGARIS VAR. *PELORIA* is a very curious as well as a showy garden flower. It is by no means

* Drawn for THE GARDEN by Champion Jones, July 13, 1892, in the Royal Gardens, Kew. Lithographed and printed by Guillaume Severeys.



LINARIA DALMATICA

common in gardens, although a desirable plant, and at odd times found growing wild along with its parent. It differs from *L. vulgaris* and from most of the other *Linarias* in its having five spurs to each flower instead of only one. The flowers, indeed, have become quite regular. It seems, however, to be short-lived, and should be periodically propagated from the underground stems so freely produced when growing in light soil. The flowers, which are yellow, are produced in great abundance.

L. TRIORXITHIOPHORA, one of the most beautiful species in cultivation, can hardly be classed as a hardy plant. It may, however, be wintered in a cold frame from cuttings struck in early autumn, or the old plants may be lifted and flowered during early winter in the greenhouse. The flowers are large, bright purple, and very showy.

L. origanifolia, *bipartita*, *crassifolia*, and some few others are worth growing and may occasionally be had in the trade. All the *Linarias* do best in light, rich soil, and may be increased either by cuttings or seeds. D. DEWAR.

Botanic Gardens, Glasgow.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

WINTER GREENS.—Although the rains have not been exceptionally heavy so far at the time these notes are being written, yet they have been most beneficial in changing the aspect of all green and growing crops, especially those for winter and spring use. The soil being so warm, the growth of all such crops will now be very rapid. In some districts where watering has had to be exceptionally heavy to keep the crops anything like satisfactory, the soil around the plants will have become very firm. A good surface stirring will consequently be very desirable, working the hoe well up around the stems. Small plants left over in the seed-beds and which have now become stronger will, if now planted out, have ample time to become strong before winter. Coleworts, small-growing Savoys and Chou de Burghley will, if now planted, form most useful crops, and which, as far as flavour is concerned, are second to none. On light soils a dressing of soot strewn over the quarters where winter greens are growing will impart a healthy tone to the foliage and encourage a satisfactory growth.

TOMATOES IN HOUSES.—The change to duller and moister weather will bring about an attack of disease if care is not taken in both the heating and ventilation. Although up till now satisfactory crops have been secured, in some cases without the use of artificial heat, yet it is not now safe to dispense with it, as on account of the more moisture-laden atmosphere, the conditions are more favourable to the spread of disease. There need be but little fear of disease attacking the plants if a little warmth is kept in the pipes at night and on dull days, with also a free circulation of air. If any white fly is present, and which if allowed to gain headway quickly makes the fruit dirty, besides checking the progress of the plants, it may be effectually disposed of by syringing with soft water in which some carbolic soap has been dissolved. If before syringing the plants are cleared of all ripe and ripening fruit, the effects of the soap will pass away before other fruits ripen. The different fumigating cones and insecticides now being sold for the purpose may also be used, but the soap is most effectual, as if any dirt should be on either the fruit or foliage, this is removed by after syringings of soft water after it has been loosened by the decoction of soap and water.

ATTENTION TO THE PLANTS.—Plants which are growing in confined borders, pots or boxes will, on account of the earliness of the season, have grown more freely than usual, or rather have produced the crops earlier. If there is not space for further extension, these plants may be entirely rejuvenated by cutting in rather freely the old stems, and so

encouraging younger growth. If at the same time or as soon as the young growth commences to form a little of the old surface soil is removed, and this replaced with some fresh loam, wood-ashes, or burned refuse, with some pulverised horse manure and a little charcoal, healthy root-action will start, and the result will be a nice crop of late fruit. As the surface dressing becomes permeated with roots, assist the plants by giving liquid manure or some approved fertiliser. Plants which still have space must also be encouraged by rich top dressings, removing also some of the older foliage, and training in where there is space an extra branch. Any plants which, on account of being planted out in large and rich borders, are making a gross growth should have each leaf reduced by quite one half, also keeping the soil on the dry side. This may have the effect of causing the flowers to set more freely.

TOP-DRESSING CELERY.—This will be found to be a very needful operation in helping on the younger growth of Celery, as it provides a greater depth of suitable soil for the roots to ramify in. The later crops will not just yet require this addition, but the earliest supplies must receive attention at once. One advantage of top-dressing during the earliest stages of growth is that it prevents the outer leaves from spreading, and so causes more symmetrical heads to form. Top-dressing must not be confounded with earthing, this operation being best deferred until a strong plant is formed. Later crops will also be improved by stirring the soil about the plants.

YOUNG CARROTS FOR WINTER USE.—Unless the soil should be very suitable, this crop is the better for not being sown direct in the open, as thus the roots are apt to get eaten by grubs. The better system is to sow on an old hotbed, this being levelled and surfaced with about 6 inches of sandy soil. The lights, of course, will not be needed until inclement weather arrives, as the freer the exposure the better. If the depth between the surface of the bed and the top of the frame is considered too much, the space should be filled up with other material, which must be trodden in firmly before placing on the soil. The seeds should be sown thinly, and if the weather should prove dry, the soil must be kept freshened up with water through a fine rose. In gardens where Carrots may be sown in the open without fear of injury from grubs, select a sloping and sheltered border, providing a depth of suitable soil, as this latter is very essential for a winter crop. A free addition of old potting soil and burned refuse would suffice.

A. YOUNG.

FRUIT HOUSES.

VINERIES.—Latterly the weather has been even more trying to Grape growers than the remarkably hot weather previously experienced. Both ripe and ripening crops ought in dull wet weather to have fire-heat turned on, and a little front and top air left constantly on. Anything approaching stagnation in the atmosphere may lead to either cracking and wholesale decay of berries or the loss of bloom. Should there be a sudden burst of sunshine, even only lasting two or three minutes, this when there is no top air on is quickly followed by condensation of moisture on the berries, and if trickling down is not prevented, disfigurement and early decay are inevitable. Houses with top lap ventilators are the easiest to manage, as these can be opened in all weathers. In the case of those with running sashes it is better to leave these a little way open, even if the rain water does run down the walls, than to run risks of cracking of berries or scalding. During dull weather especially, all the ripe Grapes should be gone over daily, and every cracked berry taken out. Muscats as well as Madresfield Court and Foster's Seedling are liable to crack badly, especially when the roots are principally or solely outside. If the cracked berries are left till decay sets in, then every berry that adjoins will most probably have to be cut out and the bunch be greatly disfigured accordingly. Inside borders must be kept constantly moist, and this may mean at times too

much moisture in the atmosphere for either ripe or ripening Grapes. It is advisable, therefore, to heavily mulch with clean strawy litter, this conserving the moisture in the border and assisting in maintaining a drier atmosphere.

WASPS AND INSECT PESTS.—Wasps are unusually abundant, and have already made a fierce onslaught on ripe Grapes. Taking all the nests that can be found will not as a rule greatly relieve the Grape grower, and if the attempt is made to exclude wasps by means of muslin, wasp-netting, or cotton blinds fastened over all the ventilating openings, much harm may result by the exclusion of air. In dull, damp weather not nearly enough air finds its way through wasp-proof nettings, and a moist, stagnant atmosphere, as already shown, may easily do more harm than wasps. The same objection holds good with regard to the old plan of placing the bunches in muslin bags. All that is really needed is to place a few drops of Davis' wasp-killer in some of the berries that have been partly eaten, and this will clear the house of wasps in a surprisingly short time. What is equally satisfactory, fresh relays do not put in appearance, and an occasional renewal of the syrup will keep the Grapes quite free of wasps. The value of this very old, but not very well-known remedy cannot be over-estimated. Red spider, as might reasonably be anticipated, is very troublesome this season. While the bunches are hanging thickly on the Vines nothing in the way of syringing ought to be attempted, and sponging the leaves is of little avail at this late date. If the hot-water pipes are well coated with a paint made with flowers of sulphur and either milk or linseed oil and then made thoroughly hot for two or three nights in succession, the fumes will greatly check the spread of red spider, and probably destroy the greater portion of them. If the precaution is taken of opening the house before the sun strikes on it, no harm will result either to the bunches or foliage, both of which are now sufficiently well matured to stand the test. After the bunches are cut, clear water from the garden engine or syringe may be employed forcibly on the foliage, but the simplest and most effective plan of getting rid of red spider is to well coat both the upper and lower surfaces of the leaves with flowers of sulphur. First, slightly reduce the laterals, also cutting away superfluous sub-laterals, and then well syringe the Vines with water, to every three gallons of which a double handful of sulphur has been added. A second application may be needed in order to well coat the leaves, and the house being set wide open the ripening of wood and complete rest will be ensured. Thrips are rather more troublesome this season than usual, and these while the bunches are hanging can be best got rid of by frequent gentle fumigations with tobacco paper. There must be no flaring of the paper nor any heated fumes, or the foliage will suffer. A mat suspended immediately over where the apparatus is set would act as a safeguard against sudden over-heating, but the latter should be prevented as much as possible. There ought to be no fumigation in houses where the Grapes are nearly or quite ripe, as the flavour is likely to be badly affected by it, but the thrips should have no mercy shown them after the house is once cleared of fruit, tobacco water being the best remedy then. Mealy bug should be kept down by means of frequent hunts for them, all that are found being crushed where they are. Bunches can be cleared of this pest with a syringe, or, better still, by being placed under a tap with a good pressure of clear water.

FIGS.—Early started trees will produce a third crop if need be, but this is working the willing horse too hard. Directly the second crop is gathered a light thinning out of the wood may well take place, and some attention be paid to the foliage. If infested by red spider, it should have a thorough syringing every evening or the sulphur remedy, as advised in the case of early Vines, may be applied. The house having been kept rather dry during the ripening period, the chances are the borders are now too dry. These should have a good soaking at once, a second dose being given if

the first fails to well moisten the soil. Set the house wide open, and the trees thus well rested will most probably be in good condition for starting afresh next autumn or winter. Successional trees in both heated and unheated houses are now giving ripe fruit, those from the latter being extra fine. In both cases there ought to be a good second crop this season, and will be, too, if the wood is kept properly thinned out and thinly trained. Ripening Figs are liable to decay prematurely in a close, moist house, and the only preventive is the maintenance of a dry atmosphere, fire-heat in moderation assisting if only both front and top air is left on during the greater part of the day and all night long. Closing somewhat early and distributing moisture about the house will tend to swell the Figs to their full size, but air should be given again in the evening. Never gather Figs till they are fully ripe, as they will not improve after they are pulled.

PRACTICAL.

PLANT HOUSES.

EARLY BULBS.—Both by the advance slips of the usual autumnal bulb catalogues and by the advertising columns are we informed and reminded that the first arrivals of Roman Hyacinths and other useful bulbs are to hand, and may now be had for first early work without any further delay. Too much importance cannot, in my opinion, be attached to giving early orders in any case whether extra early flowers are needed or not. I much prefer to have my stock in hand rather than to have to wait for it; besides which too much exposure in a shop or warehouse is not, in my opinion desirable. By securing the requisite quantity in good time, the potting or boxing, as the case may be, can at once be proceeded with in smaller batches rather than by putting larger numbers in at once. This is a better mode of regulating the supply than by either having to force too much, or, on the other hand, to hold back as an opposite resource. Where large numbers are required as a cut supply and pots are short, boxes as used for Celery or small bedding plants may be used advantageously; in fact I prefer them as a means of saving labour as well. My practice with Roman Hyacinths is to put about fifty bulbs into one of these boxes, and then place one in a little more warmth every few days so as to have the flowers quite fresh for cutting. They will in fact flower very well in a close frame up to the end of October without any artificial heat at all. Potting or boxing is better done every fortnight than every month; by this means there is no difficulty in regulating the supply. It is not often, unless in special cases, that large numbers are wanted at one and the same time in private establishments; it is rather a succession so as to prevent a waste of good flower.

Having secured the stock, the same should be kept in a cool and dry place, a fruit room being a very good choice. Rather than let the bulbs lie in the bags in bulk it is much better to spread them out in one layer only. Our earliest will soon be in the soil with the object of having them in flower by the latter part of September. As soon as boxed they will be placed in a cool, moist place for about three weeks with a very light covering of cocoa fibre. If frame room is abundant it is a very good plan to use such, but the covering will need to be kept moist by watering. These bulbs are not at all particular as to soil. For my own part I do not favour a rich compost; it has a tendency to force leaf growth at the expense of the flower-spikes. A good choice is that which has borne a crop of Melons to which only a little leaf soil or spent Mushroom manure need be added, the rougher portions forming the drainage in lieu of crocks if Moss be short. Crocking in the usual way is a waste of time, Moss being infinitely better, affording both food and moisture for the roots. The same soil will also answer for both Narcissi and Daffodils as well as the first early Tulips. Each of these should be got forward without any delay, so as to obtain a good root action in advance of any attempt at top growth. Where pots are

used the same remarks apply as regards drainage and soil. I prefer, however, to use 6-inch pots in preference to smaller ones; these will hold five or six bulbs of the Roman Hyacinths, and others in proportion to their size, thus making a better display than in the smaller size.

PLANTED-OUT STOCK.—In more than one case the plants will have suffered with other things through the long period of drought. It is needful, therefore, to look well to their condition in this respect, for if the roots do not obtain moisture close home, they will go in search of it farther away, and this will be all against the plants when lifted later on. Plenty of water should be applied close to the stems, so as to keep the root-action there in an active state. These remarks obtain in every case where this mode of culture is adopted, whilst at the same time assistance by frequent syringings should be given when showers do not prevail to give this encouragement to growth as well as to keep down all insect pests. Pinching the growths in nearly every case will be beneficial. Bouvardias, for instance, should be kept stopped at every second joint to secure dwarf bushy plants. No strong shoots should be allowed to run away with the vigour which ought to be better distributed. Red spider will have to be looked after upon Bouvardias after the hot weather of late. Solanums planted out should be stopped as soon as a full set of berries is secured, and all future strength thereafter concentrated in the swelling off in good time of the fruit. Early matured berries are far better than later ones, lasting quite as long as the latter are ever required to do. Red spider here again may give trouble, so also will green-fly in all probability. Salvias will rather stand in need of a check than of encouragement to make growth; this where needful can be effected by thrusting a fork under the plants and lightly lifting them, which will induce more roots to push forth nearer home. Hardly any insects will trouble these plants unless it be the white fly. Chrysanthemums want much the same treatment as the Salvias, the former being given two or three pinchings, and the latter more in proportion, a pyramidal outline being a good form to aim at. Carnations for winter flowering now planted out should be kept in good shape by a few sticks and ties—more of the latter than the former by all means. Callas should have every encouragement given them both by a plentiful supply of moisture and by occasional applications of manure, soot being an excellent medium for keeping worms and slugs at a respectable distance. If these have been planted upon the level ground rather than in trenches, it will be a capital plan to hollow out the ground slightly around the base so as to direct more water there. If in a dry position it will be better to top-dress with a little manure around the plants. Where the leaf growth is advancing some support may be needful.

J. HUDSON.

ORCHIDS.

WE cannot at present boast of a good display of bloom in any of the houses, and one can appreciate the beauty and pleasant perfume of the flowers of *Cattleya Gaskelliana*, which now adorn the stages in the *Cattleya* house. Soon these will be followed by the even more lovely *C. labiata*. At this season, too, we look for a fair proportion of flowers amongst the few *Aerides* which bloom at this season of the year. Years ago we were well content with *A. quinquevulnerum*, *A. suavisimum*, and perhaps *A. alline*. The first-named, as it used to be grown in the collection of Sigismund Rucker at Wandsworth, under the care of Mr. Pilcher, some twenty-five years ago, was at that time the most esteemed in this genus. Thanks to the energy of Orchid collectors, the autumn-flowering *Aerides* of those days have been greatly surpassed by such beautiful species as *A. Lawrenceæ*, the most splendid species in this genus. *A. Sanderianum* is by some considered a form of this species, its principal point of difference being in the ground colour of the flowers, which is a yellowish fawn,

while *A. Lawrenceæ* has a white ground. This class of *Aerides* succeeds best in the East India house. They seem to delight in heat and moisture, but much depends upon the details of the treatment as to whether the plants will grow healthily and flower well or struggle on in indifferent health, an eyesore rather than a delight to their owner. First as regards the material they are grown in. Clean drainage is best, with 2 inches or 3 inches of live Sphagnum Moss on the surface, and this should be intermingled plentifully with crocks and a small quantity of broken charcoal. Any decayed material seems to be obnoxious to the roots of *Aerides* and *Saccolabium*, so that it is not uncommon to find nearly all the roots that have run into the potting material in a dead or dying condition, the plant being supported by the air-roots only. This will show how important it is that the atmospheric conditions be attended to. Messrs. Veitch state in their "Manual of Orchidaceous Plants" that *A. Lawrenceæ* is found in its native habitat in the Philippine Islands associated with *Vanda Sanderiana* and *Phaenopsis Sanderiana*. These three splendid Orchids have been found growing together on the same tree. This gives us some idea of the treatment they require, and one would suppose that the treatment best adapted to one of them will answer for all three. A too close and over-moist atmosphere may be injurious, and is probably the reason why these Orchids are sometimes affected with blackish spots and blotches upon the leaves which sometimes sadly disfigure them. Greater care is necessary in winter, as damp at that time is more likely to be injurious. *Burlingtonia candida* is a very pretty Orchid which may flower at this season as well as in April or May. It is a charming Orchid; its pure white flowers, with the exception of a stain of yellow on the lip, are elegantly poised on gracefully drooping racemes, and are delightfully fragrant. The plants should be kept free from insect pests, and do not let them get very dry at the roots even during the resting period; when growing, water freely. In the warmest house many *Cypripediums* are in flower, and amongst them hybrid forms are conspicuous. The handsome *C. superbiens* (Veitchi) still holds its own as being one of the most distinct and beautiful of the section to which it belongs. Our plants of *C. Lawrenceanum* are now in flower; it is very late for this variety. *C. grande* is also well in flower, and is a very noble species. We value all the *Cypripediums* that flower in July, as the blooms are long lasting as a rule either in a cut state or left upon the plants.

I ought to add a word about the treatment at this season of two of the most distinct and beautiful of the *Cattleyas*, *C. Dowiana* and *C. superba*. The former has a tendency to start into growth almost as soon as it passes out of bloom, but this is not only injurious to the plant, but may be the cause of its failing to bloom next year. A cooler, dry place when the plants are in flower may prevent this. The handsome *C. superba* is a more easily managed species if it is once established upon the root part of a stump of Tree Fern. I find it succeeds best suspended near the roof glass in the lightest part of the warmest house and freely supplied with water when in growth. In winter when the plant is at rest a lower temperature is best. *C. Schofieldiana* must not be omitted; it has been introduced recently, and is flowering in some collections; it should be kept at the warm end of the *Cattleya* house. These long slender-stemmed *Cattleyas* require rather more attention to keep them in a healthy condition than the *C. labiata* group. Cleanliness is of much importance, and care should be taken not to give them too much water, nor should they be allowed to become over-dry at the roots even when at rest, for they take some time to recover again if the stems are allowed to shrink. During the hot dry weather we have had it was to be expected that insect pests and other parasites would attack the plants, and we have been busy exterminating them with a sponge and warm soft soapy water.

Several kinds of scale have got upon the leaves of *Cymbidiums*, *Cattleyas* and many of the *Cypripedes*.

diums, and much injury is caused to the plants unless they are removed as soon as observed. All these parasites are most active when the plants are in an unhealthy atmosphere. If we could give all the occupants of the various houses exactly the treatment they require, it might not be so difficult to keep them quite clean; but it is scarcely possible that in a large houseful of Orchids each one of them will be supplied with all the essentials requisite to keep it in rude health.

J. DOUGLAS.

ROSE GARDEN.

NOTES ON ROSES.

PERHAPS we never had so peculiar a Rose season as the present. Many varieties have come quite different to their usual form both in colour and perfume. Take Prince C. de Rohan and Prince Arthur as examples among the deep-coloured section. Neither of these has shown the deep maroon and intense scarlet generally found, nor have others of the same shades been any better as regards intensity of colour. General Jacqueminot seems to have completely lost the deep shading in the cup of its petals, and has produced blooms much more like those of Thomas Mills. A recent experience of "Rosa" on page 59 is more or less the same as my own during the present season. What with the early season accompanied by not a few frosts quite late in the spring, followed by a long spell of dry weather and a scorching sun, it is little to be wondered at that many Roses were unable to produce good flowers. All through February and March the prospects of a good season were favourable, but after that time things went from bad to worse, at least as far as southern growers were concerned. Insect pests of all kinds attacked the plants earlier and far more persistently than usual, while we have already had more than one disease that is generally looked upon as being autumnal. Teas and light coloured Hybrid Perpetuals were infested with thrips, not the small brown variety found in the greenhouse upon Azaleas, &c., but a much larger kind, almost black in colour. This little pest was one of the chief causes of so many soiled blooms being exhibited at the Crystal Palace show. Feeding upon the Rose petals this variety of thrips produces a greater show of injury than does the kind which feeds upon the under part of any foliage; in short, the black thrips gives the blooms an appearance of having gone through rough weather. Mildew also set in very early. We seldom get this disease out of doors until the first crop of bloom is realised, but this season many of my plants were much affected by it.

Here, in mid-Sussex, we did not have a shower for almost three months, and as this was at the time of year when showery weather is most wanted, it is not very surprising that our Rose season should have proved so very inferior to what was anticipated early in the year. Another peculiarity that I have seldom noticed before was the baked-up appearance the majority of the bloom buds possessed. This was more especially marked among the Teas and Noisettes, and as these usually form their flower-buds earlier than the Hybrid Perpetuals, and as we had some very cold nights, followed by bright and scorching days, I can only attribute this to the extreme changes in the temperature.

Since writing the above notes we are being favoured with a few very welcome showers; these will put colour and life into the later

blooms. It is surprising what a difference there is in such varieties as Xavier Olibo, Abel Carrière and Prince C. de Rohan upon a dull morning after a shower compared to the same and similar varieties upon bright and dry mornings. Even such Teas as Ethel Brownlow and Madame Cusin would appear to be quite distinct from the same varieties under different conditions. Fortunately, the present showery weather is causing Roses to break out into clean growth for autumnal flowering, and if it continues for a few days we may have a good late season after all. When a Rose has not been able to expend its strength upon early summer blooms, the same plant will often afford a most agreeable crop during late autumn, and I have great hopes of this being the case with my own plants.

RIDGEWOOD.

POT ROSES.

WHERE these are grown it is generally with the object of securing early blooms to come in a little before those of the Maréchal Niel and Gloire de Dijon when turned out into borders under glass. In order to secure this, it is necessary to prepare your plants during August and September. Those which have flowered under forced treatment during the past winter, and which have been stood out of doors for some few weeks now, will need overhauling very shortly. Having made growth from January onwards, they have had quite long enough to form sufficient wood for our purpose, provided the plants were properly treated and not allowed to become dry or starved at the roots. My own plants have been standing out of doors since the end of June, and are now a little more than three parts ripened. I am alluding more especially to the Teas, this being the section more generally forced; Hybrid Perpetuals are far more easily ripened. In the case of Teas and Noisettes in pots, we can seldom get the whole of their wood into a state of maturity. Even in the open ground it requires quite a long spell of frost to stop their growth entirely; therefore, one need not feel afraid to repot any of these sections when about three parts ripened, as they would never quite leave off growing if provided with water and kept from a series of hard frosts.

When a plant has been growing in a pot for two or three seasons, it is well to knock it out and remove as much of the old soil as possible, even if it be placed in the same pot again. It does not much matter about a few of the roots being torn off, although, of course, it is much better to avoid this as far as possible. When Roses are lifted from the open and transplanted, it is absolutely unavoidable to injure many of their roots. A fair amount of healthy roots able to work into fresh soil is all that is necessary.

COMPOSITION AND DRAINAGE.—These demand far greater attention than many amateurs accord them. Take the compost first. It is by no means necessary that the yellow turfy loam so often recommended be used; indeed, if used alone it is not sufficiently lasting in nourishing powers for pot Roses. The plants will root into it freely and grow on well for a time, but it is soon exhausted, and unless we add some other constituents, repotting is necessary annually. This is my favourite compost: Good loam one third, thoroughly decayed vegetable refuse one third, road sweepings and manure making up the remainder. Add to this a few half-inch bones placed near the bottom of the pot, and you have a lasting compost that is capable of supporting your plants better and longer than if all maiden loam were used. It does not much matter what animal manure is used, but if stable manure be chosen, it should be well decayed, or it is apt to leave your compost too loose as time goes on. Pot firmly and pay particular attention to getting the soil well worked in among the roots. Nothing can be worse than having the roots cramped, or in a bunch towards one side of the pot. Always endeavour to get the plant a little deeper into the soil than it was before. Pot plants depend more

upon the sucker-like growths breaking from their crown than upon wood produced higher up, and these should be encouraged as much as possible. The drainage must be thorough, as when in full growth Roses require a lot of water, and the soil must never be allowed to become sodden.

After potting, stand the plants on the shady side of a hedge or wall, and do not neglect to afford them frequent sprinklings overhead two or three times a day during fine weather. This will guard against the wood shrivelling, and will also prevent the same from drawing all of the moisture from the roots for a short time.

At the end of September the roots should have made considerable progress in the fresh soil. The eyes upon the matured wood will have plumped up and be ready to break into new growth as soon as placed under cover. It is not a good plan to be too hasty in introducing the plants to heat, but they may be pruned now and stood in a close pit or frame for a time. Do not keep the pit shut up close and allow full autumnal suns to shine on it. This would cause a most injurious rise in the temperature. On the other hand, the plants should not be much shaded. Little pruning is necessary, simply cutting away weak growths and shortening back the stronger shoots to 1 foot or 2 feet according to the strength of each variety.

The above notes on pot Roses are not intended to apply to such strong growers as Maréchal Niel, l'Idéal, and similar kinds. These need quite different treatment, and should never be disturbed at the roots after growth is completed, spring being the season for potting extra vigorous growers, and which bloom early upon the long rods made the previous summer. My notes are for such varieties as Catherine Mermet, The Bride, Dr. Grill, Mme. Falcot, Souvenir d'un Ami, &c.

P. U.

Tea Rose Narcisse is very charming this season. It has bloomed profusely from early summer and shows no signs of giving out, although many Teas are not in the best condition at present. The flowers are full and white, touched with pale yellow, not self yellow, as described in some catalogues, whilst there is a delicate fragrance. It is strong in growth and its freedom is a marked characteristic.

Rose Louis van Houtte.—In your "Notes for the Week" of July 15 (p. 44) I notice a statement concerning this fine Rose which quite took me by surprise, and for which I should need some further corroboration before I gave credence to it, viz., that it is a sport from Charles Lefebvre. I doubt it for the following reason, that the shape of the flower is quite distinct, whereas generally, if not always, in the case of sports the same form is maintained. The habit of the plant also is different, and I should therefore be extremely obliged if your correspondent would inform the readers of THE GARDEN what is the authority for this statement.—DELTA.

Tea Rose Princesse de Sagan.—This has been very beautiful lately, the flowers of a decided and striking colour, like a piece of rich crimson velvet. The plants are on a very clayey slope, and their satisfactory state shows that the constitution of the Rose is good. These red Teas seem to come very near the monthlies, but this kind is a precious and most desirable one.

Banksian Rose.—It is pleasant to read such interesting notes as that from Mr. J. B. M. Camm at p. 499 on a "Garden at Bournemouth." Mr. Camm remarked that the Banksian Rose and also the Cloth of Gold refused to bloom in this garden. Probably Mr. Camm may be glad to hear that the former used to bloom most profusely many years ago on the south wall of a house known then under the name of The Firs in Christchurch Road. I well remember some twenty years ago seeing the south of The Firs covered with the blooms of this fine climbing Rose. It was planted on a terrace which ran along in front of the house, and had grown so freely that the stem was larger than a man's arm. No doubt the warm, dry, sunny situation

favoured its growth. An old plant of Cloth of Gold growing against a south wall in the gardens here blooms very freely.—JOHN CROOK, *Forde Abbey*.

THE ROCK GARDEN.

ACCESS TO ROCKS AND PLANTS.—I.

HOWEVER well a rock garden may be arranged, and however picturesque it may be, a great deal of the charm would be lost unless ready access can be had not only to the principal features of the work, but also to every plant used for the adornment of the rocks. The various means of approach to the different parts of the rock garden are—

- (1) Paths.
- (2) Steps.
- (3) Bridges.

(1) PATHS.

Without a path no garden could possibly be enjoyable, and least of all a rock garden, where we desire not only distant effects, but where some of the gems of the mountain flora used for adornment are so minute, that they would have to be inspected very closely to be appreciated. The necessity of such paths, however, does not imply that our rock garden should be dissected by a series of paths in the ordinary sense of the word, viz., more or less regular gravel walks. Such an arrangement would here be out of place even when the paths are not formal, but winding and irregular. There might be a broad, convenient main path either leading through or around that part of the grounds which contains the rock garden, but the paths required among the rocks should be of quite a different type. Here well-trimmed grass margins are not appropriate if the work is to represent the wild character of real rocks. But the margins might consist of a naturally short sward, such as we find on the moors, and be allowed to grow much as it pleases. All kinds of bulbs and alpine plants would grow in such a margin, and, if well selected and arranged, form a very attractive feature. This grassy margin should, of course, not be continuous, but be broken here and there by bolder masses of rocks and also single stones protruding from the surface. A pretty example of this kind is furnished by the accompanying engraving (No. 1), showing a path with irregular margins in the rock garden at Windermere.

Such a path need not be of even width throughout, and if it were made with stones and gravel, the latter need not be spread too evenly, but between the smooth parts intended for walking upon, rougher portions showing a more stony surface may be left here and there. These spots will be found an admirable home for many plants which it would otherwise be difficult to grow. *Linaria alpina*, *Erinus alpinus*, many of the neatest kinds of *Sedum*, *Sempervivum*, *Saxifragas*, and other lovers of stony soil would soon become established in such a place, and might easily be kept in such limits as not to be actually in the way, but enable us to use the path without treading on the plants. If plants of a particularly rare or beautiful kind have thus become established in a path, it may sometimes be advisable not to check their growth in any way, and in such a case it would be best to introduce a few flat stepping-stones here and there, which would admit of easy access without the danger of the plants being crushed by the feet of visitors to the rock garden.

A path like the one just described might branch off from a main walk leading to other parts of the garden, and by winding in and out

among the rocks would form an easy means of access to the main features of the work. But if the rock garden is of considerable extent this winding and irregular branch path itself might again be considered a kind of main path from which other bye-paths of an entirely different character branch off and admit a closer inspection of the various details of the work. Our means to effect this purpose are—

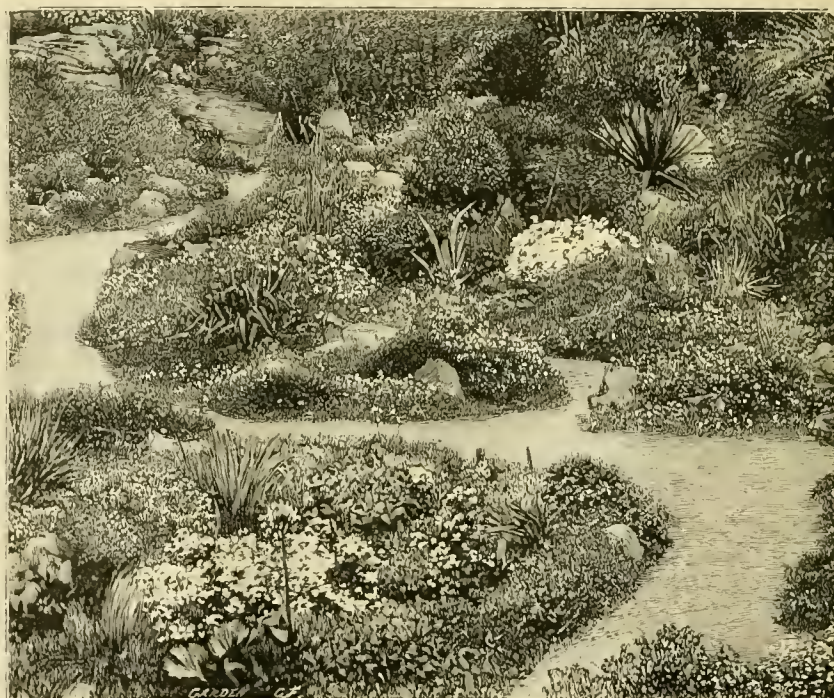
- (A) Rocky Paths.
- (B) Desiccated Streamlets.
- (C) Grass Paths.
- (D) Moss Paths.

In a rock garden on a large or small scale these various means of access can be so amalgamated that in going to any particular part of the work we should have to traverse three or four different kinds of paths without being aware that we are really walking on any path at all, and this combination should look accidental rather than intentional. It is this variety which gives a charm to the work, and will increase its

tion as the rock adjoining it, so as to appear as a continuance of the same block of rock. It may be desirable to introduce a step here and there to overcome the difficulty of varying levels, but this is an advantage rather than otherwise, and if well done will only increase the natural appearance. It goes without saying that such a rocky path should be bare only in the places actually required for walking upon, and might otherwise be planted in every fissure with plants of the same class as those clothing the main body of rock of which the rocky path is to appear as a part.

(B) THE DESICCATED STREAMLET.

As its name implies, this should resemble a dried-up streamlet, which is doing duty as a path. I have used this kind of path in many of my own works, but have never seen it elsewhere, though it forms an easy and effective means of variation. I form this supposed bed of a streamlet in precisely the same manner as



No. 1. Irregular path in rock garden at Windermere, the plants used as edgings allowed to grow naturally.

realistic appearance. As I have often introduced the kinds of path here enumerated with very successful results, I will here add a few words anent their construction.

(A) THE ROCKY PATH.

This, I think, should be an easy path to walk upon without having the appearance of any path at all, and if well constructed it should resemble natural rock fit to be walked upon without showing in any way that it was formed by artificial means. Covering the part intended for such a walk with flat stones, and then fixing the latter so as to be firm in the ground is an easy matter, but it is not so easy to make a path thus constructed harmonise with the rocks surrounding or adjoining it. In order to look perfectly natural, a rocky path must appear part of the rock itself. It need, therefore, never be of any great length, but might cross or continue paths of another kind, such as a Grass path on one side and a winding gravel path as described above on the other. If the rocks are constructed with stones of the stratified order, the rocky path should show precisely the same stratifica-

I have already described when speaking of streamlets for running water. But as this is not intended to hold water, the coating of concrete need not be so thick, neither need so much cement be used in proportion as in the construction of streamlets proper. All that is required is about 3 inches of concrete of sufficient strength to keep the stones and gravel with which this bed is to be covered in place. The stones used for this purpose should be waterwashed, i.e., rounded in shape, and if such river pebbles are not obtainable, pebbles and shingle from the seashore will do equally as well. The stones and gravel which are to form the bed must of course be put in place while the cement concrete is still wet, when a gentle pressure will be quite sufficient to ensure their being firmly secured as soon as the cement has become hard. Care must be taken not to have this operation performed in a slovenly manner, as otherwise the first shower of heavy rain would wash away the smaller particles of sand and gravel, with the result that hideous patches of bare cement would be

exposed to view. The larger stones are put at the sides and in the bends of the streamlet, just where in the natural course of events the water would have deposited them, leaving the middle comparatively smooth, forming a winding, but comfortable walk apparently formed by Nature. It might be so arranged that this water-bed can be utilised on rainy days as a convenient channel for draining off any superfluous surface water.

Such a path, if made with a little forethought and taste, will look perfectly natural, and will at the same time be found very convenient; but I think it most suitable for a rock garden on a large scale, where it might be joined by other grassy or mossy paths, which would enhance the realistic effect. The parts requiring most care in the construction are the beginning and the end of such a path. If the rock garden contains water, the best plan would be to make this dried-up streamlet appear like a former

fairly explain my meaning. Here an ordinary gravel walk traverses the rock garden, but the details of the work, such as the little bog bed in the bottom corner on the right, or the larger rock beds on the left side of the main path, can be closely inspected only by using the grass paths surrounding them. The combination of a grass path with a rocky path or with a desiccated streamlet, such as described above, is very effective and most natural in appearance when properly blended.

(D) THE MOSSY PATIL.

This kind of path is to be recommended for such parts of a rock garden as are densely shaded, perhaps, on the north side of massive rocks or by flowering shrubs, for only in a very shady situation can a mossy path be a success. The Moss has the advantage of looking fresh and green where little else would grow, forming at the same time a soft velvety carpet to walk

here in a sunny spot where the persistent sun of this year was on them till at least 7 p.m., yet they always closed up in their very complete fashion soon after mid-day. It is disappointing after seeing them very radiant to bring friends to survey some apparently withered stalks in the afternoon. I notice that if it should be cloudy about noon they do not shut so early or with the same uniformity.—W. D. R. D., *Castle Douglas*.

CHRYSANTHEMUMS.

SUMMER WORK AMONG CHRYSANTHEMUMS.

THE very hot and dry weather of the past few months is likely to be remembered by cultivators of this flower, more especially by those who grow the Chrysanthemum for the production of specimen blooms. As regards the growth and present look of the plants, there is little to be desired, the wood being firm and the leaves of leathery texture. But it is in the matter of flower-buds that our ordinary calculations have been upset. Buds that would not in most seasons come before well on in August appear a month earlier, and from my own observation growers are not a little puzzled as to what is best to do. There is an idea that the crown bud must be secured regardless of time and season. An idea prevails, too, that a plant grown on, unstopped only by Nature, produces but one crown bud during the season, and that on each of the three or more shoots selected on one plant. Now, a crown bud to me means a flower-bud which is surrounded by a cluster of little growth-shoots, not other smaller buds which accompany terminals later on. I find then a goodly list of well-known sorts that in a hot season like the present will give two and three distinct crown buds before the growth has finished. Viviani Morel, Wm. Tricker, Etoile de Lyon, Edwin Molyneux, Sunflower, G. C. Schwabe, Louis Behmer, are all fair examples. But the question is, which one is it safe to secure so that a perfect and well-developed bloom may result? A good rule is not to take a bud before August for November flowering. The earlier crown buds will, however, produce early blooms of extra size, but not shapely, and comparatively colourless. It is perfectly safe then to pick out the early buds and allow the plant to go on in its growth again in the case of those I named and by far the greater number of the Japanese kinds, but I will mention a few sorts that should have their flower-buds secured if they show even a week or two before August. The recently-introduced Charles Blick, G. W. Childs, Primrose League, Robert Owen, Robert Flowerday, Lord Brooke, Ruth Cleveland, and the better-known Mlle. Marie Hoste, M. Bernard, Alberic Lunden.

It is, however, the incurved varieties that are so unusually erratic this year. I saw at Reigate the other day in the collection of a large grower for exhibition such kinds as Lord Alcester and Empress of India producing flower-buds about every 6 inches of the shoots' growth. The cultivator was attempting to get the plants out of this habit by feeding them. The altered weather and genial showers of the past week or so will, I hope in his case as in my own, cause a free and healthy growth out of this budding state. Safe, though, it is to advise anyone not to allow flower-buds to remain on the plants of the sorts of which the above-named are types, for they seldom reward the owner with a good bloom taken before the middle of August. In fact, with any kind of incurved Chrysanthemum



No. 2. Ground plan showing irregular grass paths in rock garden branching off from main gravel walk.

tributary to a pond or streamlet; but if there is no real water, it might be made to vanish beneath some rock, giving the idea of having been continued underground. The beginning of such a path is perhaps best indicated by a cleft in the rock, the end of which cannot be seen (such as described in the last chapter on caves), and which would convey the idea of the "streamlet" having originated from a spring among the rocks.

(C) THE GRASS PATH.

This is best described as an irregular expanse of grass intervening between groups of rocks, and so arranged as to allow ready access to rocks and plants. Stones might project from the surface here and there at irregular intervals, but there should not be too many, as in order to form a convenient path the grass would have to be clipped frequently, and too many stones would seriously interfere with that operation. The second illustration (No. 2) will

upon and creating a pleasing variety in the rock garden. The mossy path might be further varied by being crossed by a rocky path here and there, or by being connected with a grass path or rocky steps leading to other parts of the work. About its construction little need be said, except that it should be as irregular as possible, and that in choosing Moss from the woods the short velvety kinds should be selected and carefully taken up in large thin pieces with earth attached. Somewhat heavy soil is best for a mossy path, and this should be loosened and well watered before the Moss is laid on and gently pressed down.

Exeter.

F. W. MEYER.

(To be continued.)

Commelina cœlestis has been flowering very abundantly this year, and is certainly of a very lovely blue. Its very "early closing" habits, however, are rather against it. There are several plants

I know this time is too early to secure its flower-buds; therefore, it is advisable to pinch them out if they appear. There is a point in connection with picking off superfluous shoots that needs attention this year on account of blind shoots being only too common. That is, if only one is wanted, allow two to grow an inch or so till it is certain a perfect point may be had to go onwards.

Insect pests have been with us in great number and variety, and I fancy earwigs are the cause of more blind shoots than are attributed to them. This pest is easily caught. An old plan is to place lengths of the stem of the Broad Bean among the leaves, and the enemy may be caught hiding in the hollow part. Pieces of paper squeezed in the hand and then placed among the leaves make capital traps if the above cannot be had. Examined each morning, hidden among the crevices many earwigs may be found. The insect most deadly to Chrysanthemums is what I take to be the spittle-bug in its small state. Its whereabouts may be noted by the tender tip of a shoot flagging when the sun is upon it, and if examined the same is flaccid and lifeless. A light green-winged fly with long legs will come from among the leaves, and either quickly run down the stem or fly away. It requires a very quick finger indeed to catch them. They curiously seem partial to certain kinds, for instance, varieties of the Queen family, Sunflower, Etoile de Lyon, Mlle. Marie Hoste, Lord Brooke, Edwin Molyneux, John Shrimpton, Anna Hartshorn. I should like to know if other growers are troubled with this. Certain I am that many attribute the work of this insect to thrips. Thrips is damaging, and it is advisable to dust the young flower-buds and shoots with tobacco powder occasionally when the weather is dry, for an atmosphere that is at all damp is unfavourable to this small pest. The leaf-mining fly has this season been less troublesome than usual, which is somewhat remarkable.

Feeding the plants with stimulants is a subject of some moment at this time of the year, being a thing that is much overdone. I cannot understand why the Chrysanthemum is a plant requiring in the eyes of so many persons such a vast quantity of the good things of plant life. An instance came to my notice a short time since. An amateur grower was with pride relating to me the size in inches of the leaves and stems of his plants, which certainly appeared remarkably large. On asking him if they had been assisted with manures he gave me quite a list of artificials he had used, besides employing 5 cwt. of bones in various forms to pot 300 plants, and this early in the month of July. Now I venture to say that a very great proportion of the blooms exhibited at our autumn shows come from growers who are very cautious indeed in the matter of feeding. Mr. Mease, of Leatherhead, whose flowers last season were the admiration of all who saw them, thinks that more failures in Chrysanthemum culture are due to over-feeding with manures than from any other cause. Carefully read the writings of another past-master, Mr. C. E. Shea, and note how comparatively little feeding with stimulants is recommended. Overfed Chrysanthemums are large in growth and leaf, but I should not be led away by them, as neither are solid. It is, however, perfectly safe to use soot water when the pots are well filled with roots. This gives to the leaves a healthy colour. It may also be syringed over the plants with the same result. Where top-dressing the plants is carried out it may now be done. I never favour the practice, because with the new soil on the

surface it is a most difficult matter to know if a plant is dry; the top may be moist and the harder soil below may become so parched as to cause damage to the roots. But sprinkling the surface of the soil with some fertiliser is a different matter, and is very beneficial when the flower-buds are swelling. As I have tried to point out, err on the side of weak quantities of these stimulants and depend more upon constant attention to watering and other daily details than upon any particular plant food to bring success in the autumn to a year's work.

H. SHOESMITH.

FEEDING CHRYSANTHEMUMS.

HAVING settled the time when Chrysanthemums require the addition of stimulating food to the ordinary soil in which they are growing, the next point is to consider what sort of food should be given and how to apply it with the greatest prospect of benefit to the plants. Every grower of experience has his particular feeding material, and no doubt in some instances with very good reasons. A judicious course of feeding the plants after they have exhausted the nutrient contained in the soil in which they are growing is a decided advantage, but there is another aspect to the affair that should not be forgotten, viz., that of overfeeding the plants. Some growers (inexperienced) think that if one dose of any particular form of manure given to the plants has a marked effect upon them, surely a double dose must have a beneficial influence on them also in the same proportion. Now this is a blunder which all ought to avoid, and I would specially caution beginners in this abuse of what might be the means of doing much good, but which is often turned into positive harm through the cultivator being over-zealous. Overfeeding is not only the direct means of causing much annoyance by the damping of the blooms, but it causes premature and abortive blooms, which only lead to disappointment. When plants are overfed, the roots are gorged beyond their powers of assimilation and ill health most assuredly follows.

The best kind of food to supply to the plants then is our next consideration. The cultivators of the present day have a much more extended list of kinds of manure to choose from than the growers of but a few years since, but whether the results obtained are in proportion is a point that I am not going to settle. If the various chemical manures now so largely employed are not infinitely superior to pure animal manures employed solely by former cultivators, they have the advantage of being so much more easily applied. Certainly artificial manures have the great advantage over animal manures that the plants can still be supplied with food even in continuous showery weather, even though they do not require water given to them artificially over a lengthened space of time. By sprinkling a small quantity on the soil when rain is falling it is gradually washed down to the roots, and the plants are benefited thereby. Even when animal manures are used largely a change to artificial cannot fail to be advantageous. While not pinning my faith to any one particular kind of food, I am positive that used with care there are a number that may be employed advantageously. The great point to observe is change of food; too much of any kind at one time is injurious to the plants in the same way that it is to individuals; they become so accustomed to it that it ceases to be of any value. A change of food is then most essential to obtain the greatest success.

Various kinds of liquid manure, such as the drainings from the cow houses and the stables, are excellent; I prefer the former, as being cooler. Where liquid manure cannot be had direct from tanks, a very good substitute may be had from a heap of manure by throwing clean water over it, allowing it to soak through the manure, and collecting it in a pit at the side of the heap. Sheep manure gathered fresh from the fields, the droppings from deer, and cow manure direct from the pens make excellent stimulants if managed properly. If water is added to any of these manures and used directly in a thick state, the sediment remaining on the top of the soil seals at once the passage way for future watering. Manures of this kind should be placed in a bag to prevent their dissolving and mixing with the water, thus rendering it thick. Place the bag in a tub or tank of water, allow it to soak for a few hours, when the water will be ready for use, and by moving the bag about in the water occasionally a regular supply may be maintained until the qualities of the manure are exhausted. Soot is almost indispensable to the growth of Chrysanthemums. Applied in a liquid form it soon produces a change in the colour of the foliage of pale-looking plants. Some place a quantity in a water-pot of water, stirring it to dissolve it, then pour it on to the soil in the pots; but this is wrong for the same reasons that using liquid manure in the same way is wrong.

The correct method of using soot in a liquid form is to place it in a bag. One bushel of soot in a bag will be ample for 100 gallons of water, and will last a long time along with other manures. It is much better to give soot weak and often than injure the roots of the plants by strong doses. I have seen plants denuded of their foliage half way up the stems through the misuse of soot.

It is not possible to define the quantities of manure to a given quantity of water. No one can make a mistake if the liquid made from animal manures is about the colour of brown brandy when diluted and fit to give to the plants. Night soil is undoubtedly an excellent stimulant; its smell is, however, objectionable in some instances. The best way to use this is to mix it with an equal quantity of dry, finely sifted soil, and apply it as a top-dressing. The roots quickly find their way into it, and show by their increase that it is appreciated. Bones supply phosphates to the plants which assist maturity of the wood, and without this latter all the time and cost incurred by the cultivator will be lost. Bones, however, in large size are not to be recommended as a direct stimulant, because they cannot give out their properties quickly enough, except when employed in dust form. Bones dissolved by the aid of sulphuric acid I find are best for plants growing in heavy and somewhat retentive soil. Those ground up finely to a powder and used without undergoing any chemical process at all I find are apt to give the foliage that pale hue which is not so pleasing to the eye as when densely green, especially if the weather throughout August is inclined to be showery. This is not mere supposition regarding the different action of the two forms of bones upon the plants, but is the result of practice over several years with them. The two kinds of stimulants that act the quickest of any on the leaves of Chrysanthemums are nitrate of soda and sulphate of ammonia, both very good aids when employed judiciously, but the reverse in careless hands. The former I dealt with in THE GARDEN of July 8; therefore it is not necessary to repeat what I there said, but simply to emphasise the method of its employment

and its beneficial effects in the purpose for which it was employed. The latter in careful hands provides the best of food for *Chrysanthemums*. The percentage of ammonia, however, contained in the different samples varies so much, that it is decidedly risky to use when obtained from various sources. The great point to observe in the employment of sulphate of ammonia is to be certain the plants are sufficiently well rooted. It is in neglecting this that so much danger is incurred. Some growers sprinkle the ammonia on the surface of the soil and water it in, but this is dangerous to the surface roots of the plants. I have seen the roots killed fully 2 inches down the pot through no other reason. The best way to apply sulphate of ammonia is in a liquid state. Commence by dissolving a quarter of an ounce in one gallon of liquid manure, increasing it gradually until half an ounce is reached, applying it once a week. The alteration in the colour of the leaves after its application can be quickly discerned if they were pale before. The main veins or arteries quickly assume a deep green, which rapidly spreads all over the leaf. The colour of the blooms is much improved also by the use of this manure.

Feeding the plants should continue until the blooms are three parts developed. It is while the petals are expanding and growing that the plants need assistance, although some persons assert that directly the colour of the blooms can be seen feeding should cease. Variety in food is what is required. Give a course of animal manure for, say, a fortnight, then a change to some approved form of chemical manure. Occasional doses of clear lime water will be of great benefit to the plants where lime is not naturally contained either in the soil or the water. It is a good plan to cease feeding for say a couple of days at a spell, supplying the roots with nothing beyond clear water with a view of purifying them, so to speak, and to enable them to more readily assimilate whatever food is given the plants through the roots. Some care is necessary in dealing with weakly growing sorts. They ought never to be subjected to such treatment as is accorded to strong-growing kinds like *Etoile de Lyon*, for example. Far better err on the side of weakness in the food. Seldom indeed do such varieties as *Mrs. Alpheus Hardy* benefit by the application of artificial food.

E. MOLYNEUX.

KITCHEN GARDEN.

WINTER SPINACH.

Nor till young gardeners have known what it is to have a complete failure with winter Spinach, and also to have been once in a position to meet all demands for this winter vegetable, do they fully realise its value. Even then it is doubtful if proper steps are annually taken to guard against another partial or complete failure. Spinach is both a wholesome and a high class vegetable, added to which it is harder than most other kinds that are available during the winter. Broccoli, Savoys, Cabbage may be greatly injured or killed outright, and even Brussels Sprouts and Borecole badly crippled by frosts, and yet the Spinach survive apparently uninjured. Nor does it seem possible to grow too much for some establishments, and, all things considered, no crop gives better returns. Instead, therefore, of its being treated as of secondary importance, and its culture of a haphazard description accord-

ingly, the greatest pains should be taken with it. Since I have become fully alive to the value of this vegetable, a good breadth of ground has invariably been set apart for it early every summer.

It is immaterial which or what kind of crop it follows, but it is of importance that rather high or well-drained ground and a fairly open site be selected. This in my case is not out of the question, and as early in July as possible a liberal dressing of manure is wheeled on, spread and dug in. The ground being laid up roughly to the sunshine, it quickly becomes baked through, and directly a good soaking rain falls, what lumps there are are broken down and a surfacing of either soot or lime, which ever is most needed, forked in, a second fining down and forking over, though not deep enough in either case to reach the manure, being given should the opportunity occur. These proceedings are considered necessary both to purify the ground and for getting rid of grubs, and also because they admit of the seed being sown at the right time, let the weather be what it may. If those in charge of somewhat heavy land delay preparing this till near the time seed ought to be sown, it is scarcely possible to get it into condition, and a failure, either from too long delay in sowing or from the lumpy state of the ground, would most probably result. The manuring and purifying are also desirable in the case of lighter or free working soils. In the more northern or colder localities generally the end of July or first week in August is none too soon to make the first sowing, but in more favoured localities from August 10 to 14 is usually soon enough.

In any case a second sowing ought always to be made. There is just a possibility of the first sowing running to seed prematurely, or if it succeeds well, then the richness of the ground may promote a too luxuriant growth for hardiness to be certain. Ground is usually well manured for summer Cauliflowers and also Peas, and either of these crops would leave plenty behind to sustain Spinach. If, therefore, such ground is got into a free working condition, a light surfacing of lime not being wasted, and the seed sown about a fortnight later than the first sowing, or at any rate before August is past, there is every likelihood of a serviceable lot of Spinach being obtained. These late sowings would scarcely afford pickings during the winter, but the Spinach would grow strongly early in the spring and continue to do so till the spring sown rows were fully grown. On rich, well-prepared ground the seed should be sown in shallow drills drawn 15 inches apart, but if the ground is somewhat poor and, also when the seed is sown late, a distance of 12 inches apart is enough. If the seed is sown during dry weather, and it is unwise to wait for rain, then ought the drills to be watered prior to sowing the seed. Thin sowing is recommended, especially when the ground is in excellent condition for the crop, having to thin out severely greatly disturbing what plants are reserved. The seed not coming up very thickly, the first thinning-out may well be deferred till the thinnings are large enough to send to the kitchen, finally leaving the plants about 6 inches apart. All that is usually further necessary is to frequently stir the ground between the rows with a Dutch hoe, hand-weeding being also resorted to when weeds come up in the rows. The leaves required for use during the late autumn and winter months should be gathered carefully.

As already pointed out, I experience no difficulty in growing winter Spinach, but others that do, owing to the coldness of their garden, ought to resort to the good old plan of sowing

on raised beds. Some of the very best crops of winter Spinach I have ever seen were grown on raised beds in a garden where previous to the adoption of this plan failure always took place. A good open position was selected, and a space 6 feet wide and about 30 feet long pegged out. The best of the top soil was thrown out on both sides and a liberal dressing of manure forked into the trench thus made. Some nearly rotten manure, burnt soil and ashes from a garden smother, and any light fine soil available were then well mixed with the top soil as it was returned to its original position. Should there not be time for this bed of soil to settle considerably before the time arrived for seed-sowing, it was heavily trampled when in a dry state, the surface being re-loosened with the aid of a fork. Four rows of Spinach were found enough for these well-prepared beds. The Spinach alone repaid for all the trouble taken, but after it was cleared off a very little freshening up rendered the bed very suitable for Asparagus, which, I believe, was often planted by my friend in succession to the Spinach.

Old writers state that the prickly-seeded or winter Spinach is the hardest, and advise that this only be sown. Of late years, however, it has been repeatedly proved that the round-seeded or summer Spinach is quite as hardy as the foregoing, and is now quite as much sown. *Victoria* or *Monstrous Viroflay* is a decided improvement on either form, the leaves being considerably larger and more succulent, hardiness being about equal. During the winter before last, *Victoria* far surpassed the round-seeded, but curiously enough did not do so well last winter, being somewhat disappointing in fact. This points to the necessity of growing both forms, and is one more proof of the un-wisdom of too hurriedly discarding well-tried old favourites. M. H.

Winter Lettuce.—In providing a supply of winter salading, it is very essential that Lettuce should have the foremost place. At this season of the year there is generally ground at disposal which might well be turned to account in providing a good supply of plants, and although in all cases it is not convenient to provide glass accommodation for the protection of the plants in case of severe frosts, yet more might be protected than there generally is with mats and oiled canvas covering. From the want of a little protection many a fine lot of plants has been completely spoiled, and which might with a little forethought have afforded good Lettuce for a month or two longer. This is more apt to occur with those which are planted over a considerable extent of ground. For this reason I much prefer to arrange the plants in beds, as with these there is but little trouble or material needed when the time comes for protection. Only growing sufficient plants for lifting and planting in frames is not a wise proceeding. Where movable frames are at disposal, the space these would occupy should be marked out before the plants are taken from the seed-bed, and into this space marked out set out the plants. When the time comes for protection, the frames are easily placed in position, and I find the plants so prepared keep much better than lifted plants. There are two or three well-tried old kinds that are particularly well adapted for winter. These are, amongst Cabbage forms, *All the Year Round*, *Stanstead Park* and *Hammersmith Hardy Green*. The *Cos* forms are *Hicks' Hardy White* and *Black-seeded Brown Cos*. From seeds sown now good plants should be forthcoming at the approach of winter or the latter end of autumn, suitable for removing into frames if so desired, or to be protected where grown. The young plants there should have ample room for development, as drawn plants, such as to be had from a crowded seed-bed, will not make good-hearted Lettuces. I have also noticed with these weakly, drawn-up Lettuce plants that

slugs and birds attack them sooner. A border well open to the sun should be chosen for the seed-bed, as the season is now past when Lettuces need to be raised on cooler sites. The soil must be well pulverised, and a little leaf soil and burned refuse will be found good material for dressing over the site if not in a good condition. The seeds should be sown in drills, arranging these 1 foot or 15 inches apart. By the time the little plants are ready, the weather will be quite genial enough for transplanting.—A. YOUNG.

Tomato Challenger cracking.—Mr. Young says with much truth that some varieties are more liable to cracking than others, and with favourable conditions in this respect Challenger, from the thinness of its skin, is certainly more addicted to it than many other varieties now in cultivation. I have had opportunities lately of inspecting some hundreds of plants of this variety in market establishments where no tendency to splitting of the fruits is known, and the variety certainly would not obtain such an extended patronage among market growers as it does were this failing common or unavoidable. There is no doubt whatever that the fault complained of is entirely caused by the treatment given, if not the fault of the cultivator. In the case of private growers the remedy is not always so fully under control, because the Tomatoes are treated so often as an accidental or catch crop, a few plants standing here and there wherever space can be found for them among, it may be, plants or fruit trees. The roof trellis of one of our houses is furnished with Cucumbers, Tomatoes occupying the back wall, at the foot of which is a narrow border very conveniently arranged for their accommodation. The Cucumbers as a matter of necessity claim the greater priority, the Tomatoes having to share the same treatment. Challenger, Perfection, and Early Ruby each occupy a portion of this wall, but the moist atmosphere constantly maintained, which is so essential for the healthy growth of the Cucumbers, causes the greater portion of the first-named sort to crack badly, the others not being affected scarcely at all in the matter of fruit cracking. In properly ventilated houses there is no reason for Tomatoes of any sort to crack, but in the moisture-laden atmosphere of fruit or plant houses where, in small places, they have of necessity to be grown this failing is common. A heavy watering following an over-dry state at the roots either in borders or confined in boxes or pots accounts for some fruit cracking, even should the atmosphere be dry and cool. Purposely avoiding extremes of moisture and drought will generally result in sound fruits, no matter what the sorts may be, but in warm and moist houses Challenger, according to my experience, is the most liable to crack.—W. STRUGNELL.

Peas and mildew.—Peas in these gardens grew with wonderful freedom during the spring, and indeed up to within a week prior to the time when the much-needed rain came. This was more particularly the case with the later summer and autumn Peas, but directly the rain and a cooler change of weather set in, mildew spread with alarming rapidity through almost every row. Calculation or "timing" of the various sowings this season is quite beyond the range of possibility. Those in our case intended for use in August are ready for gathering now and some are already gone. The crops at one time promised to be very heavy, but the long period of drought was too much for them, and now the chances of a continuous and late supply are almost beyond hope. I am afraid the mildew is so violent that there will be no chance, as is the case in some seasons, of obtaining a succession from rows having borne a premature crop. Last year I had quite as good a gathering from the second as from the first crop on some ranks which had been brought to a standstill from the dry state of the soil and the tropical heat, much the same as that which occurred this year, but with, of course, less severity, because of shorter duration. The best Peas both for vigour and productiveness in our case are those sown directly over the Celery trenches of last year simply filled

in and levelled down. No additional manure in any form was added either to the soil or as a mulching, and they evidently enjoyed the benefit of a deeply moved soil. These were the first victims to the disastrous influences of mildew, which was speedily transmitted to the whole of the adjoining rows of Duke of Albany, British Queen and other sorts intended for use during the whole of next month. Watering and mulching may have helped to carry them on more satisfactorily, but neither came within the chance of being carried into effect, for the simple reason that the material was unavailable for doing so. In some gardens mildew is always more prevalent than in others, and this garden seems peculiarly subject to it in a violent form. It is very disappointing, however, when the long-wished-for change of weather came, to find it should bring with it such direful consequences to the all-important vegetable.—Peas.—W. S., *Rood Ashton*.

SOWING CABBAGE FOR SPRING USE.

It may be considered a simple matter sowing seed for the supply through the early spring, but much depends upon the time of sowing, the state of the ground and the locality. So far the best Cabbage I have tried is Ellam's Early Dwarf. I am fully alive to the value of several kinds, but when one plants several thousands and finds one variety can be relied upon, it is well to grow that kind. I have named this variety in this note because by sowing an early or small variety one can make more than one sowing. Some may think it is not economical to do so, but it is especially if this sowing is practised and the planting done as soon as the plants are ready. In cold or late districts the seed should be sown the second week in July, and in a light warm position a week later. By sowing as advised, there will be plenty of plants for early planting and a good supply of Cabbage in the early spring. From the early sowing, that is in July, I select the largest plants and plant in rows 18 inches apart and half the distance from plant to plant. These occupy an open position, but sheltered from the east, and are large plants by winter. At times in severe weather they lose a few of their bottom leaves, but being moulded up well, they do not suffer much. These were ready the first week in April this year, coming in at a time choice vegetables were getting scarce. The smaller plants from the same sowing occupy an exposed position—that which has grown Onions, and the ground is also part planted with the second sowing, which takes place early in August, so that a succession is secured. One half the ground is heavily manured and the other merely cleaned, and in severe seasons there is scarcely any loss in the last-named, but the plants are later. With this vegetable earliness is everything, as at no season of the year is Cabbage more appreciated than in March or April. I have named March, as, given a mild winter, there is no difficulty in securing good Cabbage if Ellam's is sown as advised. When sowing the seed it is necessary to select ground in good condition and on the flat, so as to retain the moisture. I usually sow on a south border, but in such a season as this shall reverse matters somewhat and sow on a west one being cooler. It is also necessary to cover the soil with mats after sowing, having thoroughly watered previously, removing the covering as soon as the seeds have germinated. Only a small sowing is made this month, the larger one early in August, as this will give a large supply through May and June. By sowing twice and planting out the largest plants early there is a succession, as several plantings may be made later if desired in various positions. In gardens only requiring a limited supply two sowings are equally important, as should one run there is the other to fall back upon. In planting I prefer drills, as these retain the moisture. It is also important to plant early before the plants attain a large size and to plant firmly. It will be found advisable to prick out a good number of plants. When the planting is finished these may be placed

close together on a warm border or at the foot of a wall, and will come in useful early in the year to fill up the blanks in the beds, as in severe winters there will be some losses, especially among the late-planted lots. G. WYTHES.

VEGETABLE MARROWS.

SIXPENCE is the price asked by greengrocers for moderately sized Vegetable Marrows. It would be interesting to learn what is the original price obtained by the grower. The fact serves to show that our present method of disposing of vegetables to consumers is a cumbrous and costly one, and that for every penny paid for the article's production, a further penny has to be paid for its distribution. But it may be said that Vegetable Marrows should just now be realising a very good price, because as yet they are not plentiful, whilst Peas are pretty well over, though so early, and runner Beans are not yet much in evidence. It may seem odd that in a season when everything otherwise seems to be so unduly early these vegetables should not share in the general precocity, but both runner Beans and Marrows seem to have suffered from the drought, especially the former, for these made poor progress in their early stages of growth, except where watered, but that could only be done on a small scale, whilst the myriads of acres in the fields from which the markets are supplied could not be so favoured. Even in gardens where the Beans have been watered I have been surprised to find how comparatively late generally they are.

In the case of Marrows the chief reason perhaps, apart from the drought, why they are not, with so many other things fruiting early, is on account of the great risk to which the tender plants are subjected from late spring frosts. Few growers care to plant out large quantities earlier than the end of May or beginning of June; indeed, often the second week in June is reached before the plants are got out, and thus it is hardly possible for them to furnish fruits for cutting under six weeks. That there is no more profitable market period for Marrows than the month of July affords there can be no doubt, for whilst Peas are getting over and runners are not in, other vegetables are not abundant, whilst during August runner Beans are very cheap and plentiful, and in September there come in autumn Cauliflowers, and these are very formidable rivals to Vegetable Marrows. Thus it is that those few growers who got out plants early in May under hand-lights have exceptional opportunities to supply the July demand, and as the shelters, whether cloche, old-fashioned hand-light, or glass-roofed box, be materially enduring, they should during some half-dozen years more than repay their original cost, especially that they may be used to protect Lettuces, Cauliflower plants, seeds, &c., during the winter months. It is very doubtful whether we make such complete use of protectors of this kind as they deserve, especially in the production of early Marrows, for whilst a good fruit may in July fetch from 3d. to 4d., perhaps more, in August smaller fruits may not realise more than from ½d. to 1d., and an entire van load comparatively a small sum. That is because everybody has Marrows in plenty, whilst only those who have cut early have made a profitable market. A. D.

SHORT NOTES.—KITCHEN.

Potatoes making a second growth.—A few days ago I went into a field where we grow Potatoes and examined them. I found that such late kinds as Magnum Bonum, Abundance, and others of this type had made shoots from the tuber 4 inches to 5 inches long, and in some instances they were forming a young tuber. This is not to be wondered at seeing how dry the soil had got previous to the rain.—J. Crook, *Forde Abbey*.

The best Cos autumn Lettuce.—No kind can, I think, equal Hicks' Hardy Cos. Now (July 20) is a good time to sow for autumn and early winter work.

Last year I sowed a patch at this season, and had good Lettuces up to nearly Christmas. I always plant some from this sowing early in September on a Vine border close to the front light on a raised ridge of soil which I put for them to grow in. Here they thrive grandly.—J. C. F.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

The meeting in the Drill Hall, Westminster, on Tuesday last was much smaller than usual as regards the quantity of exhibits, but, as is often the case, novelties were plentiful.

Orchid Committee.

A first class certificate was given to each of the following—

CATTLEYA CRISPA SUPERBA.—This is a well-named variety of *C. crispa*, a popular Brazilian Orchid, called also *Lælia crispa*. Two spikes were exhibited, one with eight flowers, which are large and beautifully coloured, the sepals narrow, and the broader petals wavy in character, of the purest white, with a much crested lip, deep purple, with a white margin, and in rich contrast to the other spotless portion of the flowers. It is a thoroughly useful Orchid, as much for its freedom as the exceptionally rich colouring of the flowers. From Mr. T. Statter, Stand 1141, Manchester.

MILTONIA VEXILLARIA DAISY HAYWOOD.—This is one of the most beautiful varieties that has appeared. It is a lovely acquisition to the many good forms of this Orchid already in cultivation. The plant shown bore a strong raceme of eight flowers, each of very large size, the lip measuring over 3 inches across and of the purest white, relieved only by a blotch of yellow at the base, whilst the smaller sepals and petals are slightly touched with rose. It is a superb *Miltonia*, the flowers, although of bold aspect and borne with great freedom, being quite free from any trace of coarseness. Exhibited by Mr. J. Salter, gardener to Mr. Haywood, Woodhatch Lodge, Reigate.

An award of merit went to each of the following—

CYPRIPEDIUM EDWARDI.—This is a beautiful hybrid, as one might expect with such parents as *C. Fairieanum* and *C. Veitchi*. It was shown by Messrs. Pitcher and Manda, Hextable, Swanley, who have a thoroughly representative collection of *Cypripediums*. This hybrid combines the characteristic points of both parents, but shows, perhaps, a greater preponderance of *C. Veitchi*. The dorsal sepal is white, striped with deep crimson, the centre suffused with rich green, whilst the petals have the wavy character somewhat of those of *C. Fairieanum*, the ground colour green, spotted with chocolate, whitish in the centre; the lip is light brown and green at the apex. Fortunately, the plant is of vigorous growth, the leaves marked in a similar way to those of *C. Veitchi*, but of a much deeper colour. It is a *Cypripedium* that, we should think, would get popular, and may rank amongst the finest forms of *C. Fairieanum*.

CATTLEYA HARDYANA (Tate's var.).—Everyone who cares for Orchids knows *C. Hardyana*, and this variety well deserves a distinct name. It is magnificent for colour, three flowers being exhibited. The sepals are rich rose-purple, the petals broad, wavy, and of a similar shade, but beautifully veined with white. The lip is far more intense in colour than that of the type, deep velvety crimson-purple, with a rich yellow eye-like blotch on either side of the entrance to the throat. It is nearly 3 inches across, wavy at the margin, and unrivalled for depth of colour. Shown by Mr. F. Billington, gardener to Mr. J. W. Lee, Audenshaw, near Manchester.

The groups of Orchids were not numerous, but well worthy of note. An interesting group, which comprised principally leading species and varie-

ties of *Cypripediums*, was exhibited by Messrs. B. S. Williams and Son, Upper Holloway. *C. Morganie* was finely represented. Also shown in splendid character were *Cypripedium Ashburntonie* superbum, *C. Swainianum*, *C. Sedeni candidulum*, the large greyish green-flowered *C. tonsum*, *C. Harrisianum* superbum, and *C. cananthum*, which we think one of the most beautiful *Cypripediums* in cultivation. *Odontoglossum Harryanum* was remarkably well flowered; also *Pescatorea Dayana*, which has creamy white flowers, tipped with a rosy red colour. *Paphia cristata grandis*, purple-crimson; *Trichocentrum tigrinum*, *Anguloa Ruckeri sanguinea*, *Cattleya gigas*, *C. Aclandiae*, and *Platyclinis filiformis* were well flowered. A silver medal was awarded. A group of rare Orchids came from Messrs. Sander and Co., St. Albans. Included with this was a very fine batch of *Strobilanthes Dyerianus*, which has metallic-purple leaves, neat, and of great beauty. A seedling *Cypripedium* with pinkish flowers, and *C. Fausianum*, a hybrid between *C. Dauthieri* and *C. calophyllum* superbum, were of note; whilst another hybrid was shown named *C. mulus*, a cross between *C. hirsutum* and *C. Lawrenceanum*, the sepals of a light brownish colour, the petals rosy purple towards the apex. *C. Massaianum*, which was given an award of merit at the last meeting and described in THE GARDEN (p. 61), was shown in fine character. Very charming was *Zygopetalum (Promeneia) xanthinum*, the plant quite dwarf in growth and the flowers rich yellow, with spots of deep crimson at the base of the lip. *Mormodes pardinum* was exhibited in remarkably fine condition. The plant carried a raceme of twelve flowers, each of large size and rich yellow. *Aerides Saoderianum* with five spikes and *Miltonia vexillaria* in variety were included in this pleasing display. We must mention *Cypripedium hybridum Youngianum*, a very beautiful hybrid; *C. Venus*, light rose-pink; the scarlet flowered *Habenaria militaris*, *Miltonia Roezli alba*, pure white with yellow centre, and *Cattleya Gaskelliana* (silver medal). Messrs. Pitcher and Manda had *Sobralia macrantha* var. *Princess May*, the flowers of which are white tinted with rose, the lip of a deeper shade at the apex, and yellow within the throat. Mr. Statter had a number of interesting novelties, and was awarded a cultural commendation. *Lælia elegans* was represented by superb spikes. In the same collection was the beautiful *Lælia Amesiana*, which has bold flowers, sepals and petals touched with lilac, the lip crimson-purple, yellow at the entrance to the throat. *Cattleya Rex* (Stand 1141 variety) is a good form, the sepals and petals primrose colour, the lip crimson-purple, yellow in the throat, the outsides of the lobes apricot colour. Mr. McArthur, The London Nurseries, Maid Vale, had a pleasing group, in which we noticed *Oncidium pretextum*, a very good form of *Oncidium Jonesianum*, and such *Cypripediums* as *C. Seegerianum*, *C. Curtisii*, *C. volonteum*, and *C. Dayanum* superbum. Besides Orchids, the old but uncommon *Eucemis punctata* was shown in splendid condition (bronze medal). Mr. H. Dennison, Orchid grower to Mr. T. A. Gledstanes, Manor House, Gunnersbury, received a cultural commendation for a well-grown plant of *Cattleya superba*. Messrs. W. L. Lewis and Co., Southgate, had *Cattleya gigas Turnbulliana*, the flowers of pleasing colour, petals soft rose-purple; the lip of a crimson-purple shade, very rich and handsome. *C. Dowiana* var. *Lewisiana* is noteworthy; the flowers are deep velvety purple as regards the lip and veined with gold.

Floral Committee.

A first-class certificate went to each of the following:—

CUPRESSUS MACROCARPA LUTEA.—This is a very distinct and vigorous growing form; the growth pale yellowish-green, a clear and pleasing shade of colour. It is, of course, difficult to judge of a plant in a pot, but this possesses evidently great merit; the variegation is distinct and not spotty. Shown by Messrs. Dickson, Chester.

CAMPANULA GRANDIFLORA MARIESI.—We can scarcely understand why such a plant should

receive a certificate. Of course, it is well worth the award, but then it has been in cultivation many years. It is compact in growth, dwarf, and a mass of large purple flowers at this season. To see this variety of *C. grandiflora*, better known, perhaps, as *Platycodon*, in perfection it must be left alone to develop into a broad mass. It is a pity that the plant is not more grown both on borders and rockeries. From Messrs. Paul and Son, Cheshunt.

SPIREA ANTHONY WATERER.—We were pleased to see a first-class certificate awarded to this shrub. It is quite worthy of the award, as one does not often welcome such a strikingly handsome new shrub. We have described this sport from *S. Bumalda* on previous occasions, and a description is given of it in THE GARDEN (p. 44). We cannot add to anything there said, except to again remark that for the open and pot culture it is one of the most useful novelties that have appeared of recent years. The colour of the flowers is deep crimson, a superb shade. Exhibited by Mr. Anthony Waterer, Knaphill, near Woking.

CARNATION ESMERALDA.—This is a distinct and richly-coloured variety. The flowers, which are full and do not split, are yellow, striped with an ashy grey colour. We should like to see a plant of it, as much naturally depends upon the growth as regards its usefulness. Shown by Mr. F. Bull, Wormingford, Colchester.

SWEET PEA THE BELLE, with large blooms, well shaped, and of a pale rose shade, freckled, so to say, with a deeper tone. It is a bright and attractive kind. Mr. Eckford.

SWEET PEA ELIZA ECKFORD, which has very charming flowers, white, touched with rose-purple and a streak of the same colour down the centre of the large segment. Mr. Eckford.

CALADIUM LE NAIN ROUGE.—An acceptable addition to the kinds already in cultivation. It will form a good companion to *C. argyrites*, the growth of the plant dwarf and the leaves of a dark red colour. It is very free, and in every way a good variety. Shown by Messrs. J. Laing and Sons, Forest Hill.

BEGONIA (TUBEROUS) MRS BOURNE.—This is a tuberous-rooted variety, but we cannot understand why it should have been recognised. The flowers are large, yellow, single, with the outer whorl of segments running into leaf form. It is a curiosity, but such a variety, sportive and not fixed, cannot be regarded as a good garden plant. A botanical certificate would have been more appropriate. From Mrs. Darwin, The Grove, Huntingdon Road, Cambridge.

A botanical certificate was given to

DIDYMOCARPUS LACUNOSA.—This is a handsome kind, the flowers deep purple-maroon in colour, neat and pleasing. An interesting and noteworthy species. From Messrs. J. Veitch and Sons, Chelsea.

The exhibits before this committee were of much interest. One of the most important features consisted of a collection of Sweet Peas from Mr. Eckford. We have recently described the varieties raised by Mr. Eckford, but we made note of a few especially noteworthy, amongst them *Princess May*, rose and white, a delicately coloured flower; *Emily Eckford*, purple; *Excelsior*, brilliant crimson; *Mrs. Eckford*, pale yellow; *Ovid*, carmine-rose; *Mrs. Gladstone*, *Dorothy Tennant*, and *Lemon Queen*, besides several others, all of great merit. They show that this raiser is working on proper lines. Messrs. H. Caneell and Sons, Swanley, had a group of tuberous *Begonias* raised from seed sown last February. The plants are remarkably compact in growth, and the flowers display considerable range of colour, comprising both double and single. As the varieties were not marked we cannot particularise, but the colours were extremely rich and pleasing. The variety *Octavie* was well represented, the plants literally bent down with the wealth of double white *Gardenia*-like flowers (silver medal). Messrs. J. Laing and Sons were also awarded a silver medal for a miscellaneous group in which the leading kinds of *Caladiums* were the chief feature, whilst the collection contained several superb tuberous *Begonias*, such as *Hero*, double crimson, and *Mrs. Ingram*, double

salmon. Messrs. E. D. Shuttleworth and Co., Peckham Rye, S.E., had a miscellaneous display of fine-foliaged and flowering plants; *Lilium auratum* and *Hydrangea paniculata grandiflora* were of merit. Carnations were not so largely shown as we anticipated. Mr. W. H. Divers, gardener to Mr. J. T. Hopwood, Ketton Hall, Stamford, had an interesting collection of many kinds and some very promising seedlings, but the finest exhibit comprised a large number of bunches of Ketton Rose, of which a coloured plate appeared in THE GARDEN January 16, 1892 (bronze medal). Messrs. J. Veitch and Sons had several interesting exhibits. *Retinospora squarrosa sulphurea* is a good kind, very compact, dense, and creamy yellow, and another excellent shrub is *Cupressus Lawsoniana versicolor*. *Lantana Drap d'Or* is worthy of note; the flowers are rich yellow, a deep glowing colour. *Carnation Celia*, rose, something like Ketton Rose, *Rhododendron Sylvia*, a large pale yellow-flowered greenhouse variety, very distinct and pleasing, were also shown. Other good plants shown were Marigold, single dwarf, the flowers rich yellow, crimson-purple at the base of the petals. The same firm had an interesting series of hardy Gladioli, of which one of the more distinct was *Hugo de Vries*, mauve-lilac, a very good type. Messrs. Paul and Son had a group of hardy flowers. They included *Linum flavum*, *Callirhoe involucrata* and hardy Gladioli in variety, *Campanula Parkeri*, white, violet at the base of the segments, and *Clematis Viticella kermesina*, rich claret. Mr. F. Bull, Wormingford, Colchester, had several good Carnations, and Mr. F. Roemer, Quedlinburg, *Humulus japonicus variegatus*, the leaves green, variegated with white. *Carnation La Villette*, the flowers yellow, striped with carmine, from Mr. E. Domaille, Guernsey, is a good kind of bright colour.

Fruit Committee.

There were some interesting exhibits before this committee. Choice fruit was staged in quantity. Apricots were shown by several exhibitors. Melons and Peaches were largely shown, and a very fine collection of Tomatoes was sent from the society's gardens.

An award of merit was given to a

SEEDLING MELON.—A large, white, thick-fleshed variety with a strong musk flavour. From Mr. Lee, The Gardens, Lynford Hall, Norfolk.

Messrs. Rivers, Sawbridgeworth, had a very fine collection of fruit grown in a cool orchard house, fourteen dishes being shown. These comprised *Bigarreau Noir de Guben*, Emperor Francis, and *Geant de Hedelfinger* Cherries, Lord Napier and Dryden Nectarines, Gros Pêche and Mexico Apricots, the latter no improvement on older kinds; *Souvenir de Congrès* and *Louise Bonne* of Jersey Pears, and some well finished Transparent Early and Late Gage Plums (silver Knightian medal). Messrs. Bunyard, Maidstone, staged a collection of Apples, chiefly early kinds, large, and well coloured. Some of the varieties were larger than is usually seen so early in the season. Red Astrachan, Irish Peach, Gladstone, Beauty of Bath, Early Joe, Tetofsky, a Russian variety rarely seen; Red Juneating, and Lady Stuffed being very good (silver Knightian medal). From Syon House Gardens, Brentford, Mr. Wythes sent six varieties of Apricots, Morello Cherries, and eighteen Melons. The Melons were medium-sized bright golden fruits, beautifully netted, the variety being the new seedling Beauty of Syon, which had a first-class certificate last year (bronze medal). From the R.H.S. gardens were sent nine varieties of Apricots, the varieties being Turkey, Hemskirk, Breda, Moorpark, Gros Pêche, Kaisha, St. Ambroise, Royal Orange and Early Shipley. This was an interesting exhibit, as it contained rare varieties. From the Royal Gardens, Frogmore, came four very fine dishes, these being Moorpark, Frogmore Early, Shipley's, and Powell's Late, a very desirable kind, large, of good flavour, and a vigorous grower in most soils. Mr. J. Smith, Mentmore Gardens, sent a valuable lot, having fine Moorpark, Hemskirk, Breda, Brown Turkey, Large Red (very good), and Frogmore Prolific. Messrs.

Bunyard, Maidstone, had Shipley's, Breda, Moorpark, Gros Pêche, Kaisha, and Hemskirk, not so ripe as some of the others. With these was also shown foliage of each kind. From Mr. Thomas also came a nice basket of Golden Hamburgh Grapes and a very fine Smooth Cayenne Pine-apple weighing nearly 6 lbs. The plant which bore this had been rooted and grown from a sucker in ten months.

Mr. Divers, Ketton Hall, Stamford, had a fine box of Crimson Galande Peaches and Lord Napier Nectarines. Mr. Woodward, Barham Court Gardens, Maidstone, had a fine dish of Lord Napier Nectarines grown on standard trees in a cool house, and very good Alexander Peaches gathered from an east wall. Mr. Miller, Ruxley Lodge Gardens, Esher, staged good dishes of Gros Mignonne, Alexandra Noblesse, and Royal George Peaches nicely finished. A dish of 1892 Apples was contributed by Mr. Jackson, Stroud, Gloucester, but of little value. A new seedling Apple was sent by Mr. Rich, Royal Nurseries, Bristol, but not sufficiently ripe to test its qualities. Mr. Smea, The Grange, Wallington, sent a dish of Early Joe Apples. A seedling Melon of no merit was staged by Mr. J. Rodbourn, Hailing Park Gardens, Croydon. A very fine collection of Tomatoes was sent from Chiswick, comprising thirty-four varieties, the best dishes being Trophy, Chemin, Ruby Queen, Perfection, Ridgway's Seedling, and Mikado. The best yellow varieties were Prince of Orange, Henderson's Golden Sunrise, Flying Dutchman, Golden Queen, Blenheim Orange, and Golden Jubilee. The Peach, the Cherry, and Plum Tomatoes were also sent. Mr. McDougall, Stirling, sent a seedling Tomato, but no improvement on present-day kinds. A very fine lot of Perfection Tomato was staged by Mr. May, Oakfield Gardens, Beckenham, Kent. These large fruits are not so much sought after as they were, those of medium size being now preferred.

In the course of his remarks on alpine plant houses, Mr. H. S. Leonard stated his notes would refer more to housing or sheltering tender alpine plants, as from considerable experience he had come to the conclusion that to grow these lovely subjects some protection is necessary in our damp climate. From close observation, he found protection essential not so much from cold as from damp. As previously explained, damp, if continuous, is fatal, also drip. Snow is a great protector, and shields the tender roots from extreme cold and prevents the severe frost from lifting the roots, which is a cause of failure in this country. There are various methods of protection, and he would describe the most suitable. In the first place hand glasses were a ready means of protecting a few plants, but this system was bad, inasmuch as the hand-light sheltered a few and killed the surrounding plants by the drip it threw on to those contiguous to the glass, so that he did not advise this mode of shelter. A strong sheet of glass supported at the sides was better, as this admitted air and light, so essential to the health of the plants. Though houses for alpine plants were now in their infancy, he predicted a wider field in the future, when alpine plant houses would be a regular feature in the rock or alpine garden. He had used for the less choice plants a well-glazed sash-light 6 feet by 4 feet placed against a sloping bank, the ends resting on four corner stones and the bottom against a wall, and found it answered admirably; but he now had his choice plants in a house on stages. He did not advise an expensive erection. Any ordinary workman could erect such a structure; the great points were good glazing and plenty of air. If the plants are on rockwork or planted out, the house cannot be utilised for other subjects, but such a house is always more or less gay with some choice plant, and, if located in the rock garden proper, is a welcome addition at all times of the year. He advised a low-pitched roof. When the plants were grown in pans there was considerable advantage, as during hot weather they could be removed and plunged in cocoa fibre

and the house employed for other plants. Many of the choicer Saxifrages are lovely, deserving of higher culture. There are other things, such as the choicer Bamboos, Primulas in variety, lilies, &c. Near large towns it seems impossible to keep alpine in a healthy condition any length of time, as smoke and want of pure air soon cripple them in such places. A house is doubly valuable, as to a great extent fogs and smoke are defied and excessive moisture prevented. He thought many fought shy of this class of plants owing to the loss of choice varieties, but he felt sure these subjects deserved more care, and with care losses would be less frequent. He had such a house as described, and for the past few years he had lost very little.

Mr. G. Paul said his experience was that alpine, as a rule, got beautifully less and were difficult to manage. The house advised was necessary no doubt, but Mr. Leonard did not mention how one worked in these low-pitched places if the plants were close to the roof. The lecturer stated he would have the plants on stages and a walk down the centre. Sir W. Arbutnot thought frames equally valuable if properly used.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the committee of this society was held on the 21st inst. at the Royal Aquarium, Mr. R. Ballantine presiding. The secretary announced that four blooms of Chrysanthemums had been sent over from New South Wales frozen in blocks of ice for the opinion of the society. They had been despatched by a Mr. Faure, of Sydney, who stated that the grower was a Mr. R. Forsyth, of Sydney, and that the flowers formed part of the exhibit with which that grower won the silver cup at the Sydney show last April. The blooms were unnamed, but were large Japanese Chrysanthemums more or less incurved, and the colours appeared to be of a dull yellow or bronze in each case. A silver medal was awarded to Mr. Forsyth. Respecting the frozen flowers sent out by the National Society to Wellington, New Zealand, in return for those Mr. Earland sent last September, Mr. Harman Payne made the following communication. In a letter received from the secretary of the Wellington Horticultural Society he says, "All Chrysanthemum growers in this district are looking forward to the arrival of the frozen flowers. Unfortunately, they will not be here in time for our show, but the society intends to hold a supplementary show on their arrival." Another correspondent in a letter of later date writes to the following effect: "The frozen Chrysanthemums arrived in good condition, and a special show was held for them. A large number of people paid for admission. The English incurred were much admired on account of their perfect form; no flowers were ever exhibited in this city so perfect. With one or two exceptions the flowers retained their perfect colours. Altogether the exhibit proved very interesting both to growers and non-growers, and will no doubt be the cause of many taking a greater interest in Chrysanthemums." A newspaper report, speaking of the exhibit, mentions that only in one case did air bubbles interrupt the view, the freezing having been accomplished with so much skill. The writer adds: "Already the English blooms are being asked for by kindred societies all over the colonies, and they will be sent to Christchurch, Timaru, Dunedin, Auckland, and to Australia if possible, a requisition having been received from the Launceston Society to that effect."

Mr. Payne announced that the reports from Australia and New Zealand all referred to the bad weather during the recent Chrysanthemum season, and that the colonial exhibitions had suffered in consequence, as the growers there did not resort to protection in the way we did here.

The Wellington Society submitted for the decision of the National Chrysanthemum Society's committee a question as to the interpretation of one of their classes, viz., six pompons, distinct, in bunches or sprays, three flowers of each variety

with foliage, making eighteen blooms in all. One exhibitor so arranged his exhibit as to have three separate flowers of each variety, each flower being on a separate stem, the stems of each variety being tied together, while another exhibitor arranged his so as to have one spray of each variety, each spray having three flowers on one stem. It was resolved that the wording allowed the exhibitors to stage their blooms in either way.

From another New Zealand society at Cambridge the following interesting particulars were received: In the classes for Chrysanthemum cut blooms there were 1116 actually staged. The hall was much too small, for the tables left insufficient space for the public. In the class for children's bouquets, 384 were staged as follows: 116 table bouquets, 127 hand bouquets, and 141 bridal. Besides these, the children sent in thirty-six floral designs, such as wreaths, crosses, &c.

Twenty new members and two Fellows were elected, and the Cockermonth and North of England Society admitted in affiliation. Several members in the course of a discussion which subsequently ensued thought there was every prospect of the Chrysanthemum season being a late one this year.

EXHIBITION AT EARL'S COURT.

A SMALL, but charming show was held at the Gardening and Forestry Exhibition on Wednesday and Thursday last. Carnations were a leading feature, but there were many miscellaneous collections.

Carnations.

Considering the character of the summer, and that everything is practically a month in advance, the Carnations and Picotees were very fine, especially those from Manchester. The flowers were full, fresh, smooth and of fine colour, but unfortunately in the majority of classes shown with paper collars. We shall hope in time to see this barbarous and absurd system abolished. The best twenty-four Carnations came from Mr. E. Shaw, Morton, Manchester, but, unfortunately, the flowers were not named. We may point out that exhibitions would not be very interesting unless the various things were properly labelled. The exhibits of this grower were throughout of high character. Mr. J. Douglas, Great Gearies, Ilford, was second, his flowers including fine examples of *Niobe* p.p.h., *Gregorius* and *Psyche*, besides several others, which have been mentioned previously in THE GARDEN. There was good competition in the corresponding class for twenty-four yellow ground varieties, in which the first prize was taken by Mr. C. Turner, The Royal Nurseries, Slough. Most conspicuous were the blooms of *Countess of Jersey*, *Agnes Chambers*, *Mrs. Henwood*, *Magnet*, *Mrs. A. Barnett*, *Annie Douglas*, *Janira* and *Nellie Bath*, whilst the second prize went to Mr. J. Douglas, who had fine blooms of *Horatius*, *Countess of Jersey* and *Aurora*.

One of the most important classes was for twenty-four self and fancy varieties. The winner of the first prize was Mr. C. Turner, who had fine kinds for colour, such as *King of Scarlets*, a glowing shade, *Salamander*, *Duchess of Sutherland*, white, edged with pink, very charming; *Germania*, *Nellie Bath*, *Mrs. A. Barnett*, and *Old Coin*. A good second was Mr. G. Chaundy, New Marston, Oxford, he having *Glaucus*, bright scarlet, and *Germania* in excellent character. In the corresponding class for twelve, the premier award was made in favour of Mr. E. Shaw, whose flowers were again unnamed.

The Picotees were well shown, and again Mr. Shaw must be congratulated. His twenty-four flowers were of great merit, fresh, well coloured, full, and in true character; whilst those from Mr. C. Turner were also of merit, particularly *Little Phil*, *Brunette*, and several highly promising seedlings. Amongst the border kinds we must commend the six self-coloured varieties from Mr. Sage, gardener to the Earl of Dysart, Ham House, Twickenham. The scarlet-flowered *Jim Smith*, the

old *Gloire de Nancy*, *Horace*, *Raby*, *Germania*, and *G. H. Sage* were fine; the last is a distinct border variety, the flowers do not split, and they are full, compact, and bright salmon in colour. Messrs. Paul and Son, Cheshunt, had twelve good bunches of border kinds. One class was for any self-coloured *Carnation*, not less than twelve trusses, and the first prize went to Mr. Turner, who showed a very fine variety named *Mrs. Apsley Smith*, the flowers full, not in the least split, and brilliant scarlet in colour—a rich, effective kind. Mr. James Douglas was second with *Crimson King*, a richly coloured variety, the flowers compact, not split. This variety succeeds well out of doors. Mr. G. H. Sage came third with the variety named *G. H. Sage*.

Prizes were also offered for a basket or vase of Carnations for table decoration. A very charming arrangement was that from Miss C. B. Cole, Feltham. The variety used was *Miss Joliffe*, pleasingly set off with *Fern*; whilst *Miss Nancy Cole* was second, using the same kind, but the flowers were too much bunched together.

Several things were not for competition. Mr. G. Chaundy and Messrs. Paul and Son exhibited Carnations, and a large collection came from Mr. C. Turner, who had many sterling kinds.

Hardy Flowers.

These proved by no means the least interesting feature of the exhibition. The best twenty-four bunches, a fine exhibit, came from Messrs. Paul and Son, who had herbaceous *Phlox* *Souvenir de Berryer*, crimson; *Gaillardias*, *Centaurea macrocephala*, *Helenium pumilum*, *Scabiosa caucasica*, *Coreopsis lanceolata*, *Rudbeckia purpurea*, and *Potentilla* *Wm. Rollison*, orange, each kind represented by bold bunches. A good second was Mr. Sage, who edged his group in a charming way with *Gypsophila paniculata*, and had amongst other things *Iceland Poppies*, *Lilium tigrinum*, *Eryngium Oliverianum*, and *E. planum*. This class was open, but another, merely for twelve bunches, was confined to amateurs. In this Mr. Sage won the first prize, using to great advantage *Gypsophila paniculata*, and his other exhibits included a good bunch of his *Carnation G. H. Sage*, hardy *Gladioli*, and *Helenium pumilum*. Mr. A. Newell, gardener to Sir E. Saunders, Fairlawn, Wimbledon, was second. The flowers were creditable, but we must remind this exhibitor that the nomenclature was at fault; *Coreopsis lanceolata* is not *Corydalis lutea*, nor is *Helianthus rigidus*, *Asphodelus luteus*. It is important to have the plants correctly named. Two classes were allotted to Sweet Peas; one was for twelve bunches, in which Mr. Eckford, Wem, Salop, was first, his varieties including such kinds as *Black Beauty*, *Novelty*, *Countess of Radnor*, *Eliza Eckford*, *Mrs. Eckford*, pale yellow, and *Lady Penzance*, rose. Mr. Newell was first for six excellent bunches.

The miscellaneous collections were very numerous. A silver-gilt medal was awarded to Messrs. John Laing and Sons, Forest Hill, for a splendid group of hardy flowers, one of the finest we have seen this season. Amongst noteworthy things were *Chrysanthemum leucanthemum filiforme*, the flower large, the petal divided at the apex, and of the purest white, *Helenium pumilum*, *Lilium longiflorum*, herbaceous *Phloxes* in great variety, *Lobelia cardinalis*, *Statice latifolia*, *Gladiolus brechenleyensis*, *Gaillardias*, and *Montbretias*, besides many other fine things. Besides hardy flowers were flowers of their strain of single and double tuberous *Begonias*. Messrs. Barr and Son, Covent Garden, had a fine display, including large masses of *Hyacinthus candicans*, *Lilium longiflorum giganteum*, *L. tigrinum sinense*, *Coreopsis lanceolata*, *Centaurea moschata* in variety, and an excellent collection of double-flowered *Balsams*. An extra prize was awarded to Mr. Wythes, gardener to the Duke of Northumberland, Syon House, Isleworth, for a large and beautiful miscellaneous group in which *Campanula pyramidalis* and the white variety were leading features. *C. carpatica* was used also with excellent effect at the margin. *Celosias* blended well with foliage plants. A silver medal went to Mr. Eric Such,

Maidenhead, for a very fine collection of herbaceous *Phloxes*, representing distinctly coloured kinds boldly bunched. *Mons. Thouret*, rose, and *Virgo Maria*, white, were two of the most noticeable. The same exhibitor had a splendid show of *Gaillardias*. Roses were well shown by Messrs. Paul and Son, Cheshunt, who had a superb box of *Augustine Gaisneuseau*, comprising the finest flowers we have seen of this variety this season. The varieties *l'Idéal*, *Mrs. John Laing*, *Merveille de Lyon*, and *Polyantha Perle d'Or* were largely represented. A silver-gilt medal was worthily given, and a similar award went to Messrs. D. Prior and Son, Myland Nurseries, Colchester, for several boxfuls of Hybrid *Perpetuals* and other varieties. Mr. Eckford received a bronze medal for his fine display of Sweet Peas, which we referred to in the R.H.S. report, and Mr. Anthony Waterer had flowers of his fine *Spiraea* *Anthony Waterer*.

Fruit.

A very good lot of fruit was staged, Black Grapes being specially fine. Melons were good, and Peaches remarkable for their size and finish. Fruit trees in pots were shown in good condition.

A first-class certificate was awarded to

MELON BEAUTY OF SYON.—This variety received a first-class certificate last October from the Royal Horticultural Society, and was now staged in fine condition. It is a medium-sized fruit with bright golden yellow skin nicely netted, flesh scarlet, of very fine flavour. From Mr. Wythes, Syon House.

Grapes were shown largely, especially in the class for three varieties. For three varieties, two bunches, Mr. T. Osman, Ottershaw Park, Chertsey, was first with two very fine bunches of *Black Hamburg*, *Foster's Seedling* fine bunches, and well finished *Muscat of Alexandria*. Mr. W. Tidy, Stanmore Hall Gardens, Gt. Stanmore, was a good second, staging very fine *Gros Maroc* grandly coloured, good *Foster's*, and *Muscat of Alexandria*. Third, Mr. W. Messenger, Woolverstone Park, Ipswich. In the class for three bunches of black Grapes nine lots were staged. This was a very fine class and the fruit well finished. Mr. J. Friend, gardener to Mr. P. C. Glyn, Rook's Nest, Godstone, was first with perfect bunches of *Black Hamburg*, good berries and well finished; second, Mr. Messenger, with bunches a little smaller, but well finished. In the class for white Grapes there was less competition and not so good bunches; *Muscat of Alexandria* was chiefly shown, but not well finished. Mr. W. H. Lees, Trent Park, New Barnet, secured the premier award with rather large, but loose bunches, but with good berries; second, Mr. Tidy, with smaller bunches of the same variety. There was a fair lot of *Apri-cot's* staged in the single dish competition, Mr. W. H. Lees being first with good *Moorpark*; Mr. Messenger second with smaller fruit, same variety. Peaches were remarkably fine and well coloured, Mr. Maxim, Heckfield, Hampshire, being an easy first with a grand dish of *Sea Eagle*; second, Mr. T. Lees with finely coloured *Grosse Mignonne*. Plums were not numerous. Mr. Tidy was easily first with *Jefferson*; second, Mr. G. H. Sage, Ham House, Richmond. Dessert Apples were plentiful, but deceiving, the most showy being deficient in flavour. Mr. R. Grindrod, Whitfield Gardens, Hereford, staged the well-known *Irish Peach* and secured the leading award, Mr. Mundell, Moor Park, Rickmansworth, being second with *Beauty of Bath*. Pears were a poor lot, those staged in several dishes being hard and not fit for table. Mr. Friend was first for a nice dish of *Jargonelle*; second Mr. F. A. Hester with small fruits. Messrs. W. Paul and Son, Waltham Cross, staged two groups of fruit trees in pots. These were much admired, Peaches, Nectarines, Figs, Pears, Plums and Apples being shown. The best Nectarines were *Elruge*, Stanwick, Lord Napier, Humboldt, and *Hunt's Tawny*, with *Royal George*, *Acton Scott*, *Early Silver* and *Stirling Castle* Peaches (silver-gilt medal). Mr. G. Wythes, Syon House, Brentford, sent eighteen fruits of *Melon Beauty of Syon* and a collection of *Apri-cot's* and *Cherries* (silver medal). Mr. R. Grindrod,

Whitfield, Hereford, had nice dishes of Warrington Gooseberries, Currants, and Apricots (bronze medal). Messrs. Canrell, Swanley, had a collection of Melons in variety. Mr. Tidy had two fine dishes of Tomatoes, one named Stanmore Hall Prolific being good. Mr. Laxton sent plants of his new Strawberry Royal Sovereign, lately certificated.

A full prize list is given in our advertising columns.

PUBLIC GARDENS.

Brockwell Park.—A large and influentially-signed petition in favour of the erection of entrance gates on the Brixton side of Brockwell Park was received and referred to the Parks Committee.

Parks and open spaces.—The addition of no less than 1000 acres to our parks and open spaces during the last four years has been of immense advantage to London. The committee and its sub-committees have held 176 meetings during the year. The Council possesses 14 parks, 30 open spaces, and 22 gardens, the annual cost of maintenance of which is £82,992, but there are few items of expenditure devolving upon the Council that receive more general approval than the money spent on London's open spaces.

St. Mary's Fields, Kilburn.—The Earl of Meath presided on Wednesday night at a meeting in St. Mary's Hall, Kilburn, in support of a movement for securing as a public recreation space the eight or ten acres remaining of what was once known as St. Mary's Fields, Kilburn, the other portion of which has been covered with houses. A resolution approving the object in view was carried unanimously, and it was also resolved to seek the assistance of the vestry of Hampstead, in which parish the land is situated, in bringing the matter before the London County Council.

Flowers at Ravenscourt Park.—It is a pleasure to see that hardy, even alpine plants are being more grown each year in the London parks. In the Ravenscourt Park at Hammersmith there is a raised bed near the free library in which various hardy plants are arranged with considerable taste amongst rockwork. The thing is not overdone, and the various kinds of Campanula, Hieracium, and other plants are in full beauty. The Fuchsias are very creditable also grouped on the turf, and the walls of the house referred to are clothed with creepers. This part was formerly a private garden and grounds, a fine avenue leading up to the residence, now a library for this district. Its better features have been preserved, and the arrangements of tufted Pansies and other flowers are highly commendable. A bed of Fuchsia with a groundwork of white tufted Pansy and edged with blue Lobelia is remarkably pleasing.

Paddington recreation grounds.—The executive committee, of which Mr. Joseph Guedalla is chairman, has now completed its labours extending over three years. The committee has collected altogether by private subscriptions and from public bodies the sum of £57,322, and the result has been to secure 25 acres for a public recreation ground within the four mile radius. No such public ground has hitherto existed in the metropolis, as whilst the ground will be devoted to athletic sports the public will have full and free access to it. A special feature of the ground is the outdoor gymnasium for children, which is crowded every summer evening. The ground will be handed over in September to the Paddington Vestry as trustees for the public. By arrangement with the executive committee that vestry has obtained an Act of Parliament this session enabling it to undertake the management and maintenance of the ground for the purpose of encouraging healthful outdoor games.

Lincoln's Inn Fields.—The Parliamentary Committee reported that they had considered the resolution of the council referring back to them

their report recommending the reintroduction of the Bill relating to Lincoln's Inn Fields, with instructions to consider whether the Bill should not be amended, in view of the decision of the Committee of the House of Lords to strike the clause relating to Lincoln's Inn Fields out of the Open Spaces Bill of the present session. They had consulted the solicitor and the parliamentary agent, and were advised that the way in which the council would be most likely to be successful in obtaining possession of Lincoln's Inn Fields as an open space for the public would be by seeking compulsory powers of acquisition under the terms and provisions of the Land Clauses Acts. They, therefore, recommended "that they be instructed to prepare a Bill for the compulsory acquisition of Lincoln's Inn Fields under the provisions of the Land Clauses Acts." The report was adopted.

THE NATIONAL ROSE SOCIETY'S CATALOGUE.

THIS is the usual jumble that Rose catalogues too often are. When the National Rose Society undertakes to form a catalogue we wonder the list does not partake of a simpler and more useful character. To begin with, there are irrational divisions of Roses into exhibition and garden kinds. If the whole world were made up of exhibitors it would even then be a poor way, but inasmuch as of all those who grow Roses not more than one in a thousand is an exhibitor, the Rose-growing public can hardly appreciate the wisdom of putting all the good Roses under the head of "exhibition Roses" and then repeating some of them elsewhere as "garden Roses." Such division is irrational to absurdity.

Then there are a number of needless minor divisions all tending to the general confusion of the whole. If classification is adopted at all, surely the so-called Hybrid Perpetuals should be succeeded by the Tea Roses, not the Hybrid Teas, a group of very slight importance as compared with the true Teas. The garden Rose classification begins with Provence and goes on to the Moss, Damask, China, Brier, and many other unimportant sections, the two of greatest importance coming at the end, and characterised by many absurdities and not a few omissions. Anyone taking these selected garden Rose lists as his guide will find them very imperfect and without some of the cream of the Tea Rose family. Hon. Edith Gifford is left out, and yet of all dwarf Tea Roses none can compare with it for fine effect and constant bloom. Where are Catherine Mermet, The Bride, and Narcisse, a lovely and free Rose? Are the two first named only grown by exhibitors? Then there are many lovely Roses that the exhibitor never gives a place to, as Mme. Joseph Schwartz and Marquise de Vivens, two representatives of many that are lovely, but never are seen at the shows. Among the single-flowered kinds, some of the very best are left out.

By far a better way than all this confusion and needless repetition would be to make an alphabetical catalogue of all good Roses, not only for the reason that it is the handiest way, but because it is often difficult to state the origin of many Roses. Taking them alphabetically, a description of each kind could be given once for all with the class it belongs to clearly marked at end of the description. At the end there should be a classification according to adaptability for exhibition or for any other use, and also according to origin.

As there would be no necessity to repeat the descriptions, there would be space to say all that was necessary about the kind in one concise paragraph. There is no known use for Roses that could not be dealt with in classifications at the end. It is not worth while bringing out a handsomely bound catalogue unless it is of some use to the Rose-loving public. At the end there should be a complete list of the known species. It would take up very little space and help the present taste for such Roses.

The weather in West Herts.—During the present month there have been as yet only five days which have been in any way unseasonably cool, but since the 8th the highest reading in shade has at no time exceeded 73°. The warmest night of the year as yet was that preceding the 20th, when the exposed thermometer never went lower than 59°. Rain has fallen on all but two days during the past week, and to the total depth of nearly 1½ inches, making this the heaviest fall in any one week since the end of February. My Roses are now for the first time beginning to make satisfactory growth, and especially is this the case with the Teas. The dwarf Brier stocks are also at last throwing out fresh shoots. Although frequently watered they have for weeks been at a standstill, and refused to make any progress until the recent rains came to their assistance.—E. M., Berkhamsted.

In my paper on page 83 the paragraph on *Anemone sylvestris* should read, "*Anemone sylvestris* . . . is quite at home in burnt earth and shade. *Anemone sulphurea* grows well," &c. It makes a great deal of difference, the latter being in full sun.—J. R. NEVE, Campden.

Pot Vines.—Kindly correct error in the R.H.S. Cliswick report, which states that I showed Grapes cut from a Vine in a 14-inch pot. It should be a 12-inch pot. The 14-inch pot holds about 50 per cent. more soil than the 12-inch.—J. HUNSON.

Araucarias bearing cones.—In answer to the query on the above (page 40), I have grown a number of plants from seed near Truro, and it is by no means rare for trees to produce fertile cones where the male and female are grown. The seeds are said to be good to eat when roasted.—WM. SANGWIN, Trevisick.

Names of plants.—R. C. Notcutt.—1, *Helianthus rigidus*; 2, *Gypsophila scorzonifolia*.—J. J. Simpson.—1, *Bromus* sp.; 2, *Nardus stricta*; 3, specimen too poor.—J. D. R. D.—*Lilium testaceum*.—G. Snell.—*Cynochloa chlorochilon*.—D. Maurice.—1, *Dendrobium canaliculatum*; 2, *Cymbidium canaliculatum*.—Seeger and Tropp.—A very fine form of *Massdevallia Harryana*.—W. Richards.—It looks like *Desfontainia spinosa*, but cannot determine accurately from the leaves only.—A. B. C.—We cannot undertake to name florists' flowers.—G. Rorke.—1, *Polypodium vulgare*; 2, *Adiantum formosum*; 3, *Doryopteris palmata*; 4, *Lastrea decomposita*; 5, *Cyrtomium carotidatum*.—C. Rushmer.—1, *Caulella gigas*; 2, *Cattleya Gaskelliana*, both very good forms.—W. Button.—1, *Auagallis arvensis*; 2, *Galinsoga parviflora*; 3, send again.—H. Cookson.—1, *Davallia Mooreana*; 2, *Lycopodium cernuum*; 3, *Microlepia hirta cristata*.—G. Gloucester.—1, *Dendrobium filiforme*; 2, *Aceris vireus*; 3, *Saccolabium bellinum*; 4, *Vanda alpina*.

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No. 153. SATURDAY, August 5, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

PEARS TOO EARLY.

CHOICE Pears are none too plentiful, though the crops are certainly considerably heavier than at one time thought possible. If, added to the comparative thinness of crops in places, the different varieties are much earlier in ripening than usual, it almost amounts to a certainty that Pears will be very scarce when most wanted. According to my experience, it is during November, December and January that really good Pears are most appreciated, this being when very many shooting and other parties are arranged in numerous country places. At such times a dozen or two Pears do not last long; in fact, three dozen per day are none too many in large establishments. If there are no Pears either to eat or even to look at on the dining-table, the dessert may be rightly said to be incomplete, but if present signs are any criterion, there will be a great many incomplete selections of dessert fruit next winter. Instead of its being necessary to ripen Jargonelles artificially in order to have presentable dishes by the second week in August, most of the fruit of this variety grown in the southern counties will be either rotten or eaten by birds and wasps long before these lines appear in print, Williams' Bon Chrétien and other successional varieties apparently being equally forward. It may be the change in the weather will have the effect of retarding the later varieties considerably, as it will otherwise benefit them. At present Marie Louise, Pitmaston Duchess, Doyenné du Comice, Conseiller de la Cour, Beurré Rance, Beurré Bachelier, Knight's Monarch, Duchesse d'Angoulême, and such like are swelling rapidly, and if it should happen that the fruits swell to a size more nearly approaching that of those grown in the Channel Islands without being unduly early, then we shall be the gainers. That Pears like more heat than they get during our average summers is evident enough, but unless the increased temperatures are accompanied by improved culture of the trees generally, the chances are premature ripening and in many cases a falling off in the quality of the fruit are inevitable. The trees ought to be prevented from becoming impoverished and dry at the roots, and the surroundings be further moistened by means of overhead syringings every evening after a clear hot day. This season the latter precaution has been most necessary not merely for adding moisture to the atmosphere, but also for the purpose of keeping red spider in check. On trees against warm walls which have received this attention fairly heavy crops of fine fruit are swelling off, though whether the latter will keep and ripen at their proper time remains to be seen. In very many instances enough rain has fallen to moisten the soil about fruit trees to a good depth, though not in all cases well up to the walls. It is at the latter point that the roots most often suffer from want of moisture. Being seldom, if ever, loosened, and perhaps long since rendered extremely poor, ordinary rainfall has but little

effect on the soil, the trees accordingly failing to derive all the benefit they ought to do from the rainfall. Those, therefore, who are anxious to have fine fruit and not out of season should attend at once to the borders. The surface being lightly loosened, a good soaking of water or weak liquid manure can then be given in an effective manner, that is, if such be still needed, and a mulching of strawy manure would complete the good work. August may yet prove to be a hot and dry month, and in this case I am of opinion that the overhead syringings every evening ought to recommence. Ripening of all kinds of fruits is hastened considerably by drying off at the roots and the maintenance of a dry atmosphere, and those, therefore, who are anxious to have Pears as late as possible ought to do all they can to check ripening. Premature ripening may likewise mean a falling off in size, and that is another good reason why plenty of moisture should be kept about the trees. Heavy cropping, again, is a mistake, especially if the trees are not in a healthy, free growing state, but there will be very many small Pears as well as extra finer ones this season owing to the faulty setting of the fruit. When the fruits have no seeds or pips in them nothing that can be done will cause them to swell to a large size.

GATHERING THE FRUIT.

What ought also to be taken into consideration is how far early or late gathering affects the keeping and ripening of the fruit. This point I hold to be well worthy of discussion in the pages of THE GARDEN, and those readers who are in a position to speak authoritatively in the matter, that is to say, can state positively that anything can be gained in the matter of gathering and storing somewhat differently to the orthodox methods, will confer a great favour by stating their practice. Will the fruit keep better after gathering if left on the trees till the pips are well browned and the dropping stage nearly or quite reached, or is it better to anticipate those symptoms? Again, should some varieties be treated differently to others, or are the same conditions to be observed in all cases? How does the time of gathering affect the quality of the fruit, and, finally, what can safely be done to retard ripening after the fruit is gathered? Every reader who is interested in Pear culture ought to be able to communicate something that is instructive about one or more varieties, and it is very certain, advice, brief or otherwise, would be fully appreciated just now. In order to set the ball a-rolling, I will give my own replies to the queries formulated, and if they do not agree with the generally expressed opinions, let those who can set me right do so. As a rule, Pears keep best by being gathered before the pips are browned or the fruit parts readily from the tree when raised out of its natural position. There is, however, the risk of being somewhat too hasty, shrivelling rather than ripening being the outcome. This season I shall start gathering when the seeds are just beginning to change colour, or if the fruits are too large or too few in number to be tested by cutting, some will be gathered directly this can be done without actually dragging them from the trees. About a week or ten days later another lot from the same trees will be stored, very few, if any, being left till they are ready to drop. It is impossible to give the exact time at which Pears should be gathered, so much depending upon the varieties and local circumstances. In all probability none will need to be left hanging till frosts put the finishing touch to them, Glou Morceau, Chaumontel, Ne Plus Meuris, Josephine de Malines, and other sorts usually late

in maturing being in a more forward condition than usual this season. Leaving early and second early varieties, including Jargonelle, Williams' Bon Chrétien and Beurré d'Amanlis, on the trees till they are yellow tends to spoil the quality, the fruit being more mealy than is the case with those gathered earlier and ripened off the trees. Much the same thing occurs if later varieties, including Easter Beurré, are left too long on the trees. When Pears are gathered a little in advance of the dropping period they may not be so well coloured, but this is amply atoned for in the superior lusciousness of the fruit. As before hinted, varieties differ considerably in their time of maturing on the trees, but the same rule should hold good as to the gathering tests throughout. That Pears should have somewhat warmer storage quarters than Apples there is no disputing, and a little extra warmth will sometimes both hasten ripening and improve the quality of the fruit. This season, however, it will be a great mistake to store them in very warm, dry rooms, as I feel certain the well-matured Pears will keep better than usual in lower temperatures. A dry room from which frosts are excluded, or where the temperature is seldom or ever below 40° and rarely above 55°, will best meet the case.

Somerset.

W. IGGULDEN.

STRAWBERRIES ON VARIOUS SOILS.

UNLIKE market growers, private gardeners have difficulties to surmount in the cultivation of Strawberries which the former are not likely to have, and that is in the nature of the soil. A grower for market on a fairly large scale will not attempt the cultivation of this fruit unless the soil should be suitable, whereas the private grower has to provide Strawberries whatever the soil may be. The methods of the private grower again are also often ridiculed, such, for instance, as the trouble taken in the preparation of the soil, and which the market grower may think quite unnecessary. The market grower, again, grows but one or two varieties, and such as are known to succeed well in the soil or district, but the private grower has to maintain a succession as long as possible; consequently varieties have to be grown which would not thrive well with the market grower under the rough-and-ready method of field culture. I am ready to admit that in many instances a lot of unnecessary trouble is undoubtedly taken in the matter of trenching; but if quite unnecessary in some instances it is not so in others, as I have met with cases where it was quite impossible to cultivate Strawberries successfully unless some form of trenching was adopted. The past season has been evidence of this, as in the majority of cases where the plants collapsed at the time when they should have been producing fruit it was on account of there not being a sufficient depth of worked and fertile soil. It is in such cases as this that an extra depth of soil must be provided, and this either by trenching if the soil will admit, or by bastard trenching if the sub-soil is not in a condition to enable it to be brought to the surface. The most successful instance I ever met with of Strawberry culture on a light and thin soil was at Loxford Hall, where Mr. Douglas produced some of the grandest crops I ever met with. His system was to plant annually. The soil in the first instance was well trenched, working in at the same time a good dressing of cow manure, healthy young plants which had been layered early in 3-inch pots being set

out in the latter part of July or during the early days of August. In no instance were the plants allowed to remain longer than one year—in fact, it was useless to allow them to remain longer, as if so, they would degenerate and do but little good. Now here was a very successful instance of good crops of Strawberries being produced annually, and this in soil in which it was thought it would be useless to attempt the cultivation of the Strawberry with any degree of success.

Trenching alone will not ensure success, as much depends upon the kind of plants and the manner of planting them. Those produced from yearling plants are much the best, as when runners are taken from older plants they are not nearly so satisfactory, as these, besides being small, are not in a condition to make a satisfactory growth. The planting may also seem a simple affair, but it requires to be done with care, in order that the plants may take quickly to the soil and soon become established. In the first place the surface should be made as firm as possible. When ready for planting a little fresh soil should also be at hand for placing around the balls. Not but that the plants will take to the soil without this fresh addition, but on poor or unkindly soils it gives them a start, and the results obtained well repay for the trouble taken. I use old potting soil with burned refuse, with an admixture of fresh soil if it can be spared. A spadeful is sufficient for each plant. This must be pressed well around the ball, leaving also a shallow depression around the plant as a receptacle for water. On heavy land trenching is not needed; in fact, I am sure the plants succeed better without it. These soils never have a hard subsoil, neither do the plants suffer to the same extent from want of water. A hard impervious clay, or such as has not been brought under cultivation, will of course require improving by the addition of road grit, burned soil, burned garden refuse, or anything of a like nature. But I refer to heavy land or such as has previously grown good vegetables. All that I find necessary to ensure the plants succeeding well is to fork over the soil to the full depth of the fork, working in a good dressing of manure and burned refuse. The system of planting is the same as on light or gravelly soils. Trenching such soils as these, besides being quite unnecessary, would, I am sure, not lead to successful results. Medium soils are the better for being bastard trenched.

Y. A. H.

STRAWBERRIES.

It may seem very like taking coals to Newcastle to attempt to supplement in any way the able and exhaustive instructions of Mr. W. Iggulden on these fruits (p. 77), yet may a few sentences of approval prove welcome and useful. I am pleased to find Mr. Iggulden an advocate of the bed system under certain conditions. I have noted for some years several tentative returns to the bed system, most of which have been more or less successful, and during the tremendous drought that we have now passed, the majority of these beds gave a good account of themselves. With deep cultivation and a sufficiency of manure such beds raised or on the flat are almost drought-proof. The abundant foliage wards off the heat so long as it remains green or nearly so. And if watering has to be resorted to, the grower of Strawberries in beds has the satisfaction of knowing that he utilises his water to the uttermost through his concentration of fruiting force, for three rows in a 4-foot bed, the rows running into a continuous mass, the second year will yield more fruit than

the usual system of growing in rows, unless the rows are crushed together as closely as from a foot to 15 inches apart, and from 6 inches to 12 inches from plant to plant in the rows. And when this is done the whole ground under Strawberries is converted into a huge bed under the name of row culture, and minus the 2-foot alleys between each bed of 3 feet or 4 feet wide which prove real solid conveniences for gathering and culture. Permit me also to emphasise the importance that Mr. Iggulden attributes to a hard bed for Strawberries. Many of the failures, partial or complete, one is constantly meeting with arise from this cause. The plants cannot readily bite soft, spongy earth, and if they do and manage to feed on it or the manure buried, the result is weakly or divided crowns and little or nothing but leaves and lanky stems. Such types of plants are almost sure to reproduce their leaf-like characters through successive crops of runners. On the other hand, solidity of soil favours the production of broad, thick, short-stemmed leaves and fat crowns, the progenitors of stout flower stems and full crops of luscious fruit of the highest quality. Fortunately for growers, these superb qualities are also handed down to us in their runners. The importance of partial shade for late Strawberries is another point of very great importance adverted to by Mr. Iggulden. Since the general adoption of the culture of Strawberries in open rows in gardens and fields, the influence of shade on this peculiarly sensitive fruit has been too little attended to, and yet few cultivators can have overlooked the fact that most of the flavour has been burned out of the fruit. This has been especially so this year. Many Strawberries have lacked size, while nearly all of those grown in the open unless on shady borders have been deficient in flavour. Hence most of us have grown our latest crops on shady borders. Years ago I remember trying the Elton, which was a great favourite, in the open fully exposed to the sun. It was scarcely worth eating. I have also grown Latest of All in dense shade and in glaring sunshine, and the difference in flavour of the fruit in the shade was very marked. Of course, the shade of a north or east border makes the late Strawberries later. There is often the difference of three weeks between the same Strawberry in sunshine and shade. But the point here and now of most moment to enforce is that many Strawberries are better also grown in partial shade. The finest Garibaldi, Keens' Seedling, President and others grown by me have been from east or north borders, or sites with several points of these cool quarters in them.

Many years ago I threw up some borders running partly across the garden from east to west. The two fronts of the borders were thus thrown up back to back to a ridge in the middle. Both the south and north borders were planted with Strawberries, part of them with the same varieties and part with different varieties. As was to be expected, those on the south side were nearly a month earlier than those on the north. But it turned out that the unexpected also occurred—those on the north side yielded the most and the finest fruit. Both banks were alike in an open part of the garden fully open to light and air. The bank as well as the bed system of Strawberry culture may be worth trying, for shade as well as other reasons, if there is any chance of a succession of dry seasons. D. T. F.

Morello Cherries as bush trees.—Although the Morello thrives best when grown against north walls, yet as a bush tree in the open it also does well.

My method of treatment is to allow a freer growth than usually recommended, the branches being thinned out where necessary if at all likely to be crowded. I planted some trees seven years ago and they have not missed a crop since the second year. In fact, as regards the Morello's cropping qualities generally it has no equal, as this is generally of annual occurrence whatever the season.—A. YOUNG.

NOTES OF THE WEEK.

Chrysanthemum maximum filiforme.—I send you a bunch of above. It is by far the finest of all white Marguerites. It was raised here, and flowered for the first time last year.—T. SMITH, *Newry*.

*** A charming and distinct plant.—ED.

A good herbaceous **Phlox** is named **Amazon**. The plant is remarkably compact and of vigorous habit, quite bushy, and the flowers, which are produced in dense heads, are pure white. Each specimen is a dense mass of bloom. A group of it would look remarkably fine, especially if in the front of dark-leaved shrubs.

Pavia macrostachya is one of the few shrubs that bloom late, and a large specimen was recently in full beauty in the Coombe Wood nursery of Messrs. J. Veitch and Sons. When in full bloom it is a fine picture, the flowers being produced with great freedom and in dense plummy spikes. The growth is spreading and the foliage abundant, in rich contrast to the wealth of bloom. It is a native of North America, and should be given ample space to spread out in its own characteristic way, whilst it will succeed in quite ordinary soil.

—Messrs. Dickson send us this beautiful dwarf-flowering **Chestnut**. Among many other flowering shrubs it is certainly the most beautiful and hardy. No pleasure ground should be without groups of this important low-flowering tree, which is as fragrant as it is fine in form of leaf and flower.

Strawberry Royal Sovereign.—By same post we beg to send you a coloured plate of the new Royal Sovereign Strawberry. The flavour of this variety is excellent (equal to British Queen) and as early as Noble, large, of better colour, a good grower and cropper.—LAXTON BROTHERS.

The Agapanthus is very charming when seen on the Grass of those riverside residences whose lawns dip down into the Thames. We noticed the other day the fine effect of the large tubs filled with **Agapanthus** in the garden of Sir Whittaker Ellis at Richmond. In such positions the flowers are more striking than in the usual run of gardens.

Hydrangea paniculata grandiflora is one of the best shrubs in flower in the Royal Gardens, Kew. A bed of it on the turf, with a groundwork of purple tufted Pansy, is very charming and a happy contrast of colour. This **Hydrangea** is one of the finest things one can have in the later months of the year, especially when boldly grouped in this way.

Carnations from Rothesay.—We have had some very good blooms of self Carnations from Messrs. Dobbie, of Rothesay, and are pleased to see that fine kinds of that class are being more attended to in the north, where evidently they thrive. We presume that the plants have been out all the winter, as they certainly should be where they are well grown.

The Montbretias are splendid plants for giving colour to a light sunny border. They were a fine picture a few days ago in the narrow border skirting the Orchid house at Kew, and it is in this position that the **Belladonna Lily** besides many other none too hardy things flower to perfection. **M. Pottsi**, **M. crocosmifera**, and **M. rosea**, a very pleasing variety that is not seen often in gardens, will succeed remarkably well under such conditions, creating a bright show of colour. It is a pity that

the *Montbretia* is not used more freely in this bold picturesque way, because there is no want of suitable positions in the southern counties for making such a feature.

Lilium japonicum Alexandræ.—We send you by parcel post a spike of *Lilium japonicum* var. *Alexandræ* bearing two flowers. As you will observe, the flowers are of great size and substance, quite 8 inches across, the petals over 2 inches in width. From all appearance it promises to be a grand acquisition, the flowers being so large and the plant lasts in flower for many days. —WALLACE AND CO., Colchester.

The Apricot in London.—As an evidence that this is an extraordinary season I may mention that in the middle of my garden stands an Apricot tree loaded with fine ripe fruit. The tree was brought from France about seventeen years ago, and (with the exception of a very little blossom one year) has never before shown any indication of fruiting. —B. G. JENKINS, 43, Chatsworth Road, West Dulwich, S.E.

A fine contrast of colour we noticed recently was composed of yellow *Calceolarias* and *Lobelia cardinalis*. We do not care greatly for the *Calceolaria*; it is far too gaudy and garish, but used with the *Lobelia* is not aggressive. This type of *Lobelia* requires to be used judiciously in the garden, but its splendid chocolate leafage and crimson flowers tell well in beds; whilst the plants are in perfection at a season when many things are rapidly going past their best.

Lachenalia glaucium is a curious species. Several plants of it are in full bloom in the Cape house at Kew. The leaves are boldly blotched with deep chocolate on a rich green ground, and the scapes are marked in a similar way, whilst the flowers are crowded together, the colouring very distinct. It may be described as of a bluish shade touched with red, a singular, though not very charming association of colour. The plant is exceptionally free, and a specimen or two of it is interesting in the greenhouse.

Picotee Lottie Kirlow.—I send you flowers of Picotee Lottie Kirlow for your inspection, thinking that perhaps the last did not reach you fresh. The variety is exceptionally vigorous for a yellow ground, growing 2½ feet high and flowering abundantly. I enclose you a photo of a bouquet of it and also one of a large bed. —GEO. HOLMES, Harby Road, York.

* * Mr. Holmes sends us vigorous specimens of this yellow ground Carnation, and clearly he does it well. The variety merits trial even in face of the great advantages in effect of the self-coloured kinds—always the most vigorous in habit—on stiff or poor soils. —ED.

Two interesting Orchids in bloom in the Orchid house at Kew are *Satyrion militare* and *Rodriguesia* (*Burlingtonia*) *pubescens*. The *Satyrion* is the more noteworthy of the two, and a healthy mass of it is in bloom. The stems are sturdy, and the leaves clasp it to the summit, the distinctly coloured flowers which appear in the upper portion standing out in bold contrast. They are not particularly showy—white marked with crimson-brown, but this characteristic marking is in bold contrast to the pale green of the leaves. The *Burlingtonia* is a charming species, bearing a raceme of white flowers relieved by a yellow base at the lip.

Crinum Mcorei is a lovely flower, and, although well known by name, it is not often one sees it in such beauty as in the greenhouse at Kew, where there is a large group of it. The flowers are so bold in aspect and pleasing in colour—a soft rosy pink—that they are sure to attract attention. A succession is maintained, as several are borne on the same scape and they open one after the other. This *Crinum* need not be treated entirely as a house plant. After the flowering season is over it may be transferred to the garden until autumn, and without the slightest fear of injury. It may be compared as regards treatment to the *Agapanthus*, and will succeed with just protection enough

in winter to keep it safe from frost. Rains spoil the heavy flowers in the open, and they are, when several specimens are seen together, much finer and purer in colour under glass.

Mr. Alfred Parsons' pictures.—All who have the opportunity should see these pictures and sketches made in Japan, where Mr. Parsons has lately spent more than a year. We have not for many years seen any collection in which the flower world comes into the picture with so much interest. Many of them are extremely delicate in colour and teeming with beautiful life, interesting to all garden lovers. Few, if any, artists have the knowledge of flowers that Mr. Parsons possesses, which knowledge led him to take the trouble to find out in Japan the most beautiful things and beautiful localities for flowers—points that would have escaped the attention of the ordinary traveller, or even painter. They are at the gallery of the Fine Art Society in New Bond Street, W.

Apple Devonshire Quarrenden.—With this I send you a branch of this early dessert Apple to illustrate its free-bearing capabilities when grown on what is known as the extension system of training. The branch measures 3 feet long, and upon it there are 115 fruits, rather smaller than is customary with this variety, but accounted for by the excessive drought experienced here this season. As a market Apple Devonshire Quarrenden is by far the most valuable during the month of July, good fruit fetching 8s. per bushel. No Apple that I know succeeds better on the extension system of pruning, especially where the soil is of a loamy character. Here in this garden, which mainly consists of a strong adhesive class of soil, this variety is liable to canker, and requires a good deal of attention in getting the roots near to the surface, and keeping them there by frequent mulchings of half decayed manure. —E. MOLYNEUX.

Clethra alnifolia.—Owing, it may be, to the abundant sunshine this summer, our plants of *Clethra alnifolia* are flowering more profusely than usual, and at this season of the year when hardy shrubs in flower are by no means plentiful, they prove especially welcome. The plants are from 3 feet to 4 feet high, bearing toothed, obovate leaves of a bright deep green, which together with the neat rounded habit makes an admirable setting for the flowers. The racemes are terminal, erect, 4 inches or more long, the flowers dull white, and possessing a delightful fragrance, which suggests at once Wallflowers and Hawthorn. This plant is one of our oldest American plants, having been introduced, so says London, in 1731. It is found in the Eastern United States from New England southwards. It belongs to the *Erica* family, but, unlike its European fellow species *C. arborea*, is deciduous. It likes a lightish soil, and a proportion of peat is advisable. —B.

Antirrhinums.—I send for your inspection a strain of Antirrhinums raised from seed sown early in the year, the plants of which are now coming into full bloom. The strain is dwarf in habit and compact in growth, throwing up a number of side shoots that go on producing flowers until quite late in the season. You will observe that some of the varieties are spotted or mottled upon a yellow ground rather than striped, and that the colours of the splashes are singularly bright. Among them are a number of rich crimson and scarlet selfs. The flowers are large, stout, and of fine form. These Antirrhinums make a charming bed, or they can be isolated in the mixed borders. In a cut state the flowers show up well by gas or lamplight, and they are much admired by all who see them. The plants which are now flowering will, if they survive the winter, make large specimens by the early part of next summer. —R. DEAN.

Echinacea purpurea and Rudbeckia purpurea.—We had shared the impression (which we believe to be general) that these two plants were the same. Unless there is still another species of which we know nothing, the two specimens sent with this seemingly show that there is a vast difference between the plants both in flower, foliage and size. Can you oblige us by naming

them? We seem to have had them both as *Echinacea*. Our stocks are growing side by side under identical conditions, so there is no question that the vastly greater size and fineness of the one are not the result of any special culture. We think you will agree that it is a superb hardy plant. *Rudbeckia maxima* hard by makes a noble contrast. —H. S. LEONARD.

* * It is *Rudbeckia purpurea*, and the plants sent are two very different forms of the same species. The specimen sent is very handsome and well grown. *Rudbeckia purpurea* was figured and the genus described by Mr. Dewar in *THE GARDEN* of April 29, 1893. —ED.

Cannas at Chiswick.—A most interesting collection of Cannas is in bloom in the Royal Horticultural Gardens at Chiswick, comprising many of the newer varieties. We made note of several fine kinds, and they comprised Alphonse Bonnier, the flowers deep crimson, wavy at the edge, the leaves of a fine dark green. Ulrich Brunner is one of the best of these French Cannas, the flowers large and of a deep self crimson, whilst also meritorious are Doyen Jean Sisley, orange-scarlet, deep chocolate leaves; P. Marquant, which produces a dense spike of brick-red flowers; C. Turner, a seedling, the flowers large and rich yellow, barred with crimson; Lohengrin, dwarf and compact in habit, deep green leaves, and orange-scarlet flowers; and such fine kinds as Francisque Morel and Francois Crozy. One of the best is *Premices de Nice*, which has self light sulphur flowers, a very distinct and attractive variety; Gloire d'Empal, has carmine flowers, in rich contrast to the chocolate leaves. Wilhelm Pfitzer, light crimson; Jules Chrétien, Felix Crousse, Admiral Conrabet, Avenir, orange-scarlet, Duchesse de Mortemarte, yellow, heavily spotted and barred with crimson, and Prof. David, reddish buff, edged with yellow, were also good.

Lilium Henryi is superb in the Royal Gardens, Kew, and the more one sees of this fine species, so much the more its usefulness becomes apparent. We have never seen it finer than this year, and it should be made careful note of. It is one of the Lilies of the future, and attains over 8 feet in height, the stem bearing several blooms of great richness. During the past few years we have received several fine plants from Western China, and this is especially noteworthy. *L. Henryi*, it may be interesting to mention, flowered at Kew for the first time in 1890. At first the stems did not attain more than 4 feet in height, but with increased vigour they, as mentioned, much exceed those dimensions. The leaves are deep green, pointed, and the flowers are similar to those of *L. speciosum*; in truth, its popular name of the yellow-flowered *L. speciosum* is not inappropriate, except that the flowers are scarcely yellow—rather of a rich apricot colour, marked with numerous brownish red spots. They are large, showy, and when backed by deep green-leaved shrubs very rich in tone. In *THE GARDEN* of August 29, 1891 (p. 195), it mentions that Dr. Henry, after whom it is named, found this beautiful Lily in only two places, and in each case near to Ichang. It grows from 200 feet to 2000 feet elevation and on grassy slopes.

A glut of Mushrooms.—There has been an extraordinary lot of Mushrooms collected lately. So very plentiful were they, that they could scarcely be sold at 1d. per lb. Last year some of the heaviest crops of Mushrooms ever seen were produced in the neighbourhood of Stourton, Wilts, quite a harvest being reaped by the poor people who had the privilege of gathering and selling them. One old lady of a business-like turn of mind bought up all that she could get at 2d. per lb., packed them in baskets, and forwarded the lot to Birmingham and elsewhere. After paying expenses the returns were 1d. per lb., and as the woman in question paid away £100, her profits on the transaction were just 100 per cent. This July the same fields were equally as productive as last year, and the farmers determined to reserve the right of collecting the Mushrooms, preferring to do it themselves by way of compensation for loss of hay crop.

Instead, however, of being well repaid for their trouble, several of them actually lost money in the matter, the markets being glutted with Mushrooms, large quantities being spoilt accordingly. In one instance a greengrocer invested so extensively in Mushrooms, under the impression that the midland towns would be badly supplied, that he was a loser to the extent of £20, and I heard of another man who lost £12. The glut was soon over, however, Mushrooms being scarcer now than might reasonably have been anticipated.—I.

Lily of the Valley Tree (*Clethra arborea*).—For more than a century has this shrub been grown in English gardens, having been introduced to Kew by Masson in 1784. Whilst it is one of the best known of greenhouse subjects—every old garden and most new ones possessing specimens of it—it has never been much grown so far as numbers go. The reason of this is that it does not as a rule flower until of almost tree-like dimensions except after unusually bright seasons. In the year 1888 I had a small plant in an 8-inch pot with about a dozen shoots on it and not more than 18 inches high, yet, owing, I surmise, to the excess of sunshine in 1887, every shoot carried a large and beautiful spike of the white flowers, whose shape and pose have suggested the name of Lily of the Valley Tree. But neither before nor since have I noticed so small a plant in full bloom. When 5 feet to 6 feet high plants may be had in flower regularly every season by growing them in pots and standing them out of doors during summer. Planted permanently indoors they often do not flower so freely, running rather to leaf-growth. In the latter case I have found that root-pruning is useful for checking over-luxuriance of growth and inducing flowering. But it is only in lofty houses and in shady positions that such treatment is needed. They should be planted in a light position and if possible near the glass. Pot plants should be grown in rich loam and be given abundance of manure water when stood outside. The best means of obtaining an abundance of flowers is to keep the plants somewhat pot-bound, yet feeding them well at the same time.—B.

Notes from Chester.—Roses are yet about in profusion. Sunflowers, Clematises, and Lilies everywhere abundant, and no scarcity of flowers in the shrubberies. *Ligustrum japonicum* is exceptionally fine, as you will see by the spray sent, as also is *Olearia laaasti*. There is a pretty little *Pavia* just now in full flower, with its dainty jaunty air; its flowers, bearing long filaments carrying the anthers, give it this look, and when the rest of the *Pavias* have fallen back upon foliage effects for charm, *Pavia macrostachya* is in perfection. The Clematises are grand; from pure white to richest depths of purple festoons flank the walks and crowd the pillars with riches. We send you two sprays of the scented varieties. *Clematis coerulea odorata* is very free flowering, and as you pass the column round which it is entwined the scent is very pronounced and acceptable. *Clematis flammula rubra marginata* is also very fine. The *Bignonia grandiflora* is bold and beautiful. The spray we send will give some idea of its effectiveness in its natural growth on the walls, in which position it is perfectly hardy. There are other creepers and climbers in the nurseries here equally worth special consideration, and it is hard to make choice where so many claim attention. Amongst the flowering shrubs *Leycesteria formosa* is most attractive. Its heavy pendulous racemes of curious flowers are showy, but the plant itself has a glaucous greenness peculiarly its own. *Potentilla fruticosa* is a mass of golden blossom, and *Rubus odoratus*, with its conspicuous foliage and its simple inflorescence, commends itself to the notice it deserves. We send some sprays of *Colutea* (the Bladder Senna), a curious and always welcome shrub. One spike we send, too, of the beautiful *Yucca flaccida*, a stately column of silver bells, very effective, and a fitting subject with which to close the list. The sprays sent have all been cut from the open.—DICKSONS.

Epidendrum vitellinum majus.—Mr. Appleton sends us a spike of 11 om of this plant

upwards of 1 foot long, and bearing fifteen flowers of great size, exquisite in colour, and of good substance. He says, "This is from a plant grown quite cold and damp. At first I grew it hot, and I used to get two or three miserable flowers only, but now you see what I get. Last year I had a small plant in a 5-inch pan with seven spikes." The spike sent is about the strongest that has come under our notice.

MICROBES AND VEGETATION.

THERE are certain very minute organisms which of recent years have been brought into great notoriety on account of the number of diseases which are attributed to their agency. I allude to germs, bacteria, bacilli, microbes, micro-organisms, or by whatever names these microscopic fungi, which are now proved to be the immediate cause of so many diseases, are known by. This family, in consequence of the habits of many of its members, has a very evil reputation, but, like most other families, all the members do not deserve this general condemnation, for many are of very great service to mankind—for instance, yeast and the other microbes connected with the fermentation of alcoholic liquids. But those which are the most useful, perhaps, are those which affect the fertility of the soil. The practice of adding various substances to the soil to render it more prolific is of great antiquity, and it has long been known that it is the amount of nitrogenous matter in manure that gives it its greatest value, and it is for this reason that decaying animal and vegetable substances are of such value as manure. In fact, so essential is nitrogen in some form to plant life, that the soil without it would be positively barren, however suitable it might be in other ways for the growth of plants. The nitrates in the soil are absorbed by plants and converted by them into the albuminous matter required by the animals which feed on them. When animals or plants die and decompose, this decomposition, or resolution of the complex material of which they are formed into more simple substances, is effected by various kinds of bacteria, some of which attack albuminous matter and change it into other nitrogenous forms, ammonia among the number. Others, again, convert the ammonia into nitrous acid, which is altered by yet another kind into nitric acid, the form of nitrogenous compounds most easily assimilated by plants. Nitrate of soda, which is so much used as manure, and of which there are such enormous deposits in Chili and Peru, is now supposed to owe its origin to certain bacteria, which probably had much greater powers of nitrification than those with which we are at present acquainted. It is evident then that bacteria which have this nitrifying power are of the greatest service to mankind. Agricultural chemists have discovered that while the amount of nitrogen in most crops can easily be accounted for by the quantity they can derive from the soil, certain leguminous plants, Peas, Beans, Tares, &c., contain an amount which cannot be accounted for in this way, and it has been a point of much uncertainty from whence these plants derived this unusual amount of nitrogen. It has recently been discovered by Prof. Hellriegel and Dr. Wilfarth that the plants absorb the free nitrogen in the soil (which has been derived from the air), and that their power to absorb it depends entirely on the presence of certain bacteria which live in the soil, and also in the roots of the plants in question; their infestation of the roots causes certain small swellings or nodules

to form on them. This nitrifying power of these microbes has been proved to exist by sowing the seeds of leguminous plants in soil which had been freed from bacteria and in soil which contained them. The plants where there were no bacteria made a comparatively poor growth and did not contain an unusual amount of nitrogen, whilst the others grew in a perfectly natural manner and absorbed the usual excess of nitrogen. Prof. Nobbe has further proved that in many cases a different kind of microbe is required for each different sort of plant. For example, a Pea plant grown in soil entirely freed from bacteria, but inoculated with those from the nodules on the roots of a Lupine, did not grow with anything like the same vigour of other Pea plants which were grown in the same soil, but impregnated with microbes from a Pea plant. It is clear, therefore, that these microbes play no unimportant part in the fertility of our gardens and fields. Besides these bacteria which are so beneficial to plant life, there are others which cause disease in plants, just as some kinds cause disease in the human species. This subject has not been much worked at, and I quite imagine that some diseases of plants, the cause of which is at present unknown, will eventually be found to be the result of the plants being attacked by these minute organisms. In America this subject has received a certain amount of attention, and a Dr. Russell has published a paper in the reports of the John Hopkins Hospital at Baltimore of various experiments and observations which have been made to elucidate these obscure diseases. He has found that usually a healthy plant with its outer membranes unbroken is free from bacteria within its tissues, but when the tissues of a plant have been wounded, bacteria are often found in them. He mentions several different kinds of these micro-organisms which infest plants; among the most common are the Pear blight, or fire blight (*Bacillus amylovorus*). This species is almost entirely confined to plants of the same nature as Apples and Pears. It usually attacks the "more succulent parts of the tree, and may be recognised by the blackened or burnt appearance of the parts affected." *Bacillus oleae-tuberculosis* attacks the Peach, Plum, Apricot, Vine, Fig, Pear, Apple, various conifers, &c. It causes destruction of the tissues and the formation of spaces in them. This induces a secondary local growth, and causes an internal hypertrophy in the bark, which gradually produces the local death of the tissue. Another nearly allied species causes excrescences on the shoots, &c. Many of these minute micro-organisms are easily carried about by the wind, and many of the commoner kinds are no doubt ever present in the air around us at any ordinary altitude. Experiments which have been made for this purpose show that the air in towns will contain (the numbers vary very much according to circumstances) seventy micro-organisms in every two gallons of air. In the country the number is much less, particularly upon high ground. The decomposition of dead organic matter is entirely caused by these microbes, and it is obvious that such matter quickly begins to decay, particularly in warm, moist weather, which is favourable to the growth of these germs. Under these circumstances milk, soup, and beer will turn sour and meat become tainted and unfit for food in the course of a few hours. These minute micro-organisms, therefore, play a very important part in the economy of Nature, though their very existence was unknown comparatively a few years ago.

G. S. S.

COTEHELE—ANOTHER VIEW.

HAVING lately given some account of Cotehele, of which we this week publish another view, we need say no more of the place generally. The picturesque freedom of the planting and surroundings is delightful, especially to those who see so many stiff, trim gardens both in England and France. In France lately we were staying in a very pretty house with a beautiful brown-tiled roof—a really solid example of a house a couple of centuries old. There was not a flower on it, or a spray of creeper, or any living thing. A suggestion that it would be none the worse for a few tall Tea Roses was met with a shake of the head.

ROSE GARDEN.

THE LATE DROUGHT AND THE
BUDDING OF ROSES.

"RIDGEWOOD" makes reference to this in his seasonable and useful article on budding in a recent issue of *THE GARDEN*. But in not a few gardens and districts the winter frosts and spring and summer droughts have wrought such havoc among Rose stocks and Roses, that but little budding can be done this year, and what little may be possible cannot be done just yet, for neither stocks nor buds are ready. True, the Rose blooms may have been a month or more in advance of their normal season, though both stocks and buds may be quite as

of suitable buds to transfer and a sufficiency of stocks with rising bark and flowing sap.

True, as a rule July is perhaps the best month in the twelve for the budding of Roses. But it must never be forgotten by those who would achieve the largest measure of success in this delightful art that condition, and not the calendar, must determine the time. The unprecedented drought has knocked our Roses out of condition, and we must wait for their recovery alike in bud and stock before we can attain to success. Recent rains and the cooler temperature alike favour the growth of Rose stocks and Rose buds. It may possibly be too late to pull up either to normal size. Neither is this necessary to command success. But a certain plumpness and semi-maturity are essential in the buds with a readiness to flit into new



Cotehele House—another view. Engraved for THE GARDEN from a photograph by Mr. Hayman, Launceston.

Certain architects have the pretension of keeping flowers off their walls, and we suppose they enlist a sanitarian here and there to their views. Happily, this fashion does not obtain at Cotehele, which, as will be seen, is delightfully covered. Whatever people may think of the influence of Ivy on walls—and we should not put it on the walls of a very beautiful house except in a limited degree—there are a certain number of plants to which no objection can apply, such as the more delicate Clematises and the superb Roses we now have, such as Bouquet d'Or, Lamarque, and many others. If it is a question of attaching them to the walls, it is quite easily got over by an Oak trellis framework and various other ways.

much behind time. Perhaps no form of vegetation suffered more from the drought than Rose stocks. Early planted stocks on good soil have stood the drought wonderfully well, but poor stocks on poor soils planted late have perished by hundreds, and the survivors are mostly very weak at the best. Many of them have their growth yet to make or to grow into workable size for budding. Rose buds, too, of some sorts are almost as scarce and as unfit as the stocks. The short shoots have been forced into bloom to the sacrifice of anything like plumpness or fatness in the wood-buds, and even those that have attained to the necessary fulness or semi-maturity seem disposed to remain where they are rather than to facilitate their transfer to foster-mother stocks and roots. Now it is a mere truism to assert that we cannot bud Roses unless we have abundance

quarters under the gentlest possible manipulation or pressure of the budder. The stock must also prove suitable in every way. Given such conditions, budding may be successfully prosecuted all the year round, and in such seasons as this, when the great drought has driven Roses and Rose-buds wholly out of time, we may bud as the Roses grow into condition from July till November. The latter month is named, that none, however late their Briers, may despair, though it is hoped that most of the readers of *THE GARDEN* will be able to complete their budding in July, August, September, or October at the latest. While the bark will rise and the buds can be transferred freely to their foster stocks, budding will prove successful. So far as hardiness is concerned, late buds are hardier than early ones. Dormant buds winter safest and as a rule

do best the following season. I am well aware that there are dormant buds and dormant buds, and that neither need of necessity be abnormally late buds so far as the mere act of insertion goes. Buds may also be forced into dormancy through late insertion, and such late buds winter safely. But the treatment of the stocks will also keep early-inserted buds dormant, and all dormant buds from whatever cause are safer than excited buds or those started into growth the current year. But the great comfort for those whose stocks and buds have been dried or baked so out of condition as to render present budding impossible lies in the fact that there are yet several months before them, in which they may yet hope to be able to bud with pleasure and success. Thousands of bark-bound Brier and other Rose stocks that refused to yield an inch to the budding knife while the drought lasted have begun to yield on the heels of the rain. A little more of this latter or a liberal artificial watering will cause most of them to follow. By selecting small buds in fit condition, small stocks, that could not have been worked at all had we waited for average size either of buds or stocks, may be budded quite successfully. This is an important consideration, as Roses are likely to be abnormally scarce and dear in 1894. D. T. F.

Rose Bardou Job, introduced by Nabonnand in 1887, is one of the best garden Hybrid Teas we have. It is almost single, very large and distinct, and a first-rate grower. I considered it the finest of all the garden Roses exhibited at the National Rose Society's Crystal Palace show. The colour is an intense glowing crimson with a dash of purplish maroon pervading the centre of the petals.—R.

Rose Lady Henry Grosvenor is another grand Hybrid Tea, and one which I should be inclined to class with those styled exhibition varieties. In shape it is perfect. While not a vigorous grower, it is very free-flowering and constant. Of good imbricated form, creamy white in colour, with soft peach shadings, Lady H. Grosvenor is certainly one of the most distinct and beautiful Hybrid Teas we have. I have not yet given it a fair trial as a pot Rose, but have little doubt it will prove admirably adapted for this purpose; if so, it will become almost invaluable.—P.

Rose Horace Vernet, introduced by J. B. Guillot fils in 1866, would seem to be the Rose of the season. At the Crystal Palace show this uncertain Rose was well shown in many collections, far more numerous than for many years past. It gained the medal as being the best Hybrid Perpetual in the nurserymen's classes both at the Crystal Palace and at Worksop. It would seem that the district of Bedale, in Yorkshire, suits this Rose, as the Messrs. Harkness carried off the medal in both instances. In the majority of gardens Horace Vernet is a most disappointing Rose, seldom thriving except as a maiden upon the seedling or cutting Brier, and it can scarcely be recommended to any but growers for exhibition. No doubt a large number will be purchased on the strength of the Crystal Palace and Worksop flowers, but many who plant it will be doomed to serious disappointment.—R.

Rose Bouquet d'Or.—"D. T. F.'s" latest communication on this Rose (see p. 67) would seem to imply that by going to the Noisettes for Bouquet d'Or I was going to a class that could not be compared with the Teas. The mysteries of Rose classification are such, that who can tell why Gloire de Dijon and Mme. Berard are Tea Roses and Bouquet d'Or a Noisette? The truth is that through Bouquet d'Or being placed in this list it remained in comparative obscurity till later years. Has "D. T. F." ever tried it fairly? I imagine not, or he would hardly have needed to hint at non-forthcoming

evidence of its requiring a wall or a sheltered spot to encourage it to open freely. "D. T. F." has often pleaded for Roses in the garden landscape growing into huge bushes smothering themselves in blossom. No Rose is finer for the purpose than this, and certainly there is no wall too high for it to climb in common with others of its kind.—A. H.

Tea Rose Marquise de Vivens.—This is a lovely Rose, but unfortunately one only meets with it here and there in gardens. The flowers are only semi-double, but so profusely borne that one does not notice how short a time they last. In its wonderful colour there is nothing like it, with a pale creamy pink suffused exterior, and the rich flush of bright rosy pink in the centre of the flower. When half opened the flower affords a delightful colour study, and is altogether attractive. The charm of the Rose in three states is truthfully shown in the plate of it that appeared in THE GARDEN of February 16, 1889.

Rose Duke of Edinburgh.—This Rose is unusually late with me this year in spite of the early season. My plants are very healthy and are sending up strong flowering shoots, but I had no blooms till the end of July. The Duke of Edinburgh has not met with its wonted success at the late shows, and I have seen but few examples this year at all approaching to the usual form. In its season this Rose is almost unrivalled for its glorious colour, a dazzling fiery scarlet. A mass of this variety in full bloom, with the evening sun glancing on the handsome foliage and lighting up the scarlet blooms, is a sight not to be forgotten. This Rose should find a place in every collection, as in it are embodied all the good qualities that mark a perfect Rose—vigorous growth, freedom of bloom, handsome foliage, perfect form, fragrance, and a dazzling brightness such as few kinds can rival.—R. A. JENKINS, *Highgate*.

PREVENTING THE DEARTH OF ROSE PLANTS NEXT YEAR.

To prevent a dearth of Roses next year a good plan will be to put in available cuttings now. The summer pruning of Roses has long been more or less practised. Its object has mainly been to obtain a fuller and a better autumn bloom. By limiting space and thus concentrating force, finer blooms and freer growths are obtained. But in seasons like this, with most of our Roses more or less weakened through the protracted growth, and many stocks and plants even killed through the same cause, we wisely and well summer-prune for purposes of propagation, as well as for the improvement of existing plants and their blooms. Perhaps the very best conditioned Rose for this purpose is slightly over three-quarters ripe. At that stage, cuttings of any convenient or procurable length firmly inserted in good sandy loam on a partially shaded border in the open air will be almost sure to root, the rooting becoming more certain if a heel, however short, of older wood is attached to each cutting. This may be called the rough-and-ready plan of rooting Rose cuttings in the open air in summer, and there are many modifications of it, from the protection of a hand-light, bell-glass, cold frame to the rooting of cuttings or buds in semi-tropical temperatures or semi-saturated atmospheres. Under some of the many forms of the summer propagation of the Rose, almost every surplus shoot or bud may be converted into a separate plant.

During ordinary conditions of seasons, with those ready facilities for the propagation of Roses by stem-budding or root-grafting, this and other methods of propagating Roses by cuttings are but little practised. But this year all such methods deserve a trial to prevent a famine of plants or their rise to famine prices. All Roses will not root alike readily from cuttings of the growing wood in summer, and generally Teas and Chinas root more freely than Hybrid Perpetuals or most others.

The length of the shoots is far less important than their condition; a length of from 6 inches to 9 inches

proves convenient. But one bud in the earth and one in the air should suffice could such short cuttings be kept sufficiently firm to prevent disturbance or shifting before rooting. Hence it is safe practice to place a third or a fourth of the length of the cutting under ground. If the cutting is heeled off it needs no further making, unless its head is too long, when it should be cut off to an average of 6 inches or so. All the leaves may also be left intact; the bottom ones are mostly removed for convenience. But some hold they are better left on, their slight action exciting the emission of roots. This rough-and-ready mode of making and rooting Roses produces suckers as well as roots. So much the better, one is almost tempted to add; the more suckers on own-root Roses the better, inasmuch as every sucker is also a Rose in its own right. Such plan's soon spread into stools of Roses, and if anyone feels disposed to say or to feel that stools of the finest Tea or other Roses are too much of a good thing, he has the remedy in his own hands by dividing the stools into units and keeping every unit to a single-stemmed Rose ever afterwards. D. T. F.

AUTUMN PROSPECTS.

HAVING recently been favoured with some most welcome showers, the autumn prospects of Roses in the south of England have been considerably increased; indeed, I may say they were never so good as at present. Both the Hybrid Perpetuals and Bourbons, as well as the Teas and Noisettes, promise a good show of autumn bloom. The two latter classes are always good autumnal bloomers, but this season they promise to be much better than usual. All of my plants seem to have started afresh since the rain, and, being particularly free from mildew, I have great hopes of a good late crop, which will, as "I. M. H." remarks on page 67, be a considerable compensation for the few good blooms already secured. Dwarfs especially are making grand shoots from the base, and unless the dreaded mildew should attack them, we are certain to realise good blooms from these growths. As an inducement towards more new growth, I would advise the removal of all full-blown flowers and seed-pods, as these absorb much more of the plant's strength than many imagine. "I. M. H." advocates the shortening back of strong growths of this season where they are matured. This is a very good plan if carried out judiciously and not too rigorously. I do not think there is much risk attached to it, but it must only be practised upon the ordinary growers, like General Jacqueminot, Duke of Edinburgh, &c. The climbing Roses must not be treated in this manner, or they will only produce more lateral growths—of little service—instead of blooms. This warning would seem necessary because "I. M. H." does not mention the class of Rose, and some few readers might perchance use the knife upon *Maréchal Niel*, *Gloire de Dijon*, and kindred varieties.

Last year about this time I sent a note upon the summer pruning of strong growers. I would again call attention to the importance of this. Unless we can secure a healthy, vigorous, and thoroughly matured growth upon this valuable class of Roses, we are not likely to be favoured with such a grand display of bloom early in the summer as this section is capable of providing. By removing some of the side or lateral growths, we throw more vigour into the remainder, and also allow the free access of air. This is one of the most essential factors towards well-matured wood; without this, the extra strong climbers are of little service. If the hints I gave in another article are followed, viz., the planting of

strong bush growers alternately with the climbers, we shall have a good summer and autumnal display upon the lower parts of walls and fences. This system of summer pruning is equally applicable to the same varieties when grown as pillar Roses, and should also be practised in the case of pegged-down plants.

The extreme earliness of the present season will probably result in some of the more forward shoots producing a full crop of flowers late in the autumn. W. Allen Richardson, Celine Forestier, l'idéal, and others do occasionally afford us a grand autumnal display, lasting up to the middle of November during a mild autumn. Where a well-ripened shoot shows a tendency to break into side growths, I would certainly remove about a foot or so of it and encourage an autumn crop. If the shoot breaks into growth from beneath each leaf and does not produce a bloom this season, such shoot will be of very little service next spring.

RIDGEWOOD.

Sweet Briers.—I share with "A. H." the regret of the over-naming of the hybrid Sweet Briers if such exists, and especially the making of mere colour the basis of names, as this is specially evanescent, and, as "A. H." truly remarks, varies much among the common Briers according to soil, locality, &c. We have also several varieties of Sweet Brier already, though little known or grown, covering the whole field of colour, from flaming scarlet or fiery red to white, the latter and the double scarlet and white being the more rare. All these and the varieties known as Celestial and Splendens will probably play important parts in the production of future hybrids. Two prominent points will not be lost sight of—the fixing of the exquisite order of the Sweet Brier on the leaves of our Teas or other Roses, and the enlarging and doubling of the flowers of the new Briers. The latter is perhaps of the least importance, for I agree with "A. H." that we have few singles among Roses to equal masses of Sweet Brier in full flower or covered with their coral haps, and the effects would at least prove more distinct, if not more pleasing, were we more careful to use and grow in quantity all the old varieties and variations of the common Sweet Brier we already possess. Instead of this the run on big Roses has almost uprooted the common and other Sweet Briers from many gardens.—D. T. F.

SHORT NOTES.—ROSES.

Rose Narcisse.—My chief fault with this charming Rose is its weakly growth. The flowers are as good as you say (p. 68), but it is difficult to get enough of them on many soils and in most places.—D. T. F.

Rose Marie van Houtte.—Seldom or never has this Rose been finer than this year. It seems to have enjoyed rather than endured the heat, and produced an unusually fine crop of its richly coloured, well-formed flowers. Either on a wall or as a bush or in a group there are few more attractive Roses than this. Experienced rosarians are constantly finding fresh charms in Marie van Houtte, and novices who know little about Roses are won to the pleasures of a new pursuit through the same medium.—D. T. F.

Rose Princess of Wales.—It was pleasing to find such a flattering notice of this fine Rose (p. 66). I have long thought it one of the most beautiful Roses raised and sent out by the late Mr. Bennett. Unfortunately, it is not a vigorous grower under the same conditions as suits most Tea Roses. It also appears to be more tender and suffers more severely from frosts. But well done, as by Mr. Prince, of Oxford, and others, there is hardly a Rose to equal the Princess of Wales in chasteness of form and refinement of colouring.—D. T. F.

STOVE AND GREENHOUSE.

SHOW AND REGAL PELARGONIUMS.

I WAS very pleased to see a few varieties spoken highly of by A. Young in THE GARDEN (page 42), as I have at different times recommended them, especially Empress of India and Duchess of Fife. They were both originally distributed by Messrs. Hayes, of Edmonton, who have done so much to render this class of Pelargoniums popular. Empress of India is, I should say, a seedling from Gold Mine, also raised by Messrs. Hayes about a dozen years ago, and still a very desirable variety. Duchess of Fife, on the other hand, is doubtless a sport from Madame Thibaut. It is a popular Pelargonium name, for previous to the distribution of the Regal variety bearing that title there was a Madame Thibaut belonging to the double-flowered zonal class, and about nine years ago one of the Ivy-leaved section of that name became very popular. The Regal Madame Thibaut was, when first sent out, totally distinct in foliage and habit from any other variety, but there are now several others bearing much the same characteristics. Among the varieties that have originated as sports from Madame Thibaut may be mentioned Prince Henry, sent out by Messrs. Perkins, of Leamington, a much deeper and brighter coloured flower than the original; Duchess of Teck, white, with the exception of a slight feathering in the upper petals. This is a coarse-growing variety with irregularly disposed petals. Duchess of Fife is of a robust, but neat, sturdy habit, and remarkably free blooming, the flowers being of a rich carmine tint, with a white centre and narrow white edge to the petals. This season we have another of this class from the same source, viz., Lady Duff, the flowers of which are somewhat more crimped at the edges, and perhaps a little brighter, but the difference between it and the preceding is not great. Of varieties with white flowers, or at all events with the colour limited to a slight feathering which is scarcely noticeable, we have a great many, but a particular favourite of mine and one that Messrs. Hayes speak very highly of is Fimbriatum album, a close, compact-growing form, with large globular trusses composed of a number of prettily crimped blossoms of the purest satiny white. Some blooms are slightly marked in the upper petals, while others are quite pure. The pretty crimped edges of the petals are very noticeable in this variety. One that I recently noted belonging to this class is Duke of York, a very beautiful and distinct flower. The blooms of this are semi-double, and in the arrangement of the petals and their unusual substance they remind one of some of the oldest of the Regal class, such as Queen Victoria. The colour of Duke of York is a bright scarlet lake, with a broad margin of white and a centre of the same tint. In some flowers the colour of the petals runs into the broad white margin in the shape of a bright-coloured netting. This is a remarkably showy Pelargonium, but not of such sturdy growth as the sports from Madame Thibaut. H. P.

Gloriosa superba.—What a grand deciduous stove climbing plant this is! Although now more plentiful, it is not nearly grown so much as it deserves. Its culture is of the simplest, and it is never troubled with insects. All the culture needed is to dry it off in the autumn as the foliage changes, keeping the soil afterwards perfectly dry until the time comes for starting it again in the spring. The soil must be both open and fairly rich. I use the same as for our deciduous Calanthes, the tubers being potted at the same time. The Gloriosa takes a plentiful supply of water whilst in full growth.—A. YOUNG.

Begonia semperflorens seedlings.—Either by a course of selection or by intercrossing with some allied kind there are now a great many forms of B. semperflorens in cultivation, stock of which is readily kept up by cuttings. Still, some of them at least come true from seed, and plants raised by

this means in the spring form very effective specimens for the greenhouse at this season. The variety atro-purpurea, with deep coloured blossoms and leaves that acquire a reddish tinge when fully exposed to the sun, is very distinct and telling, while the pure white Snowflake is the farthest removed from it, and is really a beautiful form. They need to be treated much as the tuberous varieties, that is, the seed should be sown in a gentle heat early in the year, pricking off the seedlings as they require it, and afterwards potting on when necessary. Those with bright coloured flowers have that feature a good deal intensified when grown fully exposed to the sun. Owing to the popularity of the tuberous forms, the fibrous rooted Begonias scarcely attain the position that they deserve, but B. semperflorens and its varieties show signs of coming to the front.—H. P.

Tropæolum tricolor (W. O.B.)—This, which will now be in a state of complete rest, should be potted about September, using for the purpose a compost consisting of about equal parts of loam and well-decayed leaf-mould or peat, with a liberal amount of sand. Clean pots and thorough drainage are essential, and in potting, the upper part of the tuber should be on a level with the soil. A very limited supply of water should be given till the plants are in active growth—in fact, at all times over-watering must be especially guarded against. A light position in the greenhouse will just suit this Tropæolum. Directly the young slender shoots make their appearance the support or trellis that is destined for them should be placed in position, as the shoots quickly get in a tangle, and it is then a difficult matter to separate them. In purchasing tubers of this Tropæolum the mistake is often made of obtaining them too late in the season, as if kept dry after an endeavour to start into growth the young shoot perishes, and if potted and placed under favourable conditions no further growth will take place. The tuber, however, will remain plump and firm, and with proper treatment will start away the following season as if it had experienced no check. After the flowering season water should be gradually withheld, and when the bulb is quite dormant it should be discontinued altogether.—T.

Cassia corymbosa.—This is rarely met with in gardens now-a-days, but it is well worthy of extended culture. It is now in full beauty, the long corymbs of yellow flowers having a charming effect. I have a plant against a back wall in a cool corridor. During the winter it is headed back to a stump, and in the spring fresh and vigorous shoots burst forth and grow ahead until surmounted with flowers. Blooming as it does at this season it demands more attention, as about now such flowering shrubs are not very plentiful.—A. YOUNG.

PITCHER PLANTS.

(NEPENTHES.)

I SHALL be glad if you will give in THE GARDEN instructions for the culture of Nepenthes. I have one, and although it grows fairly well the leaves do not produce pitchers, only a spur at the end.—ROBERT F. PARKINSON, Barbadoes.

* * From the above statement I am inclined to think the plant has got upon a stem, and in this state pitchers are not freely produced until the plants become climbers. The pitchers produced upon the short shoots about the base and on the lateral shoots are very beautiful, and totally distinct from those borne on the scendant stems. N. Hookeriana, N. Rafflesiana, and N. Chelsoni are amongst the handsomest of their race. It will always be advisable to keep a number of shoots round the base and some shoots cut back near the base to produce laterals, as upon these the largest and best-shaped pitchers will be borne. Nepenthes make very handsome ornaments kept in a thoroughly moist atmosphere which never falls below about 70° or 75° in the summer, and never lower than 65° in the winter or cool season. They are surface rooters, and spread with great rapidity

They naturally grow in boggy soil, but I have found them to do well in peat fibre and Sphagnum Moss in about equal parts. Nepenthes should be well drained, when they may have an abundance of water both to their roots and overhead from the syringe. They also make excellent basket plants, hung up in the hottest stove, and in this state one seldom allows them to get large enough to develop the peculiar pitchers of the stem leaves, because they are kept cut back every year, and these stems will serve to perpetuate the species by being made into cuttings.

WM. HUGH GOWER.

The Oleander.—Occasionally in some old-fashioned garden a few large plants of Oleander may be met with, and beautifully they will flower throughout the summer months, but their merits in this respect are very generally overlooked, and there is, I am assured, really no demand for them in nurseries. They are very apt to run up tall and naked, but to obviate this as far as possible the plants should when young be freely stopped. A few large specimens in pots or tubs form a very noticeable feature at the present time. They need the protection of a greenhouse or conservatory, and flower best if stood out of doors in a sheltered sunny nook as soon as all danger from frosts is over. As the blooms expand the plants may if needed be removed under glass, or they can be allowed to remain out of doors, where the flowers will open beautifully. The propagation of the Oleander is a simple matter, as cuttings will strike root readily if inserted in either soil or water. There are numerous varieties, all of which are of continental origin, for the Oleander is more popular there than it is in this country.—H. P.

Tecoma jasminoides.—Occasionally this plant is met with in old conservatories and orangeries, where at this season of the year its panicles of white flowers are very effective. It requires to be grown in a light and airy part of the greenhouse or conservatory so as to ensure its blooming, and I also notice it flowers the more freely as it gains age.—A. YOUNG.

Coutarea Scherffiana (G. J. B.).—The specimen you send asking if this is the plant known as *Gardenia globosa* belongs to this genus. It has much larger flowers, which are pure white, and it makes a very handsome plant. I think this was put into commerce by M. Linden, of Brussels, some few years ago. I believe it comes from Guiana.—W.

Batatas paniculata.—A. Hindon sends a specimen of this which he says is the plant which yields the cotton in South Africa. The above is its name. It is a strong climbing plant with large palmate leaves and pretty purple flowers. It is somewhat difficult to say where it is a native of, for it would appear to be scattered over a large portion of the tropical world. In the western part of Africa it is cultivated largely, its large tuberous roots being used for food, but in the southern part of the same continent the white settlers get a material from its seeds which is known by the name of Natal cotton. In this country it forms a handsome stove climber, and requires to be potted in loam and leaf mould made fairly sandy. The pots should be well drained and the plants kept rather dry in the winter. The plant I believe originally came from India.

Layering Souvenir de la Malmaison Carnations.—I have no doubt that "Southron" obtains good plants by his method of layering, but in the south of England at any rate I fail to see that one need shelter the plants in frames during the rooting process. I always layer mine in the open ground, choosing a sheltered, but very sunny position. In six weeks from layering they are well rooted and ready for potting. When layering them I invariably turn them out of the pots, as new roots are at once pushed into the fresh soil, and this not only helps the layers to root quickly, but also puts strength into them. This is a good way with all Carnations grown in pots. If a plant is at all sickly, weak, or the

roots have come into a bad condition, turning it out of the pot into fresh, well-sweetened ground acts magically, the foliage assumes a healthy green, and the layers begin to push forth new leaves. I am certain that 40 per cent. of strength is thereby put into them. I must confess to some surprise at seeing shading advocated. I have always thought that the layers can hardly get too much sun in our climate. It has seemed to me that my plants were better rooted after a hot July and August than when these months happen to be more or less cool and moist. Layering is not like putting in cuttings, as the young shoots get the benefit of the flow of sap from the old wood till they make roots. A warm condition of the ground, of course, encourages root-formation, all that one has to do being to supply the requisite amount of moisture. When potted up, I think a little shade for a time from hot sun is very helpful.—J. C. B.

Crinum Powellii.—This is, as stated on page 87, just the subject to plant out in a cool house, but where it cannot be treated in this way, it may, nevertheless, be grown and flowered well in pots. In the case of single bulbs a good sized one will require a pot 9 inches or more in diameter, and if three are grown together there should be a corresponding increase in the size of the pot employed. In any case there must be a sufficient depth of soil to bury the base of the large club-shaped bulb at least 6 inches below the surface. Even then there will be a good deal of the bulb above the ground. When in pots, the plants may be wintered in a cool greenhouse or in a frame protected from frost, and in the spring when all danger from late spring frosts is over they can be plunged outside; if in the full sun, say at the foot of a south wall, so much the better for the future display of bloom.—H. P.

Cotyledon mamillaris.—G. Fischer asks for a name for this plant; here it is, and a very pretty species it is. One seldom sees these plants in gardens now, but at one time they were largely grown. The plant in question is singularly beautiful, having cylindrical succulent leaves, which are very glaucous green, and terminal pendulous spikes, which are of a deep brown. The flowers are arranged in alternate bunches of three, the tube being of a reddish brown, the limb being more of a dark chestnut brown. Altogether it is a very pleasing plant, but certainly not new, as it was known to Linnæus the-younger. It comes from Namaqualand and other parts of the western parts of Cape Colony.—W.

Higginsia refulgens (H. Weller).—This is the name of your plant. These plants two or three decades ago were held in high estimation by everyone having a stove for their accommodation, and I think the species we then had in cultivation were principally due to the exertions of M. Linden, of Brussels. Beautiful plants these were, but now-a-days one never sees these dwarf, pretty, ornamental-leaved plants with their dark bronzy leaves. *H. discolor* was, I believe, the first one of these introduced about 1850, under the name of *Campylobotrys discolor*, then amongst others came *pyrophylla*, *smaragdina*, *regalis*, *argyroneura*, *refulgens* and *Ghiesbreghtii*, all of them very beautiful and dwarf, saving the last named, which was a tall-growing ungainly plant. They should be potted in a mixture of peat and leaf mould, to which may be added a little loam and some sharp sand; drain the pots well, water freely both at the roots and overhead, and shade them from the direct rays of the sun.—W. H. G.

New Fuchsias.—Many of the newer Fuchsias, more especially those from the Continent, are remarkable only for the production of large ungainly blossoms, and the habit of the plant and shape of the flower seem to be completely ignored. Most of the newer varieties that have come under my notice lately have been those with double blossoms, with in the majority of cases a large and ugly corolla, while the sepals are reduced to very small proportions, thus totally destroying the symmetrical shape of the flower. Again, in many old varieties the sepals recurve in a very elegant manner, while new forms are frequently met with in which they

are disposed horizontally or nearly so. The truth of the matter appears to be that there is among Fuchsias really no very wide range in form or colour, and many that may happen to slightly differ from the older kinds, whether an improvement thereon or otherwise, are sent out as new. It is true these remarks will apply with equal force to other subjects, more especially to Pelargoniums, and above all to Chrysanthemums. Of good shaped varieties of Fuchsias may be mentioned most of those with white tube and sepals, especially one of the oldest of all—Guiding Star; many of the single dark varieties, such as Try-me-o, Lord Falmouth, Wave of Life, Lord Elebe, and others; while of double varieties some of the best are Molesworth, Duchess of Edinburgh, Beauty of Exeter, Sir Garnet Wolseley, La France, and Avalanche.—H. P.

GARDEN FLORA.

PLATE 921.

PLEROMA MACRANTHUM.

(WITH A COLOURED PLATE.*)

THIS is the best of the many species of *Pleroma* which have been introduced and tried as garden plants in England. There are over a hundred species known, but only a small fraction of these, say about ten or a dozen, are large flowered and handsome enough to deserve the notice of gardeners. The genus is not as a rule happy under cultivation; for instance, the beautiful *P. elegans* cannot be grown by the majority of gardeners. I have seen a few good specimens of it at exhibitions years ago, and it was, and may be still, one of the specialties of Messrs. Backhouse and Sons, York. But I think most gardeners will agree with me that it combines with exceptional beauty of flower exceptional "miffiness" under cultivation. *Pleroma macranthum* is, on the contrary, as easy to manage as it is beautiful. Anyone with an ordinary greenhouse can grow it, and it is equally happy whether grown in pots and trained as a small bush or treated as a climber, training its shoots along rafters or against pillars in a sunny position in the greenhouse. It is grown in both ways at Kew, where its flowers are an attraction in the greenhouse in autumn, winter, and spring. Some cultivators recommend training it on a balloon trellis; others pinch its shoots frequently so as to make it self-supporting. It likes a turfy soil, preferably equal parts of loam and peat with plenty of silver sand; it also likes plenty of water and a sunny position. Pot plants should be placed outside for the summer, the exposure to air and sunshine keeping the growth sturdy and inducing a good set of flower-buds.

P. macranthum has been in cultivation about thirty years. It was first described by Dr. Seemann from a specimen discovered by M. Libon in the province of St. Katherine, Brazil, under the name of *Lasiandra macrantha*, by which name it is still known to some cultivators. Plants were introduced and flowered by M. Linden in his nursery at

* Drawn for THE GARDEN in the Royal Gardens, Kew, by Gertrude Hamilton, October 5, 1892. Lithographed and printed by Guillaume Severeys.



PLEPOMIA MACULATISSIMA

Brussels in 1864. Mr. Bull also obtained it and distributed it in England. I have seen flowers fully 5 inches in diameter. When they first expand they are almost pure ultramarine blue, fading to deep purple—the colour of *Clematis Jackmani*—with age. The leaves vary in length from 3 inches to 5 inches. Cuttings of this plant strike root freely. I have seen healthy, large, well-flowered specimens grown in a stove from which they were never removed.

P. elegans is a native of the Organ Mountains, in Brazil, where it was discovered by Gardiner, and afterwards introduced by Mr. W. Lobb, who sent it to Messrs. Veitch and Sons, with whom it flowered in June, 1846. It was then described as “a plant of great beauty, with copious, glossy, strongly nerved foliage and flowers of a large size and peculiarly splendid colour, to the rich velvety purple of whose hue no pencil can do justice.” It forms a compact shrub 3 feet to 6 feet high, with short semi-erect branches tinged with red, and clothed with opposite pairs of ovate leaves 2 inches long. The flowers are borne singly on the ends of the branches, each being over 2 inches across and coloured deep blue with a purplish hue. It thrives under greenhouse treatment, and when well grown it is one of the most beautiful of all melastomaceous shrubs.

The genus *Tibouchina*, several species of which were figured and described a few years ago by M. Linden in *L'illustration Horticole*, and of which, I believe, plants are in cultivation in the Brussels nursery, is, according to Bentham and Hooker, nothing more than *Pleroma* under a new name. If the flowers are as beautiful as they are figured and described, and if the plants are as easily managed as that here represented, they will be most valuable additions to the garden representatives of the large order Melastomaceæ.

W. W.

THE WEEK'S WORK.

HARDY FRUITS.

APRICOTS.—These have carried extraordinary crops, and this, coupled with the long spell of dry, hot weather, has left the trees in a much enfeebled state. Soaking rains have done much towards freshening them up. Unless, however, the rains are supplemented by a free use of the syringe or engine in all cases where red spider is plentiful, and a good soaking of liquid manure when the trees have been many years established in the same position, the chances are there will be a great falling off in the crops next season. If the flower-buds are feeble or few in number, it is quite useless to expect a full crop, and the remedy should be applied in anticipation. Apricots ripen fairly well after being gathered in quite a hard state, and if wasps or birds cannot be kept from late fruit, gather it and store thinly in a dry fruit room. The colour is improved if the sound fruits only just changing to yellow are wrapped separately in a square of tissue paper and packed in a box of soft sweet hay.

PEACHES AND NECTARINES.—The change of weather has considerably checked the ripening of these, but all will yet be very much earlier than usual. Continue the overhead syringing in the case of all the trees other than those carrying

nearly or quite ripe fruit, red spider being kept in check by this means, the fruit also swelling to a larger size. The colouring will be perfect if only the leaves are kept from shading the fruit. Some of the varieties, notably those of American origin, change or ripen very quickly, and the trees ought to be gone over once and sometimes twice in a day in order to prevent any fruit falling. Wasps, woodlice and birds are all fond of Peaches and Nectarines, and are responsible for many losses. Taking their nests, trapping many in suspended bottles half-filled with beer, water and sugar in mixture are sometimes sufficient remedies for wasps, and if these fail the effect of a few drops of Davis's wasp-killer on some of the partially eaten fruit should be tried. Many still adhere to the good old custom of enclosing each fruit when nearly ripe in a muslin bag, and if the latter is secured to the branch it will prevent any over-ripe fruit from falling. If these bags are used they must be gone over frequently, as they are favourite resorts for woodlice. The latter should be hunted out of all dry corners and clusters of dead leaves and crushed, their hiding places at the foot of walls being also found. A free use of the syringe and watering-pot, however, is the best remedy, dryness rather than moisture most favouring the increase and congregating of these pests. If birds are troublesome, hang fish nets loosely over the trees.

PEARS.—Tomtits are leaving the Peas and turning their attention to Pears, to which they promise to do much harm. They do not make a clean sweep of the fruit they start on, but are content to peck a small hole near the footstalk, every Pear on a tree being sometimes thus served. This greatly impairs the value or keeping properties of the fruit, and should, therefore, be prevented as much as possible. These small birds are not easily scared by the report of a gun, and are very difficult to either shoot or trap. The most that can be done to check their destructive habits is to double fish nets, and hang these loosely over the wall trees, small pyramids, bushes and horizontally trained trees being also similarly treated if the crops are worth taking so much trouble with. The fine netting is the best for the purpose. Black-birds soon discover the softest fruit, and if these cannot be kept off by means of fish nets the gun ought to be freely used against them.

PLUMS.—These are most favoured by wasps, and if no other preventive measures are of any avail, some of the best of the trees might for a few days or weeks be closely covered with blinds or other cotton material used for protecting the trees in the spring, serim canvas and muslin also answering for the purpose. If the fruit is to be kept for any particular day, it should be gathered before it is dead ripe, and only the soundest be saved. Cover with wasp-proof netting of some kind, or place in a cool, dry safe. In some positions the trees are badly overrun by red spider, and already present a somewhat naked appearance. Up till the time the fruit is nearly ripe, over-head syringing should be persevered with, every morning and evening being none too often, and after it is gathered recommence the syringing as before. Coating the leaves with flowers of sulphur, and leaving this on them for about a week, would destroy most of the red spider, and this should be done if the syringe is not sufficiently effective. If not already done, mulch the ground about the trees with strawy litter, this conserving the moisture and preventing cracking. These need this little attention after carrying such heavy crops.

MORELLO CHERRIES.—Late in August and during September there is every likelihood of fruit for pies other than Apples being somewhat scarce. Morello Cherries are remarkably plentiful and good, and though early in ripening might yet hang well if protected from wasps and much wet. At present the wasp-killer is equal to keeping away wasps, but should it eventually fail or not be available, then ought some of the trees to be closely covered with wasp netting. This will keep out insects, ward off some of the rainfall, and let in a fair amount of air. About once a week trees thus covered ought to be examined and any decaying

fruit cut away. Left entirely to the tender mercies of wasps, there will soon be nothing but stems and stones left.

GOOSEBERRIES AND CURRANTS.—There has been too much rain lately for the former, the larger varieties cracking badly and the quality of all suffering. Birds are best kept from them by means of a wire net-covered structure, but the wasps have also to be reckoned with, and those who wish to preserve the fruit from these cannot do better than neatly enclose several bushes with one large square of wasp-proof netting. Any way the fruit will not hang nearly so late as usual. Damp is frequently very fatal to Red and White Currants, especially when these hang in great clusters. If not already done, lightly thin out the clusters and shorten back all side shoots and leaders to a length of about 5 inches. Then mat over neatly, so as to shut out wasps. Uncover occasionally with a view to removing decaying bunches.

W. IGGULDEN.

THE KITCHEN GARDEN.

HARVESTING AUTUMN-SOWN ONIONS.—Where these were planted out on firm and well-manured soil I find they are not much earlier in changing colour than in ordinary seasons. If through late planting the tops are not changing, they had better be bent over, this checking growth and hastening on the ripening. It is most important that these should be harvested well, as in those gardens where the Onion grub has been prevalent too much care cannot be taken with those autumn-sown. If allowed to remain fixed to the ground after being fit for pulling, a spell of wet would either cause the base of the bulbs to decay or else they would split and commence growing again. As they are being pulled lay the base of the bulbs to the sun, taking care that the tops of the one lot do not overlap those of the other. They might remain on the ground if the weather should be dry for a few days, but the ripening is more satisfactory if the bulbs can be removed under cover, where they can be freely exposed to sun and air and be protected from rains. After they have become well ripened it is a good plan to rope them, hanging them afterwards in a cool, dry, and airy shed, where they will remain sound for a long time.

SOWING ONION SEED.—For young Onions to weather the winter well it is essential that they are not too forward, as if at all over-grown the chances are they will receive such injury from frosts if a severe period should follow, that they will be of little use for the purpose intended. For this reason, in late districts seed should be sown in the first week in August or up to the 12th of the month, and from this latter date up to the 21st for the earlier districts. The soil must not be too highly manured, neither must it be loose, as it is most important that the root-run should be firm. Ground manured early in the season for Potatoes or any other crop which is now cleared off will be quite rich enough. A dressing of burned garden refuse and soot should be given, this being worked into the surface with a rake before the ground is trodden over. Select an open and sunny site, as then the growth is more satisfactory in every respect. The drills should be drawn a foot apart, these after the seeds are sown being lightly trodden over. The larger Tripoli varieties are those generally selected for sowing during this month, but the White Spanish and Danver's Yellow may also be sown. Early White Naples is a good variety for drawing during the winter for salad.

CHERVIL.—This being generally in much request for flavouring and also as a substitute for Parsley for garnishing during the winter months, seeds must be sown now. As it is not on all soils that it will thrive satisfactorily, a dressing of old lime rubbish broken up finely and strewed over the surface should be given, as Chervil is essentially a lime-loving subject. Failing lime rubbish, apply a dressing of freshly slaked lime. The site should be sloping and also open to the sun. The drills must be drawn shallow, as oftentimes Chervil fails

to germinate on account of the seeds being sown too deeply.

CORN SALAD.—At a time when material for the salad bowl is generally scarce, anything which will assist in making up this deficiency is invaluable. For this purpose the Corn Salad should be sown, as during the early spring months when fresh growth is taking place it is very palatable when mixed with other subjects. The seeds should now be sown. It is best sown on a border in the open in drills 6 inches or 8 inches apart, the seedlings being thinned out if at all crowded.

WINTER RADISHES.—These are also acceptable for mixing with winter salads. For this purpose the Black Spanish and China Rose should be sown. These are sown in drills 6 inches or 8 inches apart, and taken up in the early part of November or before frost arrives, and stored in sand in a cool shed. Sowings of the ordinary summer forms should also be kept up as long as possible. The French Breakfast is the best Radish to grow either for summer or late supplies.

WATERING LATE PEAS.—The rains have not been sufficient to reach the roots of the latest Peas, and if these are to be of any value, weekly soakings of water must be applied, as mildew at this season quickly attacks them if at all dry at the roots. Dryness at the roots and damp foliage predispose the haulm to this fungus, and as in very many gardens the main-crop Peas have been very scanty, means should certainly be taken so that the latest sowings should afford some acceptable gatherings.

WINTER LETTUCE.—As this is an indispensable crop, sowings must be made at once for providing a sufficiency of plants to meet all demands. It is a good plan to not only raise sufficient plants for lifting and planting in frames, but also to provide a quantity which can be quickly protected in case of early frosts coming on. I raise the Lettuces on a south border recently cleared of Potatoes, and here the plants grow well, the site being both fertile and in a well pulverised condition. Hick's Hardy White Cos, Black-seeded Brown Cos, All the Year Round, and Stanstead Park are not to be beaten for winter work.

A. YOUNG.

ORCHIDS.

Now that we are in the month of August the attention of the cultivator must be given to the ripening of the bulbs, so that the plants may pass well through the winter. Many species require a very high temperature when they are making their growth, and that must be continued until the growth is complete, when the plants should be gradually inured to less heat. At this season all the Dendrobiums require careful attention, for some of them have a tendency to start again as soon as growth is completed, and this can only be prevented by taking the plants out of the high temperature and moist atmosphere and keeping them very much drier and cooler. This has been alluded to in a previous number, but the plants are so easily injured by inattention, that I must urge the importance of attending to them without a moment's delay. All the earliest flowering plants are now in their resting place, and a note must be taken of those that flowered earliest, for they must be the plants to be first placed in the forcing house. Dendrobium nobile by good management may easily be had in bloom from Christmas to midsummer and the more beautiful D. Wardianum for almost as long. Other hybrids and specific forms may be had with them, but it is necessary to see to the ripening of the growths at the right time. But even this will fail to produce good flowering plants unless they are also well rested in the late autumn and winter months. Many of them have already been at rest for some time, and will be kept apart from those which will complete and mature their growths later. A few plants that succeed best in the house where the Dendrobiums make

their growth are the Vanda teres and V. Hookeri, the latter not at all so easily managed as the former; it is more slender in growth, and does not seem to take well to any system of culture which I have tried. On the other hand, there is no difficulty in growing V. teres year after year; it will make growths from a foot to 18 inches in length in one season, and when grown in a light position with plenty of heat and moisture the plants generally flower well. Anderson's variety is rather freer in producing its flowers than the ordinary form. Oncidium ampliatum majus has been introduced in large numbers recently, and the plants do admirably grown in the Dendrobium house, and when I say Dendrobium house, I do not mean a house set apart for Dendrobiums and nothing else, for ours is merely a Melon house of very simple construction and with no special ventilating arrangements. All the plants needing repotting or rebasketing are seen to before they are placed into the house. The usual compost of equal parts fibrous peat and Sphagnum is used for the Dendrobiums and Oncidiums, but the Vandas are planted in Sphagnum Moss merely without any addition except broken pots and charcoal, and no great depth of material is needed, as by far the larger portion of the Vanda roots are made outside the pots; they cling firmly to teak rods which are tied together with copper wire.

In the East India house there has been much work done during the past week; several species and garden varieties of Cypripediums required repotting. Small seedlings which had not grown so well as we expected had to be taken out of their pots where they had not made many roots and repotted into the same sized flower-pots in which they had been growing previously. Larger plants had quite filled their flower-pots with roots, and some of them of the Cypripedium Sedeni type were almost pushing up out of the pots, the roots being so numerous. Scale gets upon some of the Cypripediums, and should be removed on its first appearance, for it is not so easily removed when once it has obtained a good foothold without materially injuring the plants. Repotting Miltonia Roezli was also concluded. In gardens where Orchids are not the first consideration it is not easy to find time to do all the work exactly when we want to do it, and some plants have to wait longer than they ought to do, but if time cannot be spared both to clean the plants from scale and other insect pests, and also to repot them, I would rather let the repotting stand over and see that they are cleaned. Small seedlings require careful looking to, as the plants in very small pots soon suffer from lack of water, and they get a serious check, which may cause them to get into a bad way and retard their flowering not by months merely, but by years. In the Cattleya house, now that all the repotting of the summer and spring flowering Cattleyas has been seen to, there is not a great deal to do except to keep the plants clean. There is no excuse for thrips being upon these plants and upon the Lelias, for they will stand fumigating, but in some instances other plants have to be grown in the house besides Cattleyas, and these may not be able to stand the fumigating so well as the Cattleyas. Miltonia vexillaria, for instance, is so easily injured by tobacco smoke, that it is never safe to fumigate a house with plants of this in it, but for the present they are in the cool house, where they seem to do very well with Masdevallias. It is well to fumigate as a preventive when the Miltonias are not in the house. These plants must be cleaned by dipping them in diluted tobacco water. I find that Cattleya Skinneri and Lelia elegans are the most liable to be injured by thrips, and these plants should be carefully watched, for if they are kept clean by fumigating all the others will be safe. The weather has been more changeable recently, and more attention is needed to keep the houses right, but the weather has been better for the cool house, as hitherto, besides the excessive dryness of the atmosphere by day, there has been no dew at night; now that so much rain has fallen the night dews have been heavy. The temperatures are still kept up about the maximum point as advised in previous numbers.

J. DOUGLAS.

PLANT HOUSES.

STOVES.—**LATE POTTING.**—It is not advisable unless in extreme cases to pot large or specimen plants later than this, and then only can it be recommended when a good command of heat is at disposal. In such instances as unhealthy plants, where it is palpably evident that a further decline in vigour will ensue unless potting be resorted to, it is far better to attend to it. This more often than not will have been brought about by over-potting on previous occasions, although in some cases it will be the natural result, more particularly where the soil has not been of the best description. There is time yet with a brisk temperature to obtain a good root-action before winter sets in, but particular care through that season must be given to watering and other details. Plants of rapid growth are those which will more readily re-establish themselves, but rather than expend too much time and labour upon these it is far better to depend upon younger stock.

It is rather in the case of young and vigorous plants that late potting will be of the greatest benefit, and then it must not be carried too far. Only just a shift in any instance should be given; this will be ample for the remainder of the growing season. Young plants of Dracaenas, of Crotons, of Pandanads, of Palms, or other decorative stock upon which a dependence is being placed for the late autumn and winter come under this category. When it is seen that any of these cannot well continue to thrive without another shift, then let them have it, but bear in mind that by feeding them often with liquid or artificial manures and by watering at all times with a free hand, many of these will remain in the best of health in quite small pots. More often than not failure to grow these plants in a satisfactory manner in small pots results from not watering freely enough; to allow such to suffer a few times means ultimate ruin or at least a sickly appearance. In potting now, more dependence should be placed upon good soil rather than upon mere quantity. Such plants as are now potted should not be again used for any purpose out of the stove until thoroughly re-established. After potting a little more shade and atmospheric moisture, too, will be necessary for a week or two, and if bottom-heat is available, this might be applied for a short time, but not continued.

INSECT PESTS.—It is just possible that where other work has been pressing from one cause or another, the plants have not had the needful amount of attention in respect to insects. If this be the case, then no time should be lost in cleansing them. To allow any to remain in this condition longer than can possibly be avoided is discreditable, and indicates want of energy as well as lax ideas of cultivation. Scale often gives a lot of annoyance and trouble, and also causes a deal of filth at this time of the year, to say nothing as to mealy bug. Between syringing and sponging, or by the two in combination, a different appearance can soon be made in any case, and hence onwards a determined stand should be made against these pests. Both thrips and red spider are concurrent with hot and dry weather; these too must be kept in abeyance, otherwise the foliage will be sooner and more permanently injured even than in the case of the two first-named insects. By a free use of the syringe in a thorough manner, however, there should not be much need of fear from this source. When the syringing is only half done, the tops of the plants being the only portion that is wetted thereby, it must not cause any surprise if both thrips and spider in their varied forms do give trouble.

WATERING.—As before indicated, this should receive all due attention. To treat all plants alike in this respect shows a want of their particular requirements. Palms and Crotons among fine-foliaged plants, and Allamandas, Rondeletias and Vincas of flowering subjects all take a liberal supply, and it is easy to detect instances where they have not had it. Dracaenas, Pandanads and Anthuriums hardly require so much, nor do Clerodendrons, Bougainvilleas or Ixoras. With such weather as we have been having, and may yet have a repetition of,

it is quite needful to give close attention to watering. In any case where further assistance is needed to sustain the plants, as, for instance, those now flowering freely, as well as those already indicated, resort should be had to manures in one form or another, using a discrimination between plants of permanent character in their present pots and soil and those which are annually shaken out and repotted. Where climbers or other plants are growing in open borders, do not be led away with the idea that they are sufficiently moist at the roots just because they are so upon the surface. This may be the case easily enough; see to it, therefore, that it does not occur. The roots may have wandered away where restriction has not been given in any form, and they will continue to travel still further if they are not liberally treated.

TEMPERATURE, &c.—A night temperature of 70° or 72° will be sufficient for any purpose. When above this to any appreciable extent, a little top air may be advantageously given at nightfall. When very sultry and if more than usually hot during the day, let the plants rest without any fire-heat at all. It is not now advisable to close quite so early, otherwise the temperature will remain too high with no corresponding advantage. Of course, with but little heat in the pipes there is not so much need of late damping down as earlier in the year; otherwise the moisture will be in excess in the morning. J. HUDSON.

FLOWER GARDEN.

HEUCHERA SANGUINEA.

THE correspondence in your columns about the cultivation of *Heuchera sanguinea* seems to me to be very curious. It is a striking instance of the different conclusions to which we may be driven by our different circumstances. Still, there must be some explanation of it all and some clue by which we may thread our way through the varying representations. I venture to think that the reason why Mr. Tallack fails is just because his plants are grown at the foot of a sunny wall; they are too much dried up there, and they do nothing accordingly. It is the large proportion of sharp sand and leaf-mould to which Mr. R. W. Hosier is beholden for blossom, and "M. A. R.," of Liphook, is very much on the same lines, I should fancy, because the *Heucheras* and *Rhododendrons* seem to fare alike in his hands, and no *Rhododendron* will ever endure to be dried up. But what does rather puzzle me is to read the announcement of Mr. Wood—who has so often taught me so much—that he can have "a mass of verdant foliage without flowers." Verdant foliage! Why I should consider that to be a certain precursor of blossom, and if I can only keep the foliage of *Heuchera sanguinea* bright and green, I esteem the whole thing to be done. I owe this positive, perhaps too positive, opinion to the remark of one of your correspondents some time ago. Just now I am away from home, and I cannot, therefore, hunt up his words in some old number of *THE GARDEN*, and I do not remember who he was, but I know that the drift of his remarks about *Heuchera sanguinea* came to this: You must take care of the foliage and then the blossom will take care of itself. As that seemed to me to be a very sensible piece of advice, I acted on it without any delay, and I take this opportunity of acknowledging my indebtedness to the writer for the success I have had. Following a rule which I invariably observe about a difficult plant, I divided my stock of *Heuchera sanguinea* into two separate portions. The one I left where it had been and as it had been for a long time before, and the result has been a prolongation

of barrenness; the other I took in hand with a view to the well-being of the foliage, and a very large crop of blossom has come of it. I suppose it would be dangerous to say without counting the withered stalks that I have had hundreds of flowers, and I cannot do this while I am away from home, but I am quite certain that I have had scores of them, and the deep red colour (I have said red, and I do not use a specific term for safety's sake) attracted the attention of every visitor who came within my garden gates and saw this glorious flower, which was in all respects quite as happy as though it were living under the sky of Mexico and had chosen for itself what it wanted to have. To my mind, *Heuchera sanguinea* is the finest of all recent introductions of hardy plants, except *Irises*, if it be taken for granted that it prospers and does well. A clump of rather dry leaves which have a tendency to become brown does not call forth any rapturous admiration. But let the plant have a fair chance, and what look like little bells of coral dance over the pleasant-looking cushions beneath them; and I know of nothing prettier during the happy month of May, when so many of the best things are at their best and all is glad around. My good friend Canon Ellacombe, in one of his interesting papers to the pages of your contemporary—I am referring to a non-horticultural paper—gave it as his opinion quite recently that *Dielytra spectabilis* is the best new hardy plant that we have had for fifty years, and when I read his words I felt almost inclined to say there may be two opinions about that; and though he is not the person from whom to differ without much consideration, I am bold to aver that if I were obliged to part with either *Dielytra spectabilis* or *Heuchera sanguinea*, I would let the former go. Mexico, and not China, would win the day in my eyes, and the loss of *Dielytra spectabilis* would now occasion a much less void in my garden than if *Heuchera sanguinea* were taken away from it. But reverting to the matter of culture, I would only add that I made a sort of compost of good loam, a great deal of peat and some old decayed cow manure and sand, and in this the plants have done excellently well. They have been planted in full sun, and I do not think it matters one jot whether they be on the level or on a slope. I imagine that the foliage must never be allowed to get into an unhappy condition, and I think that if that be attended to, all will come right. I have a fancy that the clumps must be pulled to pieces from time to time, and I quite agree with Mr. Wood when he writes that liberal mulchings do them great good. If very large specimens are left to themselves for a long time, the crowns become crowded together, and the soil gets to be impoverished, and the flowers entirely fail. At one end of my rockery this summer in an equally good situation with the other facing south, *Heuchera sanguinea*, when it was left to its own devices, did nothing at all; at another end it was most noticeable both for gracefulness and colour which could not be exceeded. I never by any chance give it any protection, and it does not seem to me to require it.—HENRY EWBANK.

—Another word about this not flowering. I see nothing in the several notes of correspondents (page 84) to oppose my theory submitted on page 85, whilst Mr. Hosier, who is successful with it, describes conditions that would be likely to save the plant from the form of injury I mentioned. Anyhow, any grower may satisfy himself on this fact by examining his plants even yet, that where the plants have failed to flower the last year's points or somewhat bulkier crowns have gone

black and blind; had these pushed there would have been flowers. I think I may add, for a certainty for years both at home and in other gardens, I have been in the habit of watching this plant, and where I have seen the previous year's bulky buds in a black and dead state I have asked, "Do you get flowers?" and invariably the answer has been, "No," or "Very few." I take it that the cause of these flower crowns dying is winter wet. I think so because plants left quite exposed are uncertain to flower, and those sheltered from wet by a sheet of glass open at all sides never fail provided they have made free and healthy foliage the previous summer. Mr. Hosier's plants (page 84), in "very narrow deep crevices of the rocks," which do so well, get, I suppose, the shelter in some degree that I recommend for general trial. I may also be allowed here, and fittingly, to say a word about shelter for other plants from winter wet. I have tried it on plants that I consider needed it, and also on such as I knew could survive any sort of a winter without it, and in all cases the results have been a most marked improvement of the plant in leaf and flower. Some of the mossy and silvery *Saxifrages* are changed almost beyond recognition for the better. Let me be clear. Do not shelter your plants, as I know many have done, by taking your plants to the cover, but bring the cover to the plants, otherwise you defeat your own ends, for to move or disturb a plant in the teeth of winter debilitates or possibly gives it its death stroke. Simply fix a piece of glass over the plant without touching it and leave all around quite open, then you get what you want and nothing more, *i.e.*, you do not get drawn growth, but dry tops and crowns. I have seen sheets of glass laid on plants; this is deadly, and far worse than no cover at all, for where there is contact condensed moisture will be held and rot must result; if not, it will be more from accident than anything else.—J. WOOD.

Funkia Sieboldi.—This fine Plantain Lily does extremely well here at Highgate. A small plant obtained from Holland three years ago has developed into a magnificent specimen with nearly forty crowns. This *Funkia* would be well worth growing for its noble foliage alone, but its beauty is greatly enhanced by the long spikes of pretty lilac flowers which it throws up so freely during the summer months. It is not at all hard to grow and flower well. Given abundance of moisture in the hot weather it will flourish in almost any position. *F. grandiflora* is not so accommodating. It is impossible to make this variety flower unless given a sheltered and sunny position, but under glass its white, sweet-scented blooms are freely produced. Its leaves are of a much brighter green than those of *F. Sieboldi*, and it blooms in late summer.—R. A. JENKINS, *Highgate*.

Hollyhocks from seed.—It is curious to note what a clean sweep the little red fungus has made of the Hollyhock in many gardens. It is worth while considering whether a different way of cultivation would not lead to good results with so favourite a plant. It is no longer necessary to increase the plants from cuttings, and thereby give the fungus a chance of keeping the plants company, as the different colours are to be had from seed; and, as they come fairly true in this way—say 80 per cent., if the seed be good—it is easy to have fine plants in this way by raising plants every year to bloom the following. The plants from seed are just as susceptible to the attack of the puccinia as those from cuttings; but from seed we have the advantage of a clean start, and if the ground where we put out our seedlings is free from the pest, the plants will escape and give a fine bloom. Plants so grown are often very beautiful, and the colours soft and true. The Hollyhock, like the Carnation, comes into bloom when many of the summer flowers are over, and for this, among other reasons, it is a welcome aid in many gardens. There is another advantage in the plan, that we are absolved from the need of buying named plants more or less expensive to get and keep. The seedlings may be raised in frames, or

when the ground is warm in early summer, and, when well up, the little plants should be pricked out where they are to bloom in good rich soil.—*Field*.

FLOWER GARDEN NOTES.

THE mention of *Prunus Pissardi* in a recent number in connection with summer bedding reminds one of the many hardy plants that can be similarly employed to great advantage, plants, too, varying altogether in character and very opposite as to height and general appearance, as far apart as, for instance, the stately *Ailanthus glandulosa* and the small trailing *Campanula* or the common, but beautiful double *Camomile*. It strikes one rather forcibly that there is an element of stiffness about that particular bed quoted on page 86, beautiful in a certain way and well arranged as it may be, and that a groundwork of *Calceolaria* and rings of *Viola* do not fit in altogether well with tree-like Plums and Maples. I think this fine-leaved *Prunus* would be seen to better advantage if planted thinly in a groundwork of white *Marguerites* or, say, alternate clumps of *Gautonia* with the *Prunus*, and the beds filled in with *Aster Amellus* *bessarabicus*. This *Starwort*, by the way, and *Aster acris*, another very free rather early flowering variety, make very fine beds associated with bold clumps of *Fuchsia gracilis*. As an instance of what may be done with the *Ailanthus glandulosa* above mentioned, I noticed the other day what otherwise would have been a very formal border, a ribbon border in fact facing a wall, wonderfully relieved by plants of the Tree of Heaven some 6 feet high in very fine foliage at intervals of 12 feet. In somewhat similar circumstances, viz., ribbon bordering, how admirably occasional good plants of *Nicotiana affinis* come in, especially if in the list of plants used in the bordering dark shades of colour predominate. This Tobacco did not this year bear out its character for hardiness; none made their appearance in the spring, except in one case where they had been close against a south wall. *Carnation* layering is now in active progress, and the grass must be pronounced abundant and excellent in quality, especially when the exceptional season is taken into consideration. This is especially the case with all members of the Clove family, which have seldom been in better form. With early layering well-done grand plants are likely to be ready to hand by the end of September. It seems somewhat strange the plants should have weathered the long spell of drought so remarkably well. I fancy it is partly owing to a liberal use of horse droppings at planting time, which, besides acting as a wholesome stimulant, held and retained the heavy rains of February.

Beds having been prepared for *Viola* cuttings, we shall get these in as quickly as possible. I have generally put them on an open border under a north wall, but with the idea of getting them out earlier than usual in the spring of 1894, I have this season prepared a bed in one of our home-made frames, where the plants can be covered with old lights and cloths to shelter them during the worst of the weather. In addition to our standard colours in white, yellow, dark purple, represented respectively by *White Swan*, *Bullion*, *Archie Grant*, with *Countess of Kintore*, I have this year selected from among the newer varieties for propagation *Annie King*, *Duchess of Sutherland* and *William Niel* as likely to supply some pleasing shades of colour hitherto wanting. Plenty of cuttings are available from young plants, but old stuff (spring-divided) has made little headway. An inspection of the herbaceous borders last week, to note anything of special value that must be increased in the coming autumn, has brought *Gypsophila paniculata* into prominent notice. It is difficult to have too much of this beautiful herbaceous plant. It is a veritable gem for cutting, and is yearly increasing in favour. In one of the best decorated dinner tables I have seen this year—simple, but

wonderfully attractive—this *Gypsophila*, with *Splendour* and *Princess Beatrice Sweet Peas* was used. Those who want plenty of cut flowers should also note *Statice latifolia* and *Statice Gmelioi*, both very light, graceful and pretty. Whilst on the subject of cut flowers, let me put in a good word for *Tamarix gallica*, a deciduous shrub of very elegant growth that furnishes an abundant supply of foliage all through the summer months. This can be readily propagated from cuttings, as indeed can the *Gypsophila*, although a stock of the latter will be more expeditiously obtained by division.

Not much time must be lost after the beginning of August in deciding as to the flower garden arrangements for another season, that some fairly accurate idea may be formed as to the number of cuttings required of different varieties.

Claremont.

E. BURRELL.

A ROCKY MOUND.

A ROCKY MOUND similar to the one here illustrated can be constructed in any garden, however small. It was my first attempt at rock



Part of the rock garden at Brookfield, Hathersage, Sheffield. Engraved for THE GARDEN from a photograph sent by Mr. G. H. Cammell.

gardening, and additions have been made from time to time. It is a mound of heath soil, among which rocks are embedded, and is planted with many varieties of *Saxifrage*, *Sun Roses*, *Maiden Pink*, *Soapworts*, *alpine Linaria*, *alpine Aster*, *Veronica rupestris*, *Erinus alpinus*, *Silene alpestris* and other free-growing alpinas. After a time all the ground has been covered and each variety holds its own successfully, determined not to give way to its neighbour. *Podophyllum peltatum* appears here and there in unlooked-for places, and the ground *Laurel* and *American Bird's-foot Violet* find a place on the shady side. The result is pleasing not only when the plants are flowering, but throughout the year.

G. H. C.

Nemesia strumosa.—I look upon this as the most valuable addition to our list of half-hardy annuals that we have had for some years, and I am surprised that some people find fault with it. I sowed my packet of seed early in February, and when the plants were large enough pricked off some six or eight into a $4\frac{1}{2}$ -inch pot. The plants grew vigorously, and in due time showed flowering stems in abundance. Later on I transferred the plants bodily into a 9 $\frac{1}{2}$ -inch pot, and they have now been in full flower for nearly three months, and I think if I cut down the flowering stems I shall

have a crop of young shoots which will keep on the blooming season for a while longer. The colour of the flowers is a pleasing bright orange, reminding one of a plant we used to see long ago—*Thunbergia alata*. Those which were planted in the ground—have had, like all annuals this year, a hard time of it, but they are now coming into flower, and in ordinary seasons I have no doubt they would have been in flower long ago. Some of the seed was sown out of doors, and will come into flower later on—DELTA.

CUT FLOWERS IN HOT WEATHER.

IT is not often that spring and early summer flowers have been so short-lived as during this year, and none have proved more disappointing than *Roses*. The latter, both against walls and in the open, commenced expanding fully a month earlier than usual. No fault could be found with the quantity of blooms on healthy trees, and the size was also satisfactory, but as regards durability not much that is favourable can be said. It was even worse with the *Hybrid Perpetuals*, these opening in the morning and being past their best before the day was over. At this time of year large

quantities of cut flowers have to be sent from the country to London, and where owners of gardens are not away from home, these just now delight in sending boxes of *Roses* and other flowers to their friends. The question is, of what good are many of these flowers by the time they reach their destination? Even when properly selected and skilfully packed, they cannot be of much service after they are received; while those consigned to friends by novices must prove very disappointing. During hot and dry weather *Roses* should be cut while yet cool and, it may be, laden with dew, the preference being given to half-open buds, blooms nearly or quite fully expanded being worthless for packing. Supposing postal or train arrangements do not admit of the *Roses* being packed and sent away in time for the flowers to reach their destination the same day, then ought all of them to be set upright with their ends in pans of water in a cool darkened room, in readiness for packing towards evening. Even then some of them may be found too advanced for packing, but the rest will have absorbed a portion of the water, and being also perfectly cool, they may be packed closely together without fear of their heating badly during the journey. Where so many amateur packers err is in handling and arranging the blooms too carefully. If they are loose in the box when started, they will be in a bad plight by the time their destination is reached, not a few of them being shaken all to pieces. What are wanted

are light yet strong wooden boxes of sufficient depth to hold about two layers of Roses. Line these with paper, place a layer of common Fern fronds or other greenery in the bottom, and on this closely and flatly pack a layer of the heavier Roses. On the latter place more Fern fronds or else a covering of paper, and then add another layer of Roses closely and flatly as before; cover with more soft greenery and paper on this, and if the lid does not close down tightly, so as to prevent the contents of the box from shifting, place a layer of either soft Moss, wood wool, or cotton wool over the paper.

Flimsy cardboard boxes, cotton wool, and a too free use of damp Moss, or moisture in any way, are causes of very many failures of flowers to travel satisfactorily. If the boxes are not strong enough to bear the pressure of other packages being placed on them, either use boxes strong enough to bear a little rough usage, or else do not disappoint by sending those not capable of saving their contents intact. Over-anxious packers seem to think cotton wool must be used about the flowers if these are to travel well, but, though serviceable in some respects, it is responsible for very many failures. The flowers must not come into actual contact with it, or, otherwise, instead of arriving at their destination perfectly fresh, they will be flagging badly, owing to the packing material having absorbed the moisture from them. If used either above or below flowers, it should always be divided from them by means of a sheet of tissue paper, and then they will most probably travel satisfactorily. Damp Moss, if only a few flowers are sent, will certainly keep them fresh, and to a certain extent prevent bruising. In this case lay the flowers flatly and closely on the Moss, cover them with tissue paper, and use enough light Moss or cotton wool to fill the box, the lid fitting down rather tightly on the packing material. When large boxes of either Roses or mixed flowers are sent a considerable distance in hot weather, a free use of damp Moss may ruin the lot, as it is liable to heat badly, the flowers, more especially Roses, falling directly they are unpacked. As it happens, there is no need for the use of any moist packing material, a mass of flowers and greenery preserving one another perfectly fresh, especially if they were cut when in a cool state and generally treated as advised in the case of Roses. Certain flowers, or those of a flimsy character, will not travel or often even keep well under any circumstances. Among these must, unfortunately, be included Poppies. These, if cut when quite young, will last for two days in a cool room, and might be sent to the town house for a dinner party, the Iceland forms being perhaps the best for this purpose. Light boxes should be wholly and closely filled with such flowers as these, nothing but very light packing material coming between them and the lid of the box. Not many other single flowers, if we except Sweet Peas, travel well, but semi-double zonal Pelargoniums, semi-double Ivy-leaved Pelargoniums, if gummed, Stocks, Asters, Zinnias, double Dahlias, Sun-flowers, Mignonette, and Carnations all travel and last well after they are received. The last-named are among the most serviceable and generally acceptable flowers that could be sent or given to anyone, and ought to be largely grown wherever cut flowers are in great demand.

In packing mixed boxes, line the boxes as advised in the case of those for Roses, and lay the heaviest, including any Roses there may be, in the bottom, and the lighter or more flimsy flowers on the top, finishing off with Fern fronds face downwards. Once more let me point out the great necessity for arranging them closely and flatly together, and also for closing the lid down tightly on the paper-covered top layer. Flowers ought to be unpacked in a cool, but not airy room, and there be at once arranged in either vases or temporarily in bowls of water.—*Field*.

Sweet Peas.—The complaint that there are too many of these is very just, but the cause is more likely to be extended than reduced. Raisers will go on putting into commerce sorts so-called that

differ in an infinitesimal degree from others sent out. That we have far too many Sweet Peas is due to the fact that three-fourths of those in commerce are of washy, slaty, or dirty tints, or else one of those mixed, striped or bizarre hues that cannot in any way be described as pleasing. It is a pity that seedsmen do not refuse to catalogue any but such as have very decided and taking colours and ignore all others. That course would soon stop this sending out of so much rubbish. The most useful and pleasing tints in Sweet Peas are pure white, pink, bright red, blue, and a good maroon-purple. Given these colours under whatever names found, we have the best. The pink or flesh varieties are particularly pleasing and in high favour for table decoration. Almost everywhere Sweet Peas have had a short season, but those who made sowings early in June if they induced the seeds to germinate, should now be reaping a reward in rows that will bloom well late into the autumn.—A. D.

—The admirers of Sweet Peas were lately afforded a good opportunity at Earl's Court of verifying the assertion in a recent number of *THE GARDEN* (p. 87), that there are far too many names; indeed, the principal point of difference to be detected, as least in some cases, is the name itself. Striped flowers and those whose colouring is dull and undecided have nothing to recommend them, yet a number of varieties of this class are to be found in the long lists that are issued at the present day. Princess Beatrice is, as stated in the above-mentioned article, a good brightly coloured variety, and so is Orange Prince, one of those shown on a coloured plate issued with *THE GARDEN*, March 12, 1892. The grower of these flowers for sale finds, however, that unless there are exceptional circumstances, a good pure white-flowered variety will meet with a readier sale than any other.—H. P.

NOTES ON HERBACEOUS PHLOXES.

THE present year has not proved favourable to the herbaceous Phlox or plants of that class, the severe drought until recently stunting the growth and promoting early flowering. But the large and interesting collection in the Chiswick Gardens is worthy of note. The plants are not so free and striking as in more favourable seasons, but they are flowering with freedom, many of the varieties being decided and distinct in colour.

This type of Phlox has during the past few years got popular in gardens, and the reason is obvious. Much improved kinds have been raised, a large number by French growers, and the habit is usually both compact and dwarf. Although perhaps this may not be thought an important matter, much depends upon this point as to the usefulness of the variety. Some are tall, straggling, and untidy, but the majority of those in bloom at Chiswick are bushy, compact, and vigorous, each plant crowned with heavy masses of finely coloured flowers, the individual blooms of bold size and form. Not a few of the colours, crimson, purple, carmine, and so forth, are remarkably bright, making a rich and decided display. With a judicious selection the garden may be kept gay with Phloxes from early summer until late autumn if the finer varieties of the Phlox suffruticosa section are chosen, and also of the later-blooming Phlox decussata forms. There is a great wealth of colour in both races, and it is important not to get too many purple, magenta, or carmine tones. These abound, and in a large collection one sees how many varieties occur with flowers that differ only slightly from each other in colour. At Chiswick the major portion of the collection is of the latter type, but owing to the dryness of the season the plants are in bloom much earlier than usual. The suffruticosa section is not so rich in good kinds as the other, and one of the finest is the variety Miss Mima, which has white flowers with a delicate pink centre. The plants have been received from many growers who are well known as having taken much interest in this flower.

Mons. Lemoine's name is of frequent occurrence, and in his nursery at Nancy, France, he has done good work in hybridising to get better and more diversified colours. Mr. Forbes, Hawick, N.B., Messrs. Dicksons, of Chester, and Messrs. Paul and Son, Caeshaat, contribute liberally from their rich stores.

The collection, at present in full bloom, is somewhat bewildering, many varieties approaching one another closely in the colour and expression of the flowers. A severe sifting-out is essential, and the rejection of dingy and weak mauve-coloured kinds that have a poor, unsatisfactory effect. Bright, decided colours are not wanting, and the plants for the most part are dwarf and bushy in habit, naturally so, not merely the outcome of an abnormally dry year. For the guidance of those readers of *THE GARDEN* who are searching for a few very distinct and pleasing forms, we have carefully gone through the Chiswick collection and selected the brightest and most refined shades of colour, carefully eliminating all dull and washed-out tones. The Phloxes are of the greatest use in the garden when well grouped together to get the richest possible effect from the flowers. Such a beautiful variety as Independence would look well, being of dense spreading habit, each sturdy stem surmounted by a large mass of pure white flowers. This is quite one of the best of the white-flowered kinds in the collection. The Queen and Delicata are also white-flowered varieties, compact in habit, the latter enriched with a rose-coloured centre. It is interesting to notice the great difference that the centre makes to the flower, and in the case of the variety Aphrodite it is lemon-yellow—a delicate contrast. Any of these white kinds may be chosen, but, of course, there is much similarity between them; for instance, Countess of Aberdeen, with rose-purple eye, Queen Mary and Mons. Rafarin are practically the same. Varieties with white flowers and purplish centres are comparatively common. Henri Murger is distinct; the flower is large, white, with a bold rosy purple centre. Perle and Purété are two very charming acquisitions. The former of the two is distinct, each flower of large size and white, touched with rose, the trusses compact and produced freely above a wealth of deep green foliage. This is one of the most beautiful kinds in the collection; whilst Purété is white, as its name suggests, and the plant is dwarf and exceptionally compact.

Many creditable varieties will be passed over in these notes. It is impossible in the majority of gardens to grow many Phloxes, even if it were desirable. The great thing is to get the more telling and beautiful colours, which are not too numerous. General Chaver is a fine kind, the individual flowers exceptionally large, and the brilliant salmon-red colour is remarkably effective. A good mass of this would make a great display. George Goodall is another fine variety, free, vigorous, and of delightful colour, which is bright carmine-rose. One of the best in the collection is John Forbes, which bears a very large rosy purple flower with a deeper coloured centre; and worthy of note is the variety Graham W. Culloch, an ugly name for a flower. Why are not simpler names given than such effusions as this? This is one of the deepest in the collection, the flowers brilliant self crimson, a penetrating shade, being conspicuous even amongst the large number of other kinds. A superb variety in every way is one named Adonis, which should be found in the smallest selection. The individual flower is of very large size, well shaped, and clear salmon in colour, the base of the petals white and the eye purple. A large mass of this would create a pleasing feature in the garden. We do not care for flowers of a magenta shade as a rule, and, unfortunately, there are many varieties of mauve, purplish and allied tints which must be carefully avoided. We are surprised that so many of this type get into good catalogues. Too long lists are confusing. Of the magenta-coloured forms, a very good type is Pont Briquet, which has flowers of peculiar brilliancy, not a dead, but a bright and decided shade. Matador is a variety of fine colour, salmon-red with deep maroon centre, and the bold heavy truss is

supported by strong stems. In this group, so to say, may be included the variety *Etna*, a vivid salmon-scarlet colour, each flower of large size, broad and showy. A kind that we should select perhaps as soon as any is *Eugène Danzanvilliers*, a French variety, but of splendid habit, spreading, yet bushy, strong and exceptionally free. The flowers are scarcely sufficiently strong in colour, but their mauve tint, the centre white, is beautiful in a mass. Another gem is *Boule de Feu*, the colour brilliant orange-scarlet with deep maroon eye, and we may also mention as of note, *Mrs. Kinghorn*, rich salmon-rose, the trusses very large; *B. S. Williams*, brilliant crimson, exceptionally bold and vigorous spikes; *Aurore Bereale*, bright orange-scarlet; *Princess of Wales*, white with purple eye; and *Baronne d'Arehe*, rich rose. This selection is not too large, and each colour is as far as possible included if sufficiently worthy.

In planting this type of Phlox, remember to get a few of the suffruticosa section, which should be planted in the border with those that bloom later to get a succession of flowers. A gay effect may be maintained for several weeks with a judicious selection, although this year the recent long-continued drought has proved trying, the bloom quickly going past its best. We need not make reference to the cultivation of this fine perennial. It is necessary to thin out the shoots if too thick in spring, and enrich the soil at that season if the plants have been in the same position for some time.

CHRYSANTHEMUMS.

BUD FORMATION.

If there is one phase in cultivating Chrysanthemums for the production of large blooms of more importance than another it is that of making a proper selection of buds. Even in an ordinary season this is a troublesome detail, but what must it be in such a peculiar season as the present, when, owing to so much drought, the plants have developed breaks and buds in an unaccountable manner? Many of the varieties, the Queen family, for instance, have formed flower-buds at least three times already, which is sufficient to upset any calculation that may be made as to the probable date of either the crown or the terminal bud forming. No doubt the extremely dry state of the atmosphere during the months of May and June predisposed to so much irregularity of growth and bud-formation in the plants. We can supply moisture to the roots as required, but we cannot altogether prevent the arid state of the atmosphere. Chrysanthemums are moisture-loving plants, not only about their roots, but amongst and around the foliage also. We never see such luxuriance of wood and foliage during a dry season as is to be found in one that is less dry. Too much heat and too little atmospheric moisture tend to contract the sap vessels, and thus check free growth. Experienced cultivators of Chrysanthemums for large blooms, whether for exhibition or home decoration, know quite well it is useless to expect high-class blooms if the right bud is not selected. If the buds set too early, instead of perfect globe-like flowers in the incurved section being produced, huge coarse-looking examples, the petals of which reflex instead of incurve, will be the result. Not only will the time required to cultivate the plants be wasted, but grave disappointment is certain to follow. The blooms resulting from too early bud-selection will possibly be large in diameter, but they will lack the two essential points which go to make a perfect flower, viz., depth and solidity. This is the point wherein so many beginners fail.

They are not able to discriminate between the right date and the requirements of each variety owing to a lack of experience. As a rule, many varieties in all sections produce the finest flowers from what are known as crown buds. Why this particular bud is known as a crown it is difficult to determine, because several other buds are formed in exactly the same way. In fact, all buds are alike except in the case of the terminal, which is surrounded by other buds, but in the case of crowns the bud is encircled with growth-shoots. For this latter reason it probably takes the definition of crown, being the centre or prominent part. There is nothing distinct about the bud, which usually forms in August and is selected to give the finest bloom, from that which is the product and cause of the first break—multiplication of shoots—sometimes occurring in April and at other times during May, according to circumstances, such as early or late propagation, manner in which the plants have been treated, and so on. The naming of this bud has become a matter of following a fashion set by the earlier growers of some thirty years ago, or more perhaps.

Not only have the plants this season exhibited this peculiarity of bud-formation here, but from many letters received and observations of other growers' plants, I am led to the belief that it is general. Many beginners, in cultivating the plants for large blooms, are in a fix, owing to so much premature growth and bud-forming, that they are uncertain how to act to obtain the greatest measure of success. Having learnt that crown buds as known to the fraternity produce the finest blooms, they are afraid to risk the loss of these said buds by removing them and retaining the shoots awaiting the formation of other buds. I lately saw a collection of Chrysanthemums grown with a view to producing large blooms in which most of the buds were "taken"; in fact, many were the size of Peas. I am afraid this said cultivator has a disappointment in store for him. Instead of the plants developing blooms when most required, November perhaps, the bulk will be in flower fully by the middle of October, many earlier than that date, and some of the plants will never be satisfactory. Where the buds are formed so early, the petals burst from the calyx long before the plants ought to be housed; the consequence is the florets are rotted by night dews and rains, the petals being very often deformed and unable to unfold into a good bloom.

Those persons who wish to have the bulk of their plants in flower during November, with some few towards the end of October, should now pay special attention to the plants that are forming their buds. With the exception of a few Japanese kinds, such as *Boule d'Or*, *Mrs. Alpheus Hardy*, *Pelican*, and *Mrs. Falconer Jameson*, that were not topped, but allowed to grow uninterruptedly until the natural breaks in the plants were made, all should have any buds that formed before the last week of July promptly removed. By the third week in August other buds will have formed; these will give the most satisfactory flowers. They may not measure quite so many inches in diameter, but they will have greater depth of petal, solidity, and be decidedly of a richer colour, and last fresh much longer. Take, for example, the pure white Japanese variety *Avalanche*. Plants of this are now (July 20) forming buds at the end of the second break. If these were allowed to remain, as in many instances through want of knowledge on the part of the cultivator, they will develop blooms early in October, and for any purpose of exhi-

bition they will be utterly useless. The blooms would be of large size, but the florets would be narrow as compared with those from buds formed a month hence, and they would only tend to increase the anxiety of the intended exhibitor and add to his chagrin when he saw the petals around the base of the bloom commence to fade fully three weeks before the date of the exhibition. By removing the bud promptly and taking up one single shoot as before on the same branch, buds that will form from the middle to the end of August would certainly prove satisfactory. E. MOLYNEUX.

EARLY FLOWERING CHRYSANTHEMUMS.

MANY excellent kinds have been recently added to this useful class of Chrysanthemums, and they should help to make even more popular a group which precedes those that have given to this plant the name of Autumn Queen. *Lady Fitzwigram* cannot be too highly praised because of its being a white flower, and those growers whose business it is to provide cut bloom in quantity will find this variety a gem for early autumn work. As a decorative plant for the greenhouse it will make one of the most useful, its dwarf character and wonderful freedom of bloom commending it to all. It was raised from seed in this country. *Ryecroft Glory* appears likely to form a deep yellow companion to the last-named, as it possesses a similar habit and is equally free-flowering. Both varieties give large, well-formed blooms if disbudded to about half a dozen flowers to a plant. The soft pink and white *M. Gustave Grunerwald*, which last season was with me so very promising, has this year been good as a bush plant, but I have experienced a difficulty in getting it to produce large flowers on account of a tendency to give bloom-buds instead of leaves. Nevertheless, it is a first-rate kind, and should be excellent for planting in a mixed border out of doors. For this purpose the old stools of the early-flowering Chrysanthemums may be profitably kept in a frame through the winter and planted out about April. Not only will a larger bush than from young struck plants be the result, but they may be expected to flower a fortnight earlier. *Amy Russell* is a pale pink sport from *Mme. Desgrange*, and on that account cannot fail to be esteemed. The *Desgranges* are quite a class in themselves, for from the white type we have *Mrs. Burrell*, pale yellow; *G. Wermig*, a few shades deeper; and *Mrs. Hawkins*, deeper yellow still. I find the last rather more tender than the others; indeed, all of the *Desgranges* are fine-rooted and require delicate treatment in the young stages. They strike best in a little warmth, and may have a greenhouse shelf near the glass till the end of March, at which time they receive the usual cold frame culture. *Mme. Desgrange* and its sports should not be potted in a compost so rich in manure as that used for the bulk of Chrysanthemums, and, like all of the weakly growers, they do not require manure water in a strong state when growing. Returning to the newer kinds, *General Hawkes* attracted some attention last year on account of its rich deep crimson colour. It is a prettily formed Japanese flower of large size when grown for that object, but cultivated for quantity of flower it makes a capital display in a collection. It is not, however, among the earliest, the month of October being really its proper time. Another novelty flowering midway between the forwarddest and those which bloom at the ordinary season (November) is *Gloire de Mezin*. This is a Japanese form, loose and graceful, and of a beautiful light amber shade. The growth of the plant is good, and the leaves a remarkably dark green. *Coral Queen*, as its name denotes, is a very distinct shade, the flower of twisted form. It should become a favourite for cut flowers during early autumn. *Mme. Zephir Lionnet* was much admired when exhibited last year. It is deep yellow, rather small, but exceedingly free-flowering. Among older varieties *La Vierge* deservedly holds its own as one of the very best whites. It makes a

pretty pot plant and blooms well out of doors. *Souvenir de M. Menier* is still a favourite with me. It makes a noble bloom when disbudded to three on a plant. *Sydenham White* must give place to the first named in these notes. Some of the pompon or small-flowered varieties are pretty planted in mixed borders, and are also welcome for cutting purposes. *Piercy's* seedling, bronzy yellow, makes a nice bush plant for pot work as well. The same may be said of *L'Ami Conderchet*, creamy white. Its growth is bushy and loaded with flowers. *Mrs. Cullingford*, bluish white outside and pure under glass, is a most useful kind, and *Mignon*, yellow, makes a capital bedder. Little *Bob*, crimson, is similarly adapted. *Lyon* is a well-known rosy purple flower; its shaded red sport, *Alice Butcher*, should be equally so. *Blushing Bride* must not be left out, being an excellent sort for early flowering.

After the August and September bloomers come those which continue the wealth of *Chrysanthemum* flowers until the bulk come in during the duldest months of the year. *William Holmes* is a brilliant crimson bloom margined old gold. This has been a favourite for some years past, and is still in its way the best. *Mlle. Lacroix*, creamy white, is the perfection of Japanese form and essentially an October kind. It has two sports, the first being *Annie Clibran*, pink, and *Mr. Charles E. Shea*, light yellow, the three forming one of the most useful trios for bush plants, cut flowers, or such purposes yet raised. *Elaine* may still be considered the purest white *Chrysanthemum* known, and for that reason alone cannot be discarded. *Felix Cassagneau* has flowers of nice drooping form of a light buff colour. The growth of the plant is slender, but free, and altogether it is a decided acquisition. *Miss Anna Hartshorn*, although often seen in November, is really an early kind and one of the best. It has loosely incurved flowers, tinted white, with a peculiar wax-like look. *Bouquet de Dame* is a flower not quite so pure as *Elaine*, but more massive and the plant is of dwarfier growth. *Lady Selborne* is another good white. *Cesare Costa* may be named as one of the richest crimson coloured *Chrysanthemums* we have. It must be grown without much feeding with manures, as it is liable to produce wood hollow in the centre, which causes the blooms to damp and decay. A sweetly pretty shade of colour has *Margot*, rose-chamois. It is of easy culture, too, and much esteemed for cutting. *Miss Gorton*, creamy pink, is another kind likely to keep in our lists for some time to come. *W. Tricker*, one of the leading exhibition sorts, notwithstanding its earliness, is also a splendid decorative variety of a delicate pink colour. A few of the incurved *Chrysanthemums* cultivated for early blooming are *Mrs. Geo. Rundle*, pure white; *Mr. Geo. Glenny*, primrose; and *Golden Geo. Glenny*, a deeper colour. These three are very beautiful if grown for a quantity of bloom, and persons who generally object to the incurved class are found to value them. H. S.

ORCHIDS.

STANHOPEAS.

This is a genus of South American and Mexican epiphytal Orchids, containing many beautiful species and varieties, the majority of them highly perfumed. They are closely allied to the *Coryanthes*, but they are somewhat less complicated in their structure; moreover they differ considerably in their habits, for I have been told by those who have collected them that whilst the *Coryanthes* grow upon the tops of the highest branches quite exposed to the fullest sun, *Stanhopeas* grow in the shade. *Stanhopeas* used to be largely grown, but of late years they have been discarded, first, on account of the unsuitableness of the flowers for cutting, and next, because of their perfume,

for with two or three blooms open together their aromatic odour was quite overpowering. Some species, however, are not pleasantly scented, and amongst these may be mentioned *S. graveolens*. This species I have never grown, although I have seen it on several occasions in collections in German gardens. Such is not the case with a remarkable and fine flower of *S. tigrina* which recently came to hand from Messrs. W. and G. Drover, nurserymen, of Fareham. The plant, they say, has two spikes, one bearing two flowers, and the other three. The specimen sent measures fully 6 inches across and is very agreeably scented. When I used to grow *Stanhopeas* extensively I have had plants of the species sent with three and four spikes upon them, but, unfortunately, the flowers do not remain long in beauty, two or three days being the longest they live. The flower-spikes of these plants are always pendent, and therefore pot culture is not suitable for them. They prefer open teak wood baskets, so that the spike can readily find an opening to push its way out. This should be well drained, and I like to use pieces of charcoal for this purpose in preference to broken pots. For soil use good brown peat fibre, *Sphagnum Moss* in about equal parts, and during the growing season give the plants an abundant supply of water both at their roots and overhead. At this season the heat of the *Cattleya* house will be found ample, but in the winter-time, when the plants are resting, remove them to the *Odontoglossum* house, and at this time very little water will be requisite, only enough being given to keep the bulbs from shrivelling. In the summer time water on the foliage is absolutely necessary in order to counteract the spread of red spider and other insects. The following are a few of the very best of the kinds which are now to be found in cultivation:—

S. TIGRINA is the species sent by Messrs. Drover for a name. It is a very large flower, measuring fully 6 inches across, with an unusually large and massive lip; the sepals are much broader than the petals, the ground colour of which is yellow, heavily blotched and spotted with deep purple; the large lip is orange-yellow on the margins, where it is spotted with purple, and it has a large eye-like spot of blackish brown on each side of the upper edge, while inside it is wholly of a deep purple; the middle portion of the lip is in the form of two bent horns, and is thick and waxy in texture, ivory white, profusely spotted and dotted with crimson. The front portion is of the same ivory white, spotted throughout with crimson, the long column broadly winged, flaked and freckled. This plant was introduced to this country nearly sixty years ago by Mr. Hugh Low, of Clapton, the grandfather of the present head of the firm, and the founder of that establishment. It was collected at a considerable elevation, so that it will be found to thrive in a lower temperature than is usually accorded it.

S. PLATYCERAS is another large and handsome species, which I have only seen in the Burford Lodge collection. It was figured in *THE GARDEN* a few years ago (Vol. XXXIII., t. 652). The plant was introduced to our gardens about twenty years ago by Mr. Stuart Low, of the Clapton nurseries, but he never disclosed its native country, and it still remains a rare plant. The sepals and petals are of a creamy yellow, freely spotted with purple. The long column is winged in the upper half, white, dotted and spotted of a purplish hue. It is a most desirable plant.

S. SHUTTLEWORTH, a fine kind of more recent introduction, is named after its introducer. The ground colour is of an apricot-yellow, spotted and blotched with a reddish purple. It is a rare plant at present and yields a delicious odour.

S. EBURNEA.—This is an old species, cultivated in our gardens nearly seventy years ago, but it

still remains a rare plant; the whole of the flower is ivory white, saving a few spots on the lip. I have to correct two errors connected with this species which I have made upon former occasions when writing of this plant. Brazil is not its native country, but the coast-line of Venezuela and other parts of South America; and again I made a mistake in separating this species from *grandiflora*; they are synonymous.

There are many other fine *Stanhopeas*; amongst them may be noted *S. Devonensis*, *S. Wardi*, *S. oculata*, *S. Martiana*, *S. bucephalus*, *S. oculata*, *S. ornaticissima*, *S. insignis*, and others, besides a great number of handsome varieties, which I should again like to see become popular. WM. HUGH GOWER.

Oncidium Gardneri.—A spike of a very fine variety of this species comes from Mr. Appleton, of Weston super-Mare. It is paniculate, bearing many flowers. The ground colour is bright rich yellow, much suffused with bright chestnut, lip large, fan-shaped, rich golden-yellow, having a broad band of bright chestnut brown near the margin, the crest a fleshy mass, studded with numerous waxy knobs. The flowers are very fragrant. This plant comes near to many others, but this now before me is certainly the typical plant named by Lindley, and which first was grown in this country by the Messrs. Rollisson in their nursery at Tooting.—W. H. G.

Oncidium nubigenum comes from Mr. Appleton for a name. It grows at an altitude of from 11,000 feet to 13,000 feet. The flowers sent represent a very good variety, the sepals and petals being of a soft creamy-rose colour, lip three-lobed, white suffused with a rosy tinge, and bearing a violet spot immediately in front of the bright yellow crest. This very charming species, which I certainly consider it, appears to me distinct from *O. cucullatum* or *O. Phalenopsis*. It is a pretty, delicate flower, and I have had great difficulty in keeping the plant in a healthy condition during such weather as we have been experiencing this season, but I have always found it do best in the *Odontoglossum* house, treated to plenty of air especially at night, always keeping a good moist atmosphere.—W. H. G.

Phalenopsis grandiflora.—This plant does not frequently come to hand. Mr. Appleton says in his letter to me, "It is a pity to cut the spike, but it has been out some time, and I do not want to spoil the plant, which has another smaller spike as well." I think it was quite right to cut it. By cutting off the spike the health of the plant is not endangered. This spike bearing a dozen blooms is from a somewhat small specimen, but the flowers are large and very good in shape.—W.

Phalenopsis Stuartiana (*C. Jocelyn*).—The leaves of this have the white or grey blotches peculiar to those of *P. Schilleriana*. The blooms are white, the lower half of the lateral sepals profusely spotted with deep cinnamon on a yellow ground, lip having the same fluke-like appendages in front which are so prominent in *P. Schilleriana*, the basal part densely spotted with rich crimson, crest yellow. The flowers sent, I am told, are from a panicle bearing thirty flowers, which have been open since the beginning of June. The flowers have been on the plant quite long enough and they should be cut. I am in favour of your proposed plan of putting seaweed under the plants, but do not put it too thick or it will rot too soon.—W.

Bulbophyllum barbigerum.—A flowering plant of this remarkable little Orchid in the warm house at Kew attracts just now a good deal of attention from visitors. Like most of the *Bulbophyllums*, it has no pretensions to beauty, but possesses in an ample degree that curious floral structure which is characteristic more or less throughout the genus, and which makes it so interesting to naturalists. The flower-spike springs from the base of the small one-leaved pseudo-bulb, and carries about half a score flowers. These are chiefly of a dull reddish brown, the lip

being furnished with a conspicuous tuft of long purplish hairs. The lip, as is the case with all Bulbophyllums, is lightly balanced on a hinge, so that every movement of the air, however slight, sets up a curious dancing motion. This apparently spontaneous movement of the flower is a source of great wonderment to the uninitiated visitor, and counteracts to some extent the disappointment of learning that every Orchid does not bear a striking resemblance to some insect or other form of animal life, which is still a not uncommon delusion.—B.

Lælia elegans alba (*C. Jocelyn*).—This is the name of the variety of *Lælia* which you send, and a very nice form it is. These light-flowered forms of *L. elegans* are more frequently seen in the spring months than in the autumn. The sepals and petals are pure white, and the lip a rich crimson-purple in front, this colour also lining the margin of the side lobes; throat pale yellow. This is a first-rate companion for the dark varieties which I see are beginning to come in now.—W.

Sobralia xantholeuca.—Several new species and varieties have been added to cultivated *Sobralias* in recent years, but none possess greater attractiveness than *S. xantholeuca*. It is a native of Central America, whence it was first introduced in quantity by Messrs. Sander and Co., of St. Albans, although it had for some time previously been known from a single specimen—probably imported with *S. macrantha*. It has the usual reed-like growth which distinguishes this genus from any other in general cultivation, the stems being 3 feet high and carrying broad, striated, deep green leaves. The flower is 4 inches in width, slightly more in depth. It is entirely yellow, but whilst the sepals and petals are of a pale sulphur shade, the beautiful convolute lip is in the centre of a much deeper yellow and the frilled margin is almost white. Besides possessing such a distinct charm in colour, this species is superior as a garden plant to *S. macrantha* from the fact that the flowers individually last about three days instead of only one, as in the case of the older species. One flower only is open on a stem at once, but a quick succession is maintained, which keeps the plant continually in bloom when once the flowering season has commenced. It should be potted in fibrous loam kept open by a little peat, broken charcoal or potsherds and silver sand. It may be grown in the *Cattleya* house and, like all the *Sobralias*, likes a plentiful supply of water when in growth.—B.

Lælia monophylla.—Quite distinct from any other *Lælia* in cultivation is this charming little species from the mountains of Jamaica. It has never been very common in cultivation, but appears to be becoming better known than it was a few years ago, although its restricted geographical limits and comparative rarity in a wild state will probably always make it uncommon in gardens. Its thin erect pseudo-bulbs—not much thicker than a knitting needle—are usually about 5 inches or 6 inches high, bearing a single narrow leaf 2½ inches long; occasionally, however, two leaves may be seen on one stem. The flower is solitary and measures nearly 2 inches across, the colour being a vivid orange-red. The comparatively unfrequent occurrence of this colour in Orchids, combined with the exceptionally dainty appearance of the whole plant, gives this species a great charm, and it is certainly one which all Orchid lovers will admire. It first became known to European botanists fifty years ago, but its cultivation dates from 1881, when it was re-discovered by Mr. Morris, then director of public gardens in Jamaica. It grows on St. Andrew's Mountains at an elevation of 4500 feet.—B.

The weather in West Herta.—July was the sixth unseasonably warm, and the fifth unseasonably dry month that we have had in succession. Since February only about 4½ inches of rain have fallen, or less than half the average amount for the same period. During the thirty-eight years over

which the Berkhamsted rainfall records extend, there has been no previous instance of so scanty a fall in any consecutive five months. Although rain fell on no fewer than twenty days in July, the total measurement fell short of the average for the month by about half an inch. The soil in my garden still remains very dry at a short distance below the surface.—E. M., *Berkhamsted*.

PUBLIC GARDENS.

The Tower Walk.—It is through the exertions of Mr. Samuel Montagu, member for Whitechapel, that the Tower Walk has been thrown open to the public daily until October. Little doubt is entertained that the concession will be made perpetual. The Walk is an enjoyable promenade twice the size of the terrace of the Houses of Parliament.

Churchyards as open spaces.—On the recommendation of the Parks Committee it was agreed to continue to maintain Carlton Square Garden, Mile End; Holy Trinity churchyard, Bow; Limehouse churchyard; Rotherhithe (St. Paul's) churchyard; Russell Court playground, Strand; Shadwell (St. Paul's) churchyard; Spa Fields playground, Clerkenwell; St. Bartholomew's churchyard, Bethnal Green; Stepney churchyard, and Winthrop Street playground for one year, until October 31, 1894, and that previously to that date the Council do further consider the question.

Recreation ground for Lee.—The Earl of Northbrook and Lord Baring have consented to pay one-half of the cost of the purchase of a piece of ground, eight acres in extent, in Manor Lane, Lee, for the purposes of a recreation ground. The price of the piece of land is £6400, and, deducting the one-half referred to and a further sum of £2000 which the Parks Committee are prepared to recommend the London County Council to contribute, the amount required to be raised in the locality is only £1200. This it is thought can be obtained without much difficulty, and if not subscribed by the residents will probably be paid out of the rates, forming a charge of only a farthing in the pound for thirty years.

Another open space.—One of the historic parts of the New River, between Canonbury Tower and the Old Thatched House, has been recently covered in and laid with turf, and the Earl of Meath and the Public Gardens Association have offered to lay out the space as a public recreation ground if the Islington Vestry will thenceforward maintain it. The spot in question is picturesquely situated, and the Old Thatched House portion is remembered as a pleasure space a score of years ago. As a recreation ground it will be peculiarly acceptable inasmuch as it is surrounded by poor property. It is understood that the New River Water Company are agreeable to the proposal, and as the Islington Vestry have accepted the suggestion of Lord Meath, this boon to Lower Islington may be looked upon as settled.

National Rose Society.—As inquiries have reached us as to the character of the circular recently issued by Mr. C. J. Grahame, owing to the circular and envelope being headed "National Rose Society," we think it should be clearly understood by our members (1) that Mr. Grahame has resigned his position as a member of the committee; (2) that the document in question has no official sanction whatever.—H. HONEYWOOD D'OMBRAIN, EDWARD MAWLEY, *Hon. Secretaries*.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held on Tuesday, August 8, at the Drill Hall, James Street, Victoria Street. Mr. J. G. Baker, of the

Royal Herbarium, Kew, has promised to deliver a lecture on Cannas at 3 o'clock, and the council will feel obliged to exhibitors who will endeavour to make a special feature of these plants on that day. There will not be another meeting in the Drill Hall until Sept. 12, owing to the intervention of the four days' show at the Royal Agricultural Hall, Islington, from Aug. 29 to Sept. 1.

Gardeners' Orphan Fund.—The monthly meeting of the committee took place on the 28th ult. at the Horticultural Club, Hotel Windsor, William Marshall in the chair. In the course of the evening several matters of interest connected with the administration of the fund were discussed and reserved for further consideration. The following special receipts were announced: From Mr. J. Lyne, The Gardens, Foxbury, Chislehurst (local secretary), £16 ls.; Mr. G. W. Cummins, The Gardens, The Grange, Wallington (local secretary), sale of flowers at Croydon show, £8; collected at the Wimbledon flower show, £4 2s. 6d.; and box per Mr. T. Kneller, The Gardens, Studley Royal, Ripon, '9s. After the transaction of some routine business, the committee adjourned until the last Friday in October.

Death of Mr. William Thomson, Jun.—We regret to have to record the death from pleurisy on Sunday, July 30, at the age of 44, of Mr. William Thomson, Jun., eldest son of Mr. William Thomson, of the Tweed Vineyard. About a year ago he had a severe attack of influenza, from which he never completely recovered. Previous to going to Clovenfords, he was for many years in the National Bank of Scotland in Edinburgh. He leaves a wife and four young children. He remains were buried on Wednesday in the little churchyard at Clovenfords on the banks of the Gala water.

Names of plants.—*F. B.*—*Rudbeckia* Newmanni; 2, 3, 4, the Golden Rod (*Solidago virgaurea*).—*L. C. Boblink*.—Maiden's Wreath (*Franea ramosa*).—*F. P. B.*—*Lilium testaceum*.—*J. E. S.*—We cannot name from leaves only.—*W. & G. Draver*.—*Stanhopea tigrina*.—*F. Wheatly*.—1, *Oncidium Gardnerianum*; 2, *Cattleya gigas*, a somewhat small flower, but of good colour.—*G. T.*—*Epidendrum vitellinum majus*.—*F. Sharp*.—1, *Phagopteris trichodes*; 2, *Loxogramma lanceolata*; 3, *Cycloptelis semicordata*; 4, *Davallia pentaphylla*; 5, *Microlepia cristata*; 6, *Odontosoria tenuifolia*.—*H. B.*—1, a form of *Vanda Roxburghi*, nothing at all like *Saccolabium curvifolium*; 2, *Oncidium divaricatum*.—*G. Fischer*.—*Cotyledon mamillaris*.—*H. Weller*.—*Higginsia refulgens*.—*E. Semper*.—*Buphthalmum speciosum*.—*T. W.*—*Epacris paludosa*.—*J. Waters*.—1, *Epidendrum Wallisi*; 2, *Cattleya granulosa*; 3, *Oncidium bifolium*.—*G. Green*.—*Maxillaria nigrescens*.

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No. 1134. SATURDAY, August 12, 1883. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

ORCHARD AND FRUIT GARDEN.

A BIG CROP OF APPLES.

RECENTLY on riding through a fertile valley in Wiltshire I was agreeably surprised to see how well the Apple trees were furnished with fruit. Those on quite low ground were carrying better crops than I expected to see, while all on slopes or rising ground were literally smothered with Apples. What about the quality will be the first inquiry? and here again I must express surprise at what is to be seen. Large the fruit are not by any means, but, considering the weight of the crops, not much fault can be found. Those trees on low ground, not being so heavily laden and not feeling the drought so much, might have been expected to produce finer fruit than those in more elevated positions, but such apparently is not the case. In all probability the best flowers were killed and the rest crippled somewhat by spring frosts, this accounting in several instances that I have inquired into for the smallness of the fruit. From various other counties, including Dorset, Devon, Worcester, and Herefordshire, I hear much the same report, Apples being very abundant, but wanting in size. In the two first-mentioned districts I saw the trees when in full bloom, and on the majority of old standards there appeared to be more bunches of flower than healthy leaves, and the great drought following upon this stunted growth looked at one time like spoiling everything. Luckily the change came in time to save the Apple crops, and now that these promise to be worth gathering the question arises, What is to be done with the surplus produce?

As far as producers are concerned, extra heavy crops generally are not desirable. They take a lot out of the trees, and the market returns scarcely compensate the grower for the trouble of gathering and marketing even. Previous experience ought to make the owners of orchards more chary of sending anything and everything to the markets, but instead of adopting more sensible methods not a few of them give up in despair. Either they sell all the fruit as it hangs on the trees to the highest bidder or else convert the bulk into cider. It is true immense quantities of Apples, grown more especially in the south-western counties, are of no value other than for the latter purpose, but there are very many that might be more profitably turned to account if only the owners went the right way to work in the matter. At present farmers or those who only send fruit to the markets casually have a bad reputation among salesmen. They cannot be trusted to pack and send Apples either sensibly or honestly, and as a consequence their consignments never realise good prices. In the first place there ought to be no general mixing of varieties. When early and late, dessert and cooking varieties are all jumbled up together the consignment is fit for nothing but the pigs, and this season those who still follow this absurd practice will find their returns scarcely cover the cost of carriage. Unfortunately, very many of the varieties still largely grown in old orchards are unrecognis-

able by experts, local names being all that can be given them, and that by local people. It ought, however, to have long since been determined whether they will keep or not, and for what purpose they are best adapted. Instead of rushing all indiscriminately into the nearest markets, there ought to be some system of selection and storing adopted. Let those that are fit for use early be marketed direct from the trees, the midseason varieties being stored in heaps under the trees and roughly protected, and the rest or all that will keep late be placed in cool, dry rooms or sheds. All being properly placed on market according to their season, remunerative, if not exactly the best, prices will be obtained for the lot.

Directly the great glut of Plums is exhausted there will be a better demand both for dessert and cooking Apples. Many of what are known as August Apples are already over or nearly so. Margaret, Early Harvest, Irish Peach, Devonshire Quarrenden and Beauty of Bath are all over with me, and to all appearances the earliest cooking Apples will not keep long. In any case it is advisable to at once lighten the crops of Keswick Codlin, Lord Sutfield, Stirling Castle, Jolly Beggar, and such-like early soft varieties, and fairly good prices will most probably be given. What, however, salesmen prefer are showy Apples of the stamp of Worcester Pearmain, Duchess of Oldenburg, Cox's Pomona, Emperor Alexander, Heary Morning, Manks Codlin, and that very attractive-looking west-country variety Tom Putt. These can be sold readily in quantity for either cooking or dessert, and obtain the best prices accordingly. Few now-a-days need be told that good samples of Blenheim Orange will always realise good prices, this being one of the sorts that ought to be stored for early winter use or sales. Cox's Orange Pippin is not often found in the older orchards, but what there are of it on the younger trees ought certainly to be taken good care of. Of Sturmer Pippin I have seen several fine trees, the value of which their owners were surprised to learn. It should be remembered that this is probably the very best late dessert Apple we have, and pays well for storing till the spring. D'Arcy Spice has not as yet spread far beyond a district in Essex where it originated, but all who, fortunately for themselves, have good trees of this excellent late dessert Apple should take good care of the produce.

Very much more might be added as to the value of different varieties, but my object is to serve the owners of old orchards rather than those in charge of a few named garden trees, and will therefore conclude with a few more general remarks. In addition to keeping the sorts separated as much as possible, more pains ought to be taken with the gathering than farmers, as a rule, think necessary. Instead of either shaking off or thrashing down the fruit, the best of it, at any rate, ought to be gathered and brought down from the trees in bags slung across the men's shoulders. There can be no excuse this season as to scarcity of labour, there being only too many able men who would be glad of a job of any kind. A responsible person, and not careless labourers should attend to the sorting over and packing. All under-sized or unsound fruit ought to be thrown on one side, none but sound, good-sized Apples meeting with a ready sale at remunerative prices in years of plenty. There should be no topping up, that is to say, no putting a lot of much mixed fruit at the bottom and finishing off with only the very best, as this is a very stale and long since "played-out" trick. Sieves and

hampers can usually be had from leading market salesmen in provincial, as well as metropolitan markets, and if the first consignment is found to give satisfaction, the next will receive better attention accordingly, and *vice versa*. Senders by rail who prefer to pay carriage on their produce should also insist upon their hampers going at what is known as traders' rates, this making a very material difference to the prospects of the venture. Sell all the windfalls and mixed samples generally locally, as it is very certain it will not pay to send these to a distance this season. I. M.

A LONG SUCCESSION OF STRAWBERRIES.

THIS fruit this season was soon over. I gathered good fruit for a period of nearly five weeks from the open ground, so I cannot complain much as regards a short season, and when I write of gathering for that time, I do not mean a few stray fruits, but daily supplies. As regards size, there was little to complain of in the early lots, but as the season advanced, daily gatherings were imperative if the fruit was required to be sent any distance, as owing to the excessive drought and heat it was soon spoilt if allowed to remain when ripe. When fine ripe fruit of Noble grown in the open, merely protecting the bloom, can be shown early in May, as was done by Mr. Iggulden at a meeting of the Royal Horticultural Society on the 9th, it shows what can be done by growing various kinds and thus securing a long succession. Though Mr. Iggulden was ahead of me considerably, as I did not gather the same variety till the 16th, still the latter date shows the earliness of the season, as I did not protect in any way, the plants being grown at the foot of a wall on a south border. Years ago, before Noble was introduced, I used to adopt the three years' system of culture, but seeing others get such excellent results from young plants, I adopted the plan of only taking one crop. I admit this plan is not practicable in all gardens or with all varieties. Want of space and deficiency of labour to prepare runners must be taken into consideration when the fruit is cultivated for size and in a given time, as it is useless to plant out weak runners at the end of the autumn and expect good results the next summer. Indeed, one cannot plant too early, and you cannot get vigorous runners in July if you have taken a crop of fruit; hence the necessity of getting them from maiden plants. This is not always practicable in a small garden and it is not always possible to buy. To get a long succession of fruit, the planting or preparation is the chief point in the production. I admit we have made rapid progress in the way of variety, earliness being the chief point; but we must not lose sight of another equally important one in private gardens—that is flavour.

John Ruskin was a little later than Noble, and a Strawberry not so much grown as its merits deserve, viz., Pauline, was only three days behind John Ruskin and King of Earlies. Pauline, I admit, is not a handsome fruit, but it is of good flavour. As will be seen, there is a lack of early fruiting kinds. Vicomtesse Héricart de Thury follows these early varieties very closely, and is still one of the best Strawberries grown. In this note it is scarcely necessary to travel over ground often traversed and give the qualities of the mid-season kinds, such as La Grosse Sucrée, President, Keens' Seedling if true, British Queen, and the Pine section, of which Elton is a good type. I would now point out the value of the late varieties. Waterloo with me this season has done badly, being very much infested with red spider, and, strange to say, I find it does worse on a north border than an east, and it does not produce runners very freely. Where it does well it is late, and prolongs the season. Jubilee should be included in all collections where late fruits are desired. It is a grand dry weather Strawberry. This variety I had in quantity four weeks after the others had been in, and another point in its favour, it does equally well a second year. This variety

I grow in two lots, getting one a few days in advance of the other. Latest of All on a north border is our last one in fruit, and I cannot praise it too highly. This is a seedling from British Queen and Helena Gloede, bearing large wedge-shaped fruit of grand flavour, almost equal to that of British Queen. It is not so vigorous in growth as Jubilee, but it is very valuable, as it forms a succession to it and thus ekes out the season. I have named the above as forming a long succession, and by planting these late kinds in various positions there will be no difficulty in securing a long fruiting season. G. WYTHES.

STRAWBERRIES IN THE OPEN GROUND.

THE past season was a short one for this crop in most districts. This was especially so in districts where the cultivator had to depend on old plantations, for these, owing to the lack of moisture in the early part of the season, were not able to develop their flower-spikes properly. As a consequence the fruit was small and imperfect. If the same pains were taken to secure strong plants for the open ground as are evinced in procuring those for forcing, fewer complaints would be heard concerning poor crops and small fruit. I invariably prepare a sufficient number of plants each season to replace those taken up, so that about the same number may be in full bearing annually.

ESTABLISHING THE PLANTS.—The soil used for this purpose consists of about a half of well-decayed manure and half loam taken from an old Cucumber bed. This is passed through a half-inch sieve to mix it thoroughly and render it fine enough for use in small pots. In such a mixture the plants soon take root and become established. For layering, 3-inch pots are used, and these being filled with the above mixture (no crocks are used) and taken to the beds where plants are growing are plunged up to the rim. The best and strongest runners are then selected, one being pegged down in the centre of each pot and stopped at the first joint. These soon root, and by the end of July or beginning of August have filled the pots and are ready for planting.

PREPARING THE GROUND.—Strawberries delight in a rich fertile soil, and for this reason special preparation is necessary, where the soil has become at all exhausted, to encourage growth as much as possible. If it is intended to plant on a piece of ground lately occupied by another crop, a liberal dressing of manure should be given, and the soil afterwards dug as deeply as its depth will allow, care being taken not to turn up any of the poor subsoil. In doing this all clods on heavy ground should be broken to pieces, so as to render the soil as fine as possible. Rows should then be marked out, in which operation the cultivator must be guided by the quality of his ground. If it be strong and in good condition he should allow a distance of 2 feet 6 inches between the rows, but if, on the contrary, the soil be shallow and light, then 2 feet will be found sufficient.

PLANTING.—This may seem a simple process to some, but on it the well-being of the plants depends to a great extent. No one would think of simply putting a plant into a pot and then filling the latter with soil; on the contrary, the mould is rammed firmly round the ball till all is as hard and firm as if the plant had been growing there for years. Yet how little pains is bestowed on plants in the open. They are often just stuck into the soil and left to grow haphazard, and if by chance the weather is dry at planting they may get a little water, but as often as not they have to do without it, for planting is too often delayed till it is too late in the season for the plants to make any progress. When planting, make a hole in the centre of the fresh soil that was brought, and turning the plant out of the pot put it in so deep, that the base is about an inch below the level of the surrounding ground. Then with a blunt stick ram the soil round till all is quite firm; it will then be seen that each plant is in a shallow basin. Planting

should never be done if the soil is too moist to admit of its being made quite firm, for unless the roots can take a strong hold of the soil growth will be unsatisfactory. The foliage will be soft and flabby, and the crowns will not ripen thoroughly.

WATERING.—Plants in pots that are prepared for forcing have every attention paid to them in this respect; then why should not those in the open ground be similarly treated? As before remarked, there is a hollow or basin round each plant, and if the weather prove hot and dry, watering will be needed three or four times a week. Such weather often occurs in August and September, and when this is so, special care is required if the plants are to make steady progress. They will not only require watering regularly, but will benefit by the application of weak doses of liquid manure. If this cannot be had, sprinkle the surface of the soil round the plants with artificial manure once a week after the plants have become established, which will be in about a fortnight after planting. Assuming this to be done the first week in August, the plants would grow up to the middle of October or even later during a mild season.

SUBSEQUENT TREATMENT.—All runners should be removed as they show themselves. Weeds must be kept down so as to admit all the light possible, and by the time the plants have done growing, large, plump, well-ripened crowns will be the result. Should the winter be severe, it will be well to cover the crowns with Bracken or other litter during hard frost, but this should be removed when a thaw sets in, or the plants will suffer from damp. Plants so treated will produce good crops of fine fruit the first season, and though the crop may not be so heavy as on two-year-old plants, the fruit will be larger and in every way superior. P. H.

Caterpillar destroying Grapes.—For the past few weeks my Grapes have dropped off. This, I thought, was caused by a mouse, but this morning I found the enclosed grub that I feel sure has caused the mischief. I have sent a few Grapes so that you can see how they have been damaged.—J. C.

* * In reply to the above from "J. C.," the caterpillar which you sent, and which had injured your Grapes, had begun its transformation into a chrysalis before it reached me, so that I am unable to name it more definitely than to say that it was the caterpillar of a small moth belonging to the family Tortricidæ. I do not know of any satisfactory plan of destroying caterpillars which attack Grapes but carefully examining each bunch and picking off the pests. Any insecticide which you might apply would injure the fruit, unless it was very young, by giving it an unpleasant flavour and spoiling its appearance. The moths will probably emerge from the chrysalides in the course of the next month. It is always a good precaution to kill any small moths you may find in a viney or other glass house, as their caterpillars are sure to do harm. Out of doors it is difficult, as any mischief they may do is not so much noticed. They are exposed to many natural enemies, and some caterpillars are really useful in destroying weeds.—G. S. S.

Fire heat for Grapes in hot weather.—I have not the least doubt that the recent hot weather will have led many people to dispense with the use of fire heat in their vineries, thinking that the continuing of it, besides being quite unnecessary, would be also injurious to the well-being of the Vines. Economy is often put forward as the reason of this proceeding, but I am certain that it is quite the opposite. The Grapes apparently may be going on satisfactorily as to colouring, but this will be only fleeting, as I am certain if fire heat is wholly withdrawn, at the close of the season there will be an outcry as to the shrivelled state of the berries and their not keeping well. Various reasons will no doubt be given as to the cause of this unsatisfactory state of things, but the proper one, the want of fire heat during the growing season, will very likely not be

thought of. If good Grapes worthy of the name are to be produced, fire heat should not be dispensed with for a single night, let the weather be ever so bright. That late Grapes will be coloured much earlier than usual there can be no denying, but this is no reason why fire heat should wholly be dispensed with. Not much is required certainly, but the pipes should certainly be luke-warm not later than 7 p.m., and on dull days the whole time. Where fire heat is not used, the temperature may apparently feel comfortable at night and also very likely at 6 a.m. in the morning, but between these times there will be a cold clamminess that anyone would little dream of who has not entered vineries during the early hours of the morning. On account of the Grapes and foliage being colder than the surrounding atmosphere, moisture will quickly condense upon them, and, as I have pointed out in a previous note on "Bloom on Grapes," this is also in danger of being spoiled. To think of producing good Muscat Grapes without fire heat at night-time during even the warmest weather is an impossibility.—A. YOUNG.

CROPPING YOUNG VINES.

I FEEL convinced that if Vines were not allowed to carry a single bunch during the first two years of their life a much greater weight of fruit could be taken from them in after years. The bearing powers of many Vines are undoubtedly wonderfully lowered by overcropping in the earlier stages of their existence. There is a natural desire to get a crop of fruit as soon as possible after planting, but it would be better if the first thought was given to securing strength and permanent fertility in the Vines. It would be interesting to note the difference of girth of stem in two sets of Vines, one of which had been cropped in the ordinary way from the first year after planting, the other not having been allowed to fruit during the first two seasons. The disparity would, I feel sure, be considerable. It requires, however, more self-denial to wait until the third year from planting than most Vine growers are possessed of. Growers for profit are naturally anxious for a quick return on the outlay incurred in building and planting, the modern system being to crop heavily and feed liberally from the time the Vines come into bearing. Very few would care to wait a couple of years before taking a bunch of fruit from their Vines however great the advantages might be in the long run. Cropping very lightly for the first two years is, however, very different from taxing the capacity of the Vine to its full extent. Four years ago I planted a couple of Alicante Vines at the end of a lean-to house. The first year I stopped them when they had made about 6 feet of growth, and then they ran up to the full extent of the rafters, which are 14 feet in length. The following winter they were cut back to where I had stopped them the previous summer. They showed well for fruit, but I allowed each Vine to bear two bunches only. The following year they carried four bunches each. Last year I took from them 41 lbs. of Grapes, every bunch finishing off well, the berries being black as Sloes and with perfect bloom on them. As the stems only touch the rafters at about 18 inches from the front plate, and I allow 18 inches at top for extension after the berries set, there were but about 11 feet of bearing wood to each Vine. From Vines of that age I doubt if it would be possible to finish off a greater weight of fruit. Had these two Vines been cropped to their full capacity from the time they came into bearing condition, it would not have been possible to take that weight of well-coloured Grapes from them without lowering their vitality. When Vines are cropped rather beyond their powers during the first two or three years, they do not seem to be able to do themselves justice in after years. J. C. B.

Preserving Grapes from wasps.—I would advise "J. W." to get some "toiletting," which is a kind of very coarse muslin, and have some made into bags for preserving Grapes from wasps. If

the bags are put on carefully and made large enough to hang loosely, no bloom will be rubbed off. This is a cheap and effective remedy, and the bags last for years with care.—A. LONG.

Fruit in Surrey.—Since I sent you a few notes respecting fruit in one part of Surrey I have been very much about Farnham and Banstead, having had ample opportunities to see the condition of the hardy fruit crops in essentially rural districts. About the former district, and especially in the Rowledge area, the crops of Apples, Pears, and Plums are truly wonderful. I must have seen literally thousands of bushels of fruit in the course of a moderate ride, the trees forming grand pictures just now, the Apples especially putting on much colour. Even Lord Suffield there colours appreciably on the base as the fruits hang on the boughs. Red Quarrenden, Barchard's Seedling, and Duchess of Oldenburg are grandly coloured. Many varieties it is difficult to name without close inspection, but there are good size generally and a wondrous crop. Williams', Calabasse, Louise Bonne, and some other well-known Pears are in immense profusion, and of Plums, Green Gage, Gisborne, Washington, Victoria, Orleans, and others are very heavy. The general estimate is that the hardy fruit crop is one of the finest ever known, and I think, so far as I have seen elsewhere, the county of Surrey is entitled to take very high rank for its fruit production. That is doubtless due largely to its sand and chalk substrata, which are usually cool and sweet. The inference is that it is a county which may well receive greater attention for fruit culture. Some of the best crops are found on the high districts, showing that an ample circulation of air is conducive to fertility of the bloom, whilst in such cases colour always forms a most prominent feature. We may expect to have all hardy autumn fruits exceptionally cheap for a time presently.—A. D.

Hale's Early Peach.—I do not think this variety is grown in the open as much as it deserves. It is a very good variety, and comes in useful just as the fruit indoors is getting scarce. This season I gathered good fruit from a south wall the third week in July. I do not care for some of the American varieties of Peaches, as some are very deficient in flavour, but Hale's Early, besides being very early, is also of good flavour. This variety is not fastidious as to soil, as it will do well in light or thin soil, and with me rarely fails to crop freely. I have also seen it do well on an east aspect; indeed, on the latter it produces finer fruit and of such good quality, that one could have imagined it to have been grown in a case or cool house. I do not grow it under glass, as I prefer Amsden June, being larger, but for a late or unheated Peach house Hale's Early may be planted with confidence as to its setting and free-cropping qualities.—G. WYTHES.

Ripening Peach wood and pruning.—Both Peach and Nectarine trees are making a free growth where they have been liberally treated. I would point out the necessity of thinning or pruning as soon as possible in the early autumn, this admitting light and air and allowing the shoots required for next season's fruit and furnishing of the trees to get fully matured. If due attention is now paid to the ripening of the wood, there will be less canker and gumming. I would advise going over the trees frequently during the summer months, removing useless wood, so as to do away with excessive pruning at one time. Of course, where summer pinching is duly attended to, there will be less need of severe cutting; but it often happens through press of work that this cannot be attended to, and recourse must be had to thinning at this date, and the earlier it is done the better. I have seen many failures with this crop through the branches being grown too thickly and then cutting them away all at once. Peach and Nectarine trees can be lifted successfully in the autumn before the leaves fall, and I refer to this to point out that I do not advise excessive pruning, but would prefer lifting to check gross wood, especially in young trees. There is often far too much wood left at the winter pruning, and, of

course, without careful dishudding, overcrowding cannot be avoided. Some varieties grow more vigorously than others and should get more room. For instance, Royal George—one of the best-flavoured Peaches grown—suffers badly from mildew if the branches are at all crowded. It is useless to lay in a lot of wood and then have to remove a large portion of it early next year. Giving a little time to Peach and Nectarine trees now is time saved, as there is less to do in the spring and the trees present a neater appearance. Unnailing in the winter is an easy matter, and though an old-fashioned plan, I still adhere to it. The trees, too, are more easily cleaned when the wood is thin.—G. WYTHES.

NOTES OF THE WEEK.

Verbena venosa.—We do not see much of this fine old plant in gardens. It is very handsome, the purple-violet flowers being produced very freely, and they last long in beauty. In Mr. Morse's nursery at Epsom this Verbena is pleasing. It is excellent for massing.

The Water Lily house at Kew is in perfection now, the Water Lilies being in full bloom. They are in beauty about 10 o'clock, and all the leading species and varieties are in the collection. We noticed *Nymphaea Laydekeri rosea* in bloom—a rare and beautiful kind, recently described in THE GARDEN.

Tropæolum Vesuvius is a fine variety for bedding. It is used largely at Kew and the plants are very bright. They are compact, bushy, and the bluish glaucous leaves are almost hidden by the brilliant scarlet flowers. It does not run to leaf and comes very true. This exceptionally dry summer has just suited the Tropæolums.

Castilleja indivisa is in full bloom on the Kew rockery. It is a comparatively rare plant, but deserves to be more known, as at this season it is very bright, especially when grown in a large clump. It is a half-hardy annual and amenable to the same treatment as the majority of its class. The flowers are not showy, as it is the bright orange-scarlet bracts that form the great feature of the plant.

Rubus odoratus.—This is a lovely summer-flowering shrub when seen growing in its own way, as in the Wisley garden of Mr. G. F. Wilson, where there is a superb mass of it. It is only when permitted to spread that its true beauty is revealed. If cramped for space it is utterly spoilt. The growth is very robust and the leaves large, whilst the rich rosy purple flowers are produced in profusion, making a fine contrast to the foliage.

Lilium Leichtlini.—This charming Lily is one of the prettiest of the family in bloom at this season. A coloured plate was given of it in THE GARDEN, April 8, 1882, and doubtless if it were more easily grown it would be amongst the most popular kinds in cultivation. The flowers are delicate yellow, almost primrose in colour, and freely spotted; whilst the segments reflex somewhat in the style of those of the Tiger Lilies. It is not, however, a Lily for every garden.

Agapanthus Mooreanus is a charming form of *A. umbellatus*. One gets a little tired of the latter, as it is used so much in gardens, but *A. Mooreanus* is a change. It requires similar treatment, and in a few favoured spots in the more southern counties it will live out of doors, but as a rule it is not sufficiently hardy to trust entirely in the open. The whole plant is much smaller than the type, but does not lose in beauty. There is a certain delicacy of aspect in the slender scapes of blue flowers.

The French varieties of Canna are more often seen this year than heretofore, but they have not been altogether satisfactory owing to the severe drought. It is not wise to use them too freely, as they cannot in England attain such splendour

as in the South European gardens. We have, however, seen lately several very good beds with a fair display of bloom. The great thing is to get varieties of rich, decided colour, not too many of the striped, blotched, or spotted kinds, which are more attractive under glass.

Fruit growing in California.—We hear so much about the advantages of California for fruit, &c., that the note below is surprising.

The country banks in California are so pressed for coin that they refuse to make the customary advances either on wheat or fruit, and the result is that grain in many places is going to waste because the ranchmen have not money to pay for harvesting; the case is still worse with growers of fruit, because there is no market for it in the orchard. The canneries are all idle since the banks have failed to make the usual advances, so that only a small part of the fruit crop is being dried by women and children.

Hardy Fuchsias are in full beauty, and we noticed in a warm border skirting the temperate house at Kew several kinds in bloom. *F. Riccartoni*, *F. virgata*, and *F. gracilis* were noteworthy, each a little bush and smothered with rich crimson flowers. There is a charming grace about the hardy Fuchsia, and we think it might be much more planted even near large towns if a spot not too cold or exposed be found for it. We remember the fine effect produced by splendid bushes of *F. Riccartoni* in the gardens at Tan-y-bwlch, North Wales, where it succeeds well used in association with Hydrangeas.

Lilium tigrinum at Kew.—This splendid Lily is in perfection just now in the Royal Gardens, Kew, and we have never in any garden seen such a mass of one kind. The variety is splendens, which is the finest of the tigrinum section, the flowers borne with great freedom, whilst individually they are large, and brilliant orange-scarlet freely spotted with chocolate or a similar colour. The Lilies are most freely planted near the Palm house, and this variety is represented by large masses not only amongst shrubs, but also near the group of Arancarias. The effect of the brilliant flowers against the dark green of the Arancaria is remarkably striking.

The Watsonias.—We were pleased to see a few days ago in the Royal Gardens, Kew, plants of *W. marginata* in full bloom. Not sufficient use is made of this interesting class, and although scarcely so easy to grow as some things, no great difficulties have to be overcome. *W. marginata* is a delightful kind. The flowers, produced on a slender stem, are borne close together, which makes the soft rose-purple colour the more effective. A good mass of them is charming, and we hope that these handsome Cape bulbs will be more grown in the future. There are not a great many kinds, and the position for them must be sunny, not too exposed, and the soil light.

Fuchsia fulgens.—One seldom sees this fine Fuchsia used for bedding, and we are pleased to see that there is a single bed of it in the Royal Horticultural Society's gardens at Chiswick near the old council room. *F. fulgens* is such a bold, handsome plant, both in leaf and flower, that it should be more planted in gardens and parks. The leaves are large, abundant, and of a distinct glaucous tint, which is well contrasted with the free display of long tubular scarlet flowers. A single specimen of it would make a good feature; at any rate, such a fine old-fashioned plant is worth taking care of. It is a pleasure to see that in the London parks more attention is being paid to the older types of Fuchsias, which make splendid beds.

Carnation blooms.—We have much pleasure in sending you a box of Carnation blooms cut from the open from layers planted outside last autumn. Carnations are with us the leading feature, and we grow all the sections extensively, in which appear not only the older standard favourites, but also the newer introductions. One of the finest things yet brought out, and admitted so by the best authorities, is one we are distributing this autumn for the first time, named Lady Nina Balfour, a full description of which we herewith

enclose. As evidence of its merit we may mention that it has been ordered for the Royal Gardens at Windsor, Sandringham, Laeken (Belgium), and quite a number of the leading garden establishments in all parts of the country.

Roscoea purpurea.—It is not very often one sees this fine old plant in gardens, and any position will not suit it. In the warm sheltered border of light soil skirting the Orchid house at Kew it succeeds well, and for several weeks past the healthy clumps have been in full bloom, the flowers opening in succession. They are not very showy, but produced freely, purple in colour, as suggested by the specific name, and very pleasing peeping out from the wealth of pale green leafage. It is not troublesome to grow under such conditions, and a border like this will accommodate many charming plants that it is impossible to grow in full exposure. This species of *Roscoea* was introduced from Nepal in 1820, and has therefore been long in English gardens.

The Cyrtanthuses.—Usually these are grown in a greenhouse, and properly so, but in a favourable position they can be trusted in the open, where in a warm, sheltered spot they will bloom throughout the summer. This note is prompted through seeing a bed of them at Kew, where several kinds are blooming freely near the Orchid house. Here in a sheltered spot and light soil, raised considerably above the surface to throw off damp, these Cape bulbs are at home. We should not recommend them to be grown in this way in every garden, but where means are at command such a bed is a change from the various other arrangements that tire one through their monotonous aspect. The two chief kinds used are *C. Mackeni*, which has creamy white flowers, and the yellow-flowered *C. lutescens*.

New Water Lilies from M. Latour-Marliac.—We have had some charming flowers of new Lilies from this distinguished raiser, who has given us some quite new and charming aspects of hardy plant beauty. A new kind of flower garden is to come soon, and that is the garden of water flowers. There are many garden waters which might be full of lovely things that one hardly ever sees with a plant. For instance, the lake in front of the Palm house at Kew might be a garden picture of beautiful water flowers instead of being devoted to the unclean water-fowl that are now its only "ornament." I have seen this year pictures of our own Water Lilies alone. How much more may we do with the noble Water Lilies of all colours, for which flower lovers must be for ever grateful to to M. Latour-Marliac.—W. R.

Crinum Powellii.—The flower of the week is this sturdy *Crinum*. It has not failed us now for some years, but probably was never before quite so good as now, having revelled in the great heat, whilst there has been an absence of wind storms which usually tear and in some degree injure its fine leafage. Now, however, the leaves stand out, some of them over 6 feet in length, and from each mass of leafage stands boldly up a stout spike 4 feet high crowned with about a dozen buds and blooms. The buds are quite crimson, but they open into a lovely soft pink flower. Happily, all do not come at once, but in succession for several weeks. This is the most important *Crinum*, and at the foot of a wall it would be happy in hundreds of gardens. Its lovely colour and form are admirably shown in the coloured plate which appeared in *THE GARDEN* of January 25, 1890.—A. H.

Hyacinthus candicans.—This is, perhaps, better known as *Galearia candicans*, but both names are freely used. There are few handsomer Cape bulbs in cultivation than this and few so easily grown, whilst from seed it flowers in about four years. This season the spikes are dwarf, owing to the long drought, and the plant thus loses in beauty. One does not care for it much unless boldly grouped with other things, its sturdy spikes needing some relief in the way of shrubs. This is gained by grouping it amongst evergreen shrubs, and it is especially striking when associated

with the crimson-flowered *Fuchsia Riccartoni*. At Tan-y-bwlch, in the Festiniog valley, North Wales, Mr. Roberts (the gardener) makes good use of the *Galearia*, and, we may remark, of hardy flowers in general, grouping them in a bold and picturesque way. It is in perfection, fortunately, at a time of year when we look for a change and the flowers of early summer are practically over.

Everlasting Peas.—Much is said now-a-days about Sweet Peas, and justly so, but I doubt if the Everlasting Peas are not equally valuable from an ornamental point of view. It is astonishing the length of time Everlasting Peas will continue in bloom when in good soil, especially if they are given a good watering with manure water when in full growth. I have some large patches of *Lathyrus latifolius* and its white form growing near to my cottage. I place some long Fir branches around them every spring from 8 feet to 10 feet high, and they have grown above these some 2 feet or 3 feet this summer. They are grown in this way to hide a brick wall and serve another purpose, viz., to cut from for filling vases. Few things are more charming than a handful of the white kind placed in a vase mixed with *Mignonette*. I find them most useful for filling small glasses for placing on the dinner table, and when thus used they are much appreciated. Our plants have been in bloom for over two months, and now (August 4) they look as if they would continue for many weeks to come.—J. CROOK.

The herbaceous Lobelia is one of the finest plants in bloom now. We have seen it well used in many of the London parks, and in the bedding arrangements at the Zoological Gardens it is always a fine feature. It is only within comparatively recent times that *L. fulgens* and such forms as *Firefly* and *Queen Victoria* have been thus boldly planted, but they are very effective, especially when used in contrast with such things as *Calceolarias*, *Ageratums*, and other colours in harmony with the deep chocolate-toned leafage. We greatly admire a single bed of it with a suitable edging, and in the autumn it provides a fine picture, a welcome relief to the bedding plants usually seen. The contrast between the intense crimson flowers and dark foliage is remarkably striking. In the majority of places it is wise to lift the clumps when frost comes and plant out in a cold frame, where they will be safe through the winter months. Damp is a great enemy to this class of *Lobelia*. It requires rather a sheltered position and a moderately moist soil. Under these conditions a very fine leaf growth results with a proportionate display of bloom.

Hypericum oblongifolium is one of the most beautiful shrubs in bloom now. It is very charming in the Wisley garden of Mr. G. F. Wilson, and in the Royal Gardens, Kew, good use is made of it as a shrub for massing boldly. A coloured plate of it is given in *THE GARDEN*, September 4, 1886. This species is a native of the Himalayas, whence it was introduced about the year 1856 by Messrs. J. Veitch and Sons. It is found in Sikkim and the Khasia Mountains at varying altitudes from 4000 feet to 12,000 feet above the sea. Unfortunately, it is not so hardy as one could wish, but if not too much exposed it will withstand hard frost without injury. The habit of the shrub is compact, the leaves evergreen, and the branches of a reddish tint, which serves to enhance the beauty of the large, rich golden yellow flowers, which are produced in profusion and make a fine display of colour, having a very graceful aspect, especially conspicuous when the shrub stands out singly. *H. patulum*, we may remark, is planted largely at Kew. It is not so tall and graceful in growth as *H. oblongifolium*, and the flowers are smaller and paler in colour.

Oncidium dasystyle.—In the large and somewhat bewildering genus of *Oncidium* there are many beautiful and many curious species, but I do not know one which combines these two characteristics so markedly as does *O. dasystyle*. It is a native of Brazil, coming from the celebrated region of the Organ Mountains, whence it was first imported by Messrs. B. S. Williams, of Hollo-

way. It has green, elliptical pseudo-bulbs 1½ inches high, bearing at the top a pair of linear, lanceolate, deep green leaves from 5 inches to 10 inches long, according to the strength of the plant. The length of the scape and the number of flowers it carries vary also from the same cause. I have seen over twenty flowers on the scape, but, as a rule, it is less than half that number. The flower is nearly 2 inches in vertical diameter, but is not so much across, the sepals and petals being pale yellow, freely dotted with brownish purple. The lip is proportionately large, the front portion being broad and spreading and of a soft, unspotted yellow. It is the crest of the lip which gives the flower its peculiar character; this part is shaped like a small beetle, and the resemblance is rendered still more striking by its having the same black metallic lustre. On strong plants the flower-spikes will sometimes branch and continue producing blooms for three months, viz., July, August and September. It is advisable to sometimes remove the scape before it has spent itself, as the species is apt to become exhausted by over-flowering. It should be grown in the cool house in pots, using a compost of peat fibre and Sphagnum.—B.

Phaius maculatus.—This Orchid was first brought to England in 1823, but it has never been so extensively cultivated as its various attractions would lead one to expect. At the present time it is one of the least known of the *Phaiuses*. It is an evergreen plant, and occupies a high place amongst the comparatively small number of Orchids which have a claim to rank as ornamental-foliaged plants, the leaves in this instance being deep green, conspicuously marked with round yellow spots; they measure from 1½ feet to 2 feet in length, are plaited, and taper to a long fine point. The scape is quite erect, somewhat shorter than the leaves, and bears from 10 to 15 flowers. The flowers are each from 2 inches to 3 inches across, and for the main part of a clear soft yellow. A fine contrast is, however, obtained by the frilled margin of the lip being a rich reddish brown. Besides the typical spotted-leaved form, there is another in all respects identical except that the leaves are uniformly green. This is flowering now at Kew. The species is a native of Northern India, and its first introduction to cultivation is due to Dr. Wallich. Like the other *Phaiuses* from the same region, it should be treated as a terrestrial plant, using a proportion of one-half fibrous loam in the compost, the remainder chopped Moss, peat, and silver sand. It may be grown in the *Cattleya* house.

Tufted Pansies from Chirnside.—With a very lovely crowd of his pure and delicate tufted Pansies, Dr. Stuart writes us on August 7 from Chirnside: "I send you a box by this afternoon's post containing some blooms of the newer ones, which are great improvements in some respects. *Violetta* and *Sylvia* still hold their own, and I see them in fine condition in many places. *Sylvia* blooms profusely when the frost stops in spring. *Violetta* in my garden does not flower freely till the end of May. The early part of this summer was disastrous to seedling beds and to plants not well established. I should have lost hundreds had I not replanted. I have some lovely breaks this year, pale blues with yellow centres and rayless eyes. There are none of these in the lot sent, but at some other time when the plants are in flower I shall send you a few blooms. I have been crossing the *Trolliuses* this year—*T. europæus* × *americanus* or *aurantiacus*. Some grand forms have resulted, many deep orange in colour. At this time some seedlings are in bloom for the first time, but I must defer sending you them till spring, when they bloom naturally. *T. europæus* is a good seed-bearer, the sepals folding over the apex of the flower, so that when the anthers are cut out and the pollen well distributed on the pistil, as a rule insects do not readily find admittance to work mischief. I have a fine bed of new sorts, some unflowered."

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TREES AND SHRUBS.

RHODODENDRON FALCONERI AT DORKING.

THE plant a truss of bloom of which is here figured flowered when it was, I suppose, 3 feet or 4 feet high. I happened to be invited to dine with the late A. Barclay, of Bury Hill, and knew that Dr. Hooker (as he then was) was there, so I took a truss with me. Dr. Hooker's observation to me was, "I do not know what English pruning may do, but in its native woods it is a very ugly tree." The reason is obvious. When left to itself,

to prune them, and so they grow lanky and straggling. D. D. HEATH.

Killlands, Dorking.

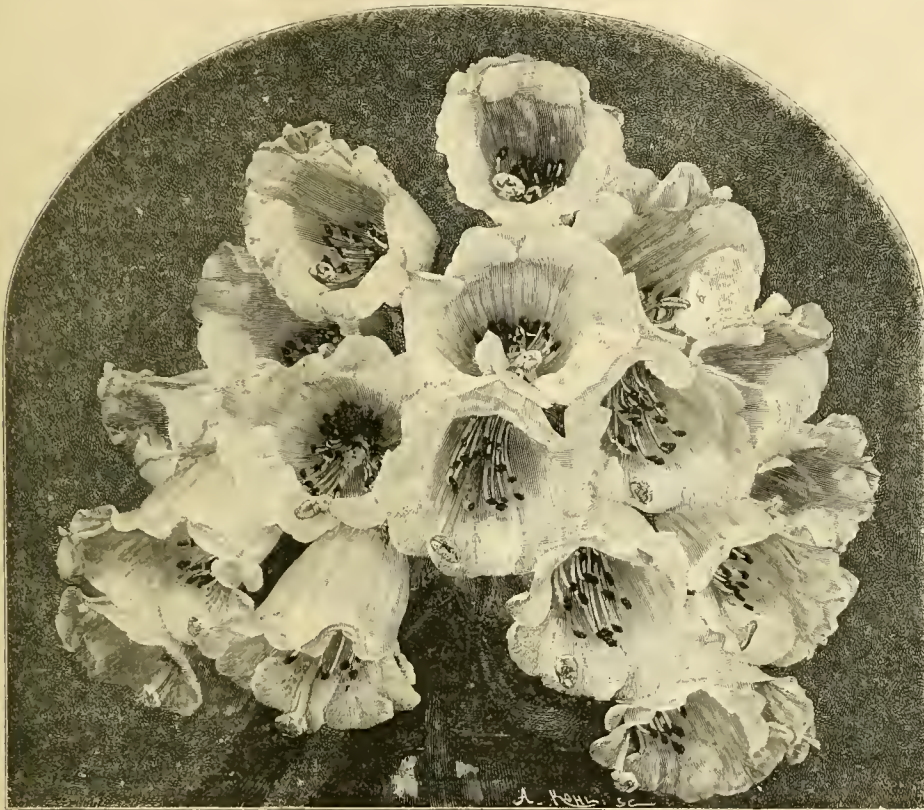
Catalpa bignonioides.—A very fine specimen of this is in full bloom in Ravenscourt Park, Hammersmith. It is not often one finds a noble example of this Catalpa in a public park, and when in full flower, as at present, it has a noteworthy aspect. The Catalpa is very striking either when small or large, the leaves rich green in colour set off by a profusion of large Horse Chestnut-like spotted flowers.

Hibiscus syriacus.—If any further proof of the abnormal season was needed it may be found in the fact that some of the earliest blossoms of a form of this Hibiscus were expanded before July had left us, certainly very much earlier than is

all it might be worth while trying such things as the Cherry Plum for fences, but it is not worth while in our country. The Cherry Plum (*Pyrus Myrobalana*) is not likely to have any value for us save as an ornamental tree worth a place among those that flower early. *Prunus Pissardi*, a tree of recent introduction to our gardens, is simply a purple-leaved variety of the Cherry Plum, and bears the same kind of fruit.—*The Field*.

Euonymus radicans.—This little Euonymus is a capital thing for edging walks and flower-beds on the Grass. The beds on the lawn at St. George's Hill, Byfleet, are edged with it, and very nice they look when the zonal Pelargoniums and other tender bedding plants are in bloom. These edgings were planted nearly twenty years ago, and have been kept clipped just as is the case with Box edging. It is not only at this time of year that they have a nice appearance, they are equally pleasing in winter, the variegation of the Euonymus forming a nice contrast to the green Grass.—J. C. B.

Variegated Elms.—Where these do well they are but little inferior to the variegated Acer. This summer seems to have agreed well with them, the variegation being very clear. The yellow-leaved Elm seems to be rather rare. I have a nice tree of it which this season has coloured finely. All these variegated Elms are slow of growth, requiring ten years from planting to render them really effective. They look best standing in the near proximity of dark-leaved Evergreens, or in isolated positions on the grass.—J. C. B.



Truss of *Rhododendron Falconeri*. Engraved for THE GARDEN from a photograph sent by Mr. D. D. Heath, Killlands, Dorking.

and if it meets with no accident, all the side buds of each year perish, and the tree will consist of long bare spokes with just one whorl of leaves, and a flower or leaf-bud at the end. I can see the process going on on the higher branches, which I cannot easily reach.

The winter of 1890-1 was a very severe one, and almost all the buds on the tree were killed. I expected the tree to follow. But instead of this, it soon appeared that it had just pruned itself all over. The little green pimples below each dead bud, which usually die off, expanded vigorously, and now it is in better condition than ever it was. It now over-tops the wall by several feet without any appearance of missing the shelter; only I cannot well get at the leading shoots

usually the case. The variety in question, *coelestis*, is generally the first to unfold its blossoms, but that is probably owing to the position occupied by the plant, as I have not noticed any difference elsewhere. It is one of the best of the numerous forms of this Hibiscus, the flowers being single and of a decided bluish tinge. In planting the Hibiscus in question, it should be borne in mind that it suffers considerably during the summer if in a dry position, and to be seen at its best it needs a sunny spot where there is a cool moist soil; if of a loamy nature and fairly deep, so much the better.—T.

The Cherry Plum in fruit, and as a hedge plant.—We do not know who was the first to advise the planting of this tree in fences, and we doubt its value much. We have lately noticed trees in France laden with fruit, which is of poor flavour and probably useless. The tree gets open and weak in its old age—quite the opposite of our excellent native Thorn, surely the best of fence plants and almost the only necessary one. In countries where this Thorn grows badly or not at

CONIFERS AND THE DROUGHT.

IN most districts we are, without doubt, congratulating ourselves upon the refreshing rainfall of the past two or three weeks. This fact, however, must not be allowed to lead those astray who, through being situated in districts that have suffered the most, have still need of a further downfall, and that probably more than they are actually aware of at the present time. It is surprising how soon Conifers and other shrubs revive after a good shower or two, but if this be not maintained they will soon suffer again. In many instances a thorough good soaking will be found most desirable. Half-and-half measures will not do, for the work has to be gone over again in quick time. Some growers, I imagine, are under the impression that Conifers do not need that amount of attention in this direction that other things do, just because they do not show symptoms of distress in such a plain fashion. Let them continue to suffer, however, and the result will be dead or dying branches, with the risk also of two seasons' foliage being shed in one season and the plants or trees thus made barer than they should be. Beyond these evils they may die outright, not only freshly-planted ones, but even where two or three years have elapsed since this work was done. Where and when, may I ask, do we find Conifers thriving the best? Those who have taken note of this will have observed that it is where water abounds the most or when the rainfall is quite up to the average. This being so, it is quite needful to turn our observations to account to preserve any from succumbing or in any way suffering. In some cases it may be found needful to prick up the surface or to make a ring with other soil at a good distance from the stems to prevent the water from running away rather than penetrating where most needed. Besides this, in very bad cases the garden engine will be of good service, it being plied daily for a time. In the case of the Fir tree family there is another attendant evil, this being the risk of fungoid development at the roots when after an excessive drought, moisture is again absorbed. There is a disposition in most of the Coniferae to cast

off the rainfall beyond the branches rather than to direct it towards the stem and around it. Taking this into consideration, all due allowance should be made, more particularly where the trees are planted upon slopes. If the Coniferæ continue to suffer from drought, what is not accomplished thereby will be further added to when cold and easterly winds again prevail. It takes years to raise many a specimen to good dimensions, but it is only a question of a few months effecting their ruin in times of excessive drought. **PINUS.**

Wood wasps at Earl's Court.—A singular and probably unprecedented event has occurred within the past few days at the Gardening and Forestry Exhibition in the development and maturity of a number of specimens of the wood wasp (*Sirex juvenes*). A small slab of wood cut from a diseased Pine tree in Windsor Forest had been sent by permission of the Ranger, Prince Christian, to the exhibition as an illustration of the mischief wrought by insects. It was observed to be riddled by holes, but it was not imagined that any larvae were hidden in the wood. Early in the week, however, a ticking, scraping noise was heard, and presently the head of a wood wasp made its appearance, the creature having eaten away that portion of wood which intervened between his retreat and the outer world. Others subsequently made their appearance, the total number being sixteen females and two males. They are somewhat formidable-looking insects, being quite an inch in length, with long, broad wings. The female is slightly larger than the male and has a steel-blue body, while that of the male is orange-red. It is the custom for the female to pierce a hole in the bark and deposit her eggs, and the larvae eat their way into the sap-wood, where they remain for nearly two years before they attain the perfect state. It is evident from the presence of so many wasps in such a comparatively small plank—about 3 feet in length—that their ravages are liable to cause great destruction in a Pine wood.

KITCHEN GARDEN.

WINTER CUCUMBERS.

In some establishments there is almost a constant demand for Cucumbers, and in very many more they would be appreciated at all times if available. Naturally, the supply during the winter is very limited, not, however, because they are particularly difficult to grow, but rather owing to house room of a suitable character not being forthcoming. In gardens where Melons are extensively grown in houses these are often followed at this time of year with Cucumbers. Supposing a few plants of the latter are already well up to the roof, another batch would soon be ready to plant, and to succeed these a third and most probably a last lot of plants would be raised early in August. No attempt is made to keep the plants in a bearing state after one good exhausting crop has been taken from them, the method of culture adopted being somewhat similar to that which answers well in the case of Melons. Very high temperatures are not necessary for late autumn and winter Cucumbers. What suits the majority of stove plants agrees equally well with Cucumbers, and it is no uncommon thing for two or three plants of the latter to be successfully grown at one end of a plant stove. During the winter a night temperature of about 65° will meet the case, an occasional drop to 60° doing no harm. In the daytime an increase of 5° more or less according to the weather experienced should take

place, a fairly moist atmosphere rather than much overhead syringing being desirable.

In any case, or whether the Cucumbers are to have a forcing house or houses to themselves, or are to take their chance with a variety of other heat-loving plants, the start ought to be made with clean healthy plants. Starvelings, or any kept in small pots long enough for the stems to become hard and the leaves yellow, are very slow in recovering from such a check, while if either thrips, green-fly, or red spider have taken possession of the foliage, this also militates greatly against progress. If the seeds are sown separately in 2½-inch or slightly larger pots and kept in a frame over a slight hotbed quite clear of other insect-infested plants, there is every likelihood of their germinating strongly, the plants being clean and healthy when wanted for the house. Cleanliness is of so much importance in Cucumber culture, that there should be no half-hearted steps taken in cleansing the houses that are to grow them. Old soil and hot-bed material should be cleared out, wood-work and glass well washed, and the walls receive a dressing of hot lime water. Whether the plants shall have the benefit of a hotbed or not should depend upon circumstances, and it is open to the cultivator to grow them either in fairly large pots or in mounds of soil. If there are pits with hot-water pipes in the bottom, either fill up with well-prepared heating material or else bridge over with strips of wood and slates. The use of heating material saves fire-heat during dull or cold weather in August and the early part of September, but I have been most successful when this kind of bottom-heat was dispensed with, slate-covered benches along the fronts of stoves and forcing houses suiting Cucumbers remarkably well. The decaying heating material is scarcely a suitable rooting medium for winter Cucumbers, the roots thriving best when principally confined to 12 inch or slightly larger pots. Pots are not needed when a staging is devoted to the plants, but may well be used if they have to share the space with a variety of other pot plants. Much depends upon the kind of compost used, anything of a close, heavy nature being objectionable. What does suit them well is a mixture consisting of three parts of roughly broken up light fibrous loam, the finer particles being rejected, to one made up of mortar rubbish and burnt soil. The pots used should be about three parts filled with soil, while if mounds are formed in preference, let these be about 3 feet apart and each consist of about one peck of compost. It is not a great heap of soil that Cucumbers want or should have at one time, frequent additions better suiting them. Planting in a great mass of soil has been the cause of an early breakdown of plants during the summer, and proves even more quickly fatal during the autumn and winter months. No matter how well the plants may be attended to, if the root action is defective it is not much of a crop that will be produced.

Healthy growing plants being duly put out in the mounds or pots as the case may be, these must be kept growing strongly, and which will not happen if the soil about the roots is allowed to become very dry. Carefully support with stakes, remove side shoots up to the roof trellis, but do not pinch out the point either before or after the trellis is reached unless it is caught or scalded by strong sunshine, in which case another lower shoot must take its place. Continue the leading shoot straight up the trellis till the limit is reached or exhaustion takes place, and lay in a sufficiency of the side shoots right and left to thinly clothe the roof. If successional plants are coming

on, fruit the earliest to their utmost capacity at once and throw them away directly they break down. The laterals never fail to show fruit, and by stopping these at the second or third joint and allowing them to bear all the way up the roof, it is surprising what a great number of good Cucumbers a plant will quickly produce. If it is desirable that the plants remain as long as possible in a productive state, then the cropping must be light at the outset, or there will be a failure before December. Better be content with three or four good fruits on a plant at one time than attempt to grow double that number imperfectly with the certainty of an early collapse owing to over-cropping. If the plants continue in a healthy growing state after having produced a dozen or more fruit, thin out the young shoots, train those reserved thinly on the trellis and stop beyond the second fruiting joint. If red spider starts on the older leaves, dredge these at once with flowers of sulphur. Thrips, green and black fly should be kept down by means of diluted tobacco water. It is a mistake to be constantly applying liquid manure, especially if this is of a nature that will clog the soil. All that is really needed to keep the plants growing strongly and bearing well is to top-dress every week or ten days with a mixture of equal parts of roughly broken up fibrous loam and good flaky horse stable manure. A heap of this should be either kept in the house or ready mixed in a shed, warming it in the latter case prior to using it in November and December. As fast as the white roots show on the surface cover them with the loam and manure, piling it up round the stems and heaping it gradually several inches above the pots when these are used. Enough clear water should be used to keep the soil uniformly moist, and this, coupled with a moist atmosphere and fairly brisk heat, will sustain the plants surprisingly well.

Telegraph is one of, if not the very best variety for late autumn and winter culture, and ought certainly to be selected when Cucumbers are required for cooking and serving as a vegetable or *entrée*. For the latter purpose the fruit should be left hanging long enough on the plants to become extra "fat," though not long enough to become old and yellowish in colour. Cardiff Castle is also admirably adapted for winter culture, as this variety is of free productive growth, the fruit being rather short, but excellent in quality. **GROWER.**

Peas mildewed.—Many, no doubt, have had the same experience as "W. S." with regard to late Peas being attacked with mildew so soon after the long-wished for rain had come. The only variety which I have here that has resisted the attack of mildew is *Ne Plus Ultra*. This is quite free from it and just in flower. Other sorts close by, such as *Champion of England* and *Veitch's Perfection*, are much mildewed.—A. J. LONG, Wyfold Court Gardens, near Reading.

Cauliflowers—Now that the weather has become cooler with frequent showers, it is possible to regard Cauliflowers with greater respect. During the summer so far the heat and drought had developed aphid and caterpillar so abundantly, that Cauliflowers presented anything but an appetising form. Now they have greatly improved, but still leave much to be desired, as aphid is hard to displace even with the aid of the heaviest showers, and caterpillars need much watching. It is now the late summer and autumn varieties that need most attention, and if these be occasionally examined so as to remove caterpillars, very much indeed may be done to bring the heads into a cleaner condition. Those who have now early planted *Magnum Bonum* Cauliflower should find

heads turning in shortly. This is a very fine white early selection from the well-known Autumn Giant. This latter succeeds it early in the autumn, and then comes Veitch's Self-protecting to keep the stock plentiful until Christmas. Thus with the Snowball type, under whatever name grown, to heart in early in June, Cauliflowers furnish a long season and a most important garden crop. The dry spring and early summer are responsible for very many blanks, but still these are not so marked as might well have been expected. What is now of the greatest importance is clearing the plants of their insect pests ere they have become too plentiful, and only by very close attention can such cleansing be accomplished. When our tender summer crops have been killed, perhaps by an early frost, then specially will the value of Cauliflowers be realised.—A. D.

RUNNER BEANS.

THERE is no late summer vegetable that seems to be doing better, if so well, as are runner Beans. Even in cottage gardens and allotments runners are universally good. One reason for this is no doubt because, growing so tall, the plants get above surrounding crops and have plenty of light and air; then being sown singly in rows they are usually more thinly planted than is the case with dwarf Beans, for instance, for these are often sown two or three rows together, and the plants being so close and crowded, the product is poor and the plants of short duration. There seems also to be a general knowledge that to have runner Beans in good form it is needful to give to the soil some special preparation. When only one line or row is concerned, that is not a difficult matter, and the opening of a trench, burying into it an extra dressing of manure and giving also occasional soakings of water, all conduce to good results. It is doubtful whether, viewed from a pecuniary aspect, there is any other vegetable that gives so profitable a return from a single row occupying, perhaps, a width of 3 feet of soil as does a well-staked row of these climbers. The earlier showers which broke the long spell of drought came at an excellent time to fertilise and save the first flowers. Not that the rain assists to pollenise, because the process has to be done before the flowers are fully expanded, as is the case with Peas, but drought at the roots and in the air, combined with strong sun-heat, is found to be very harmful in that respect, and unless the conditions are changed by showers or frequent syringings and waterings, almost entire loss of bloom results. I found also in numerous small gardens and allotments that some of the finer forms of Beans now in commerce are being largely grown. It is not at all difficult to discern from the length of the pods that the new Ne Plus Ultra strain is getting abundant. There are several fine selections under other titles in commerce, all the product of special selection, and although some seem now to be so good that improvement is very difficult, yet efforts are not lacking to secure any form of improvement that may present itself. The large or giant-podded forms have little merit, but the narrow, long pods are both handsome and of delicious quality. The flowers of some of these finer varieties also have greater size and richer colour, so that, apart from the utilitarian aspect of a well-grown and trained row of runner Beans, there is also very much of rich colour and beauty. A.

RENOVATING CROPS.

If rain has fallen in other districts in the same degree that it has fallen at Kingston, then will a most marked improvement be visible very quickly in all descriptions of garden crops. Not that one shower suffices to moisten soil, literally baked dry, to any depth, but a continuation of showers with a material cessation of heat in time brings the soil into a fertile state, and being so warm, the effect is marvellous. We have now to dread too much rain, for a wet autumn would in

turn be just as harmful as the drought of early summer has been. However, the showers should encourage sowing and planting in all directions, so as to enable the autumn to be prolific, as the summer so far has been rather barren. We can yet sow some of the earlier maturing Peas, and especially the dwarf ones. A couple of sowings of any of these may in the cooler, moister weather give capital crops in September and October. We may yet make a couple of sowings of dwarf Beans of such as Ne Plus Ultra and the Negro, as these soon fruit. New sowings can be made of Nantes Carrot on well-prepared soil to give produce through the autumn and early winter, and if a sowing be made at once of the Queen Onion, it will be possible to obtain if small at least very useful bulbs that may materially help out the very shortened crops at present growing, whilst there is ample time for Onion bulbs to swell. Sowings for standing the winter are best made in August. Where Beetroots are very thin it may not be too late to sow seed of the Turnip-rooted variety, as this turns in early, and very good roots may result before the close of the winter. Sowings of two or three varieties of Cabbages may well be made now for planting out in August, especially of such as Atkins' Matchless, Ellam's Early, Early York; also sowings yet of dwarf green Coleworts, as plants put out in August will give nice if small heads. Then it is worth while making sowings of Snowball or Early Forcing Cauliflower in boxes so as to have plants that will head in during the late autumn. These will be found most useful where the Autumn Giant Cauliflower has clubbed or otherwise done badly because of the drought. Peas that show a poor crop, because dryness at the roots has caused the flowers to be infertile may be pulled off at once, and room be made for Celery trenches. Then sowings may be made of prickly Spinach, certainly the best for summer use, and of Round Flanders Spinach twice in August to give early and late winter pickings. Then both Lettuce and Endive seeds may be sown, as these are quick growing. Radish seed will if sown now give several yieldings. There are so many things, Turnips especially, which there is ample time to sow, and where early Potatoes, Peas, Beans, are got off early, the ground may, now that rain has come, be recropped with great rapidity, and the autumn be made to compensate in a large degree for the comparative scarcity of the early summer.

A. D.

THE GREAT DROUGHT OF 1893.

THE drought of 1893 will unquestionably take its place among the recorded events of history, if regard be had to its intensity, the length of time during which it has lasted, and the wide extent of the earth's surface it has overspread. Treating the British Islands as a whole, the drought may be considered as embracing by much the greater part of the country for the fifteen weeks beginning with March 5. But while copious rains have fallen during the past few weeks in many places, it may be regarded as continued to near the present time in many of the more important agricultural districts in the south.

The drought was most severely felt in the southern division of England, and least in the north of Scotland. Over Scotland, England, and Ireland it increased in intensity, with pretty uniform regularity, from north to south. Thus the deficiency in percentages from the average rainfall of that portion of the year was 30 at Lairg and 59 in Berwickshire; 59 at Penrith, and 90 at Dungeness and Falmouth, and 38 at Londonderry and 67 at Waterford. The least deficiency at any of the stations of the *Weekly Weather Report* was 1 at Glencarroo, in Ross-shire, and the greatest at Dungeness and Falmouth, as stated above. At Glencarroo the amount of the rainfall was 16.91 inches; whereas it was only 0.60 inch at Dungeness, 0.77 inch in London, 0.92 inch in Scilly, and 0.91 inch at Falmouth. At places south of a line drawn from Cambridge to Scilly less than a fourth part of the average rainfall of these fifteen weeks was collected, and consequently over this large

district the effects of the drought have been most disastrous to agriculture and horticulture, the hay crop, for example, being in many places a complete failure. It was altogether a unique experience, in travelling in June from London to Scotland, to mark the great and steady improvement in the condition of the crops in the northward journey.

During the period the type of weather prevailing was eminently anticyclonic, with the appearance, ever and anon, in localities more or less restricted, of small satellite cyclones with their attendant thunderstorms and rains. Hence the remarkably sporadic character of much of the rainfall, of which the most remarkable instance was a rainfall of 1.19 inch at Parsonstown on June 10 and no rain whatever at any other of the telegraph stations of the meteorological office in this country. Heavy local rains of this type, with downpours of an inch or upwards, were recorded on May 17, 18, 20 and 21, and June 10. It is also to be noted that many thunderstorms occurred during the period unaccompanied with rain, just as happened generally in the east of Scotland in June, 1887, on the day of the Queen's jubilee; and frequently large drops of rain fell, quite insufficient even to wet the ground, and scattered over narrow paths of inconsiderable length. Very heavy rains occurred over the eastern districts of Scotland, practically terminating the drought there, on June 22 and 23, when on these two days 4.20 inches fell at the North Esk reservoir on the Pentland Hills, 3.32 inches at Roslin, 2.21 inches at Aberdeen, 2.06 inches at Logie Coldstone, near Ballater, and nearly 2 inches at many places, whilst generally in the west little and at many places no rain fell at all.

Temperature was phenomenally and almost continuously high in March, April, May, and June, specially as regards the first three of these months. Thus, for London the mean of the three months was 4° 3 above the mean of the previous 130 years; and in Edinburgh 3° 3. The only springs since 1763 with a mean temperature exceeding that of 1893 were for London, 1811 and 1794, which were respectively 5° 2 and 4° 3 above the average; and for Edinburgh, 1779 and 1781, which exceeded the mean by 4° 0 and 3° 8. It is highly interesting to note that large as these figures are, the Ben Nevis figures far exceed them, the mean temperature at this high-level observatory for March, April, and May last being 6° 6 above the mean of these months, a result due to the prevailing anticyclones, which so frequently are attended there with abnormally high temperatures.

The drought has also extended over nearly the whole of Europe, large portions of Canada, the United States, and other parts of the globe. In the north of Italy no living person recollects to have seen the Italian Lakes so low, and the Southern Alps so greatly denuded of their snow covering. It is estimated that over the wheat growing countries of the world this valuable crop will be to no inconsiderable extent under the average. On the other hand, in other parts of the world the rainfall has been exceptionally heavy, and followed with widespread disastrous floods, as in the cotton districts of the United States and in Queensland.

In London, the total amount of rain that fell during the 110 days from March 4 to June 22 was 0.77 inch. Mr. Symons, our best authority on the question of droughts, enumerates eight droughts which have been recorded during the present century. Of these the longest continued was 105 days, from March 11 to June 23, 1844; and thus the drought of the present year is the greatest in the British Islands authenticated by meteorological records.—*Nature*.

Paraffin as an insecticide.—"Y. A. II." may well say that extreme caution is necessary in the employment of paraffin. I know of an instance where a lot of nice young fruit trees has been completely ruined by enveloping the stems with cloths steeped in paraffin to keep them free from the winter moth. The trees, which had just come into good bearing condition, were killed outright. Everyone who uses paraffin for the destruction of

insect pests, whether on fruit trees or plants, should first, by careful experiment, find out how much of any particular plant will bear without injury. Not long since I saw some large plants of *Stephanotis* which had been syringed for mealy bug. It had the desired effect as regards the destruction of the bug, but killed almost every flower-bud. Had the owner used a weaker mixture he might have killed the insects and not injured the plants. One difficulty connected with the use of insecticides is caused by the varying condition of the foliage. After bright weather the leaves will bear a much stronger dose than when growth has been made in a sunless time.—J. C. B.

FERNS.

FLOWERING FERNS.

(ANEMIAS.)

THIS is a family of Ferns possessing great attractions for the majority of Fern growers, and they may be so grown as to become extremely useful for indoor decoration. Some of these plants make charming objects for decorating the Fern case, but I would advise that the plants be put in these structures in their pots when in flower, because I think they grow far better in the Fern house. These plants are all of dwarf habit of growth and have a somewhat similar aspect, yet they do differ essentially, and where a collection is grown this becomes very evident. *Anemias* all come from tropical countries, and consequently require stove heat to grow them to perfection. They should be potted in turfy loam, fibrous peat and sand well mixed. The plants should be liberally treated to water at all seasons, but do not use the syringe for sprinkling them overhead. Pots of too large a size must not be used. I give below a few of the best kinds, and some very pretty ones have not yet been introduced in a living state.

A. ADIANTIFOLIA is a handsome Fern, sending its fronds up from a creeping rhizome. The fronds are each from 9 inches to 1 foot in height and from 6 inches to 8 inches broad, triangular in shape and of a rich shining green; the fertile segments (in pairs) spring from the base of the leafy portion of the frond; the spore cases turn to a rich brown and thus represent a flowering raceme. In the variety named *asplenifolia* the sterile frond is less divided, whilst another more finely-cut form is called *A. curvifolia*.

A. CHEILANTHOIDES.—In this plant we have one of the most beautiful species, but at the same time it is one of the most delicate and tender, requiring to be kept constantly in stove heat. The fronds are each from 6 inches to 12 inches high, three times divided and finely cut, slightly pubescent and somewhat light green in colour; the fertile segments are some 6 inches or 8 inches high and of a light brown. This makes a charming little specimen and is well deserving of special attention.

A. CAUDATA.—A specially distinct and handsome species, which is rare in cultivation. It used to be grown in Mr. Williams' nursery, he having imported it from Brazil some years ago. It makes pinnate sterile fronds, which bear some two or three dozen pairs of pinnae of a dark green. It is a very handsome plant, which is sometimes called *A. radicans*.

A. COLLINA is another extremely handsome kind, having the stem clothed with ferruginous hairs. The sterile pinnae are large, rich green, and the fertile segments are very handsome. This species may be used for table decoration.

A. DREGEANA.—This plant is remarkable in that it is found in South Africa, while nearly all the other kinds are American. It is very handsome, and the fertile segments are large, the sterile pinnae being coriaceous in texture and deep green.

A. HIRSUTA, a plant which I once obtained from the Botanic Gardens in Berlin, well bore out the name, the fronds being quite shaggy, far more so

than in the same species growing at home with me at the same time. It is a very elegant plant; the sterile pinnae are more or less again divided, and soft green in colour. The fertile segments are less developed than in many of the kinds; it makes an elegant specimen for the stove.

A. MANDIOCCANA.—This plant is said not to differ from *A. collina* by some, but when growing side by side with it it presents a very different aspect, the pinnae being quite different in shape and colour and more closely set. The rachis is clothed with deep reddish brown hairs, the fertile fronds are also more dense. This plant makes an exceedingly pretty ornament in the sitting room.

A. TOMENTOSA (here figured) is a variable species, and recorded from the East Indies as well as from Peru and the West Indian Islands. Beddome calls it *A. Wightiana*. The fronds are from 6 inches to a foot long, more or less clothed with a downy



Anemidietyon phyllitidis.

pubescence, the fertile segments being dense. This plant has always been rare in cultivation as far as I am aware.

There is also another genus of plants which greatly resembles the above; indeed, only differing in having the veins netted or reticulated; it is called *Anemidietyon*, and the species which I refer to in this place is a stronger grower than either of the above-named plants, and makes a splendid ornament for indoor decoration, being free in growth, the fertile fronds very dense and beautiful. It is called

A. PHYLLITIS.—This (see illustration) makes fronds from 1 foot to 2 feet or more high; the sterile ones are pinnate, the long pinnae being bright rich green, the fertile ones erect, and rich brown. A very distinct form of this plant is called *fraxinifolium*.

W. H. GOWER.

Maiden-hair Ferns in cool houses.—I can quite bear out the observations of "Grower" in

last week's GARDEN as to the desirability of growing Maiden-hair Ferns under cool treatment. I have a few hundred plants, from small ones in 5-inch pots to larger ones 3 feet or more over. The best of them are growing in a cool conservatory where they have been for the past five or six years. I never saw plants so healthy or more vigorous. The roof of the structure is of rough plate glass. The plants are potted in alternate years, and some of them not so often. Last year they were all potted, and this season not at all. I am certain that to annually repot Maiden-hair Ferns is a mistake. To keep up their vigour, a dressing of some fertiliser is given at least once a week.—A. YOUNG.

FERNS IN FORECOURT GARDENS.

THE practice of planting forecourt gardens on a northern aspect, and indeed odd places where little else will grow, with common hardy Ferns is extending, and, I think, with the best results. Take, for instance, a suburban road, lined with small villa residences on either side running east to west. It is usual to give forecourt gardens to such, and on the north side the sun shines all day, or nearly so, but on the south side only at early morn and at the close of the day, and that mainly during the height of the summer. On one side pretty patches of flowering plants can be had if only a little attention be given them, but on the opposite side flowers fail to do well from lack of sunshine, especially so when Limes, Laburnums, Sycamores, and such forecourt trees are planted. In such cases the Virginian Creeper can be used to cover the walls of the mansion, and a hardy fernery can be formed by way of filling up the foreground. I have seen several such, and they are always more satisfactory than anything in the way of summer flower gardening.

In early spring before the new fronds of the Ferns develop, I have seen early Crocuses, Snowdrops, Scillas, and Daffodils peeping through the soil and unfolding their blossoms, with Primroses, Hepaticas, and a few early bloomers among perennials lending their aid. With summer comes a vigorous growth of the Ferns, and there is during the season something decidedly refreshing to feast the eye upon. Ferns are general favourites, and there need be no surprise at this. Nearly all Ferns have a delicacy and grace of outline, a softness of form, a beauty of colour that commend them to all genuine lovers of Nature, and though it is sometimes said that the liking for Ferns is but a caprice of passing fashion, I think they have held their own in public estimation long enough to leave their use unaffected by changing fashion. The most successful Fern plantations I have seen in small forecourt gardens are those in which the Fern bed was raised above the level of the ground. Roots or stones can be employed with which to form the bed, and provision should be made for a deep root-run by providing a bed formed of good fibry loam, some well-decomposed manure, leaf soil and peat. Ferns of the more robust hardy character are not so particular about soil as is generally supposed

so long as it is free and good, for they may be found in fair condition in almost any soils, from loam stiffening into clay and peat running into simply sand. Give them vegetable *debris* and fibry loam, and they will succeed if looked after in the matter of moisture. As a matter of course, in laying the foundation of a small Fern bed, care should be taken that the soil at the commencement after planting be not washed down into the path. In a short time the roots of the Ferns finding their way among the soil will bind it together; till then care is necessary.

In a small space there is little opportunity for growing some of the choice kinds of hardy Ferns, the aim being rather to have a bold mass of green foliage as soon as possible. To this end the best kinds to plant are the Lady Fern (*Athyrium Filix-femina*), the Male Fern (*Lastrea Filix-mas*), *Scopolendrium* (Hart's-tongue) and the common prickly Shield Fern (*Polystichum aculeatum*). In advocating the employment of the stronger-growing hardy Ferns in forecourt gardens, I have no intention of expecting such a garden to become a representative hardy fernery. More can, of course, be done in a large space than in a contracted one, and it is possible that he who commences in a small way may be led on to attempt greater things, and with correspondingly encouraging results. So far the simple aim is to encourage the planting of forecourt gardens on cool and shaded aspects with Ferns. Recently I was engaged in awarding prizes to forecourt gardens, and it was found those open to the south or south-west were the most effective by reason of their being better suited to the growth of flowers; but here and there I came upon a pleasant Fern garden good enough to be recognised. There are many neglected forecourts which might be beautified by the introduction of Ferns, and I should like to see the practice of planting them in this way extended. R. D.

Wasps—I can fully endorse "Practical's" remarks as to the efficacy of Davis' wasp destroyer (p. 101), as it has more than once saved our Grapes from their ravages. This remedy is somewhat of a puzzle to me, as it is apparently so harmless and very few dead wasps are ever seen in or about the houses where it is used, but it certainly drives them away, and few or none ever return to molest the Grapes if it is used according to directions. A very little of the mixture goes a long way. I have never tried it for use out of doors, but shall do so this year. I notice in the same issue of your paper (July 29) another correspondent says, in answer to a query about wasps attacking Grapes, that "there is no remedy that he can use in the house that would do any good." Surely "J. C." cannot have tried the above-mentioned remedy, or he would not have committed himself to such a statement. It appears likely that we shall have a veritable plague of wasps this year. The country round seems all alive with them already, and in a lane less than a mile long I counted last week forty-three nests. We have destroyed thirty-seven nests here within the garden boundaries, and there must be still more to destroy. This seems strange, as very few queens were seen during spring. Hornets, too, are very plentiful, and several nests have been

destroyed. I find nothing equal to gas tar where it can be easily procured for this purpose, a 3½-gallon can holding enough tar to destroy about eight nests; but, of course, this is of no use unless the holes run downwards, and nests by the water-side (a favourite spot) can rarely be destroyed by this or by similar means, as the holes generally run upwards from the bank side.—J. C. TALLACK.

ORCHIDS.

PHAJUS.

This genus has long been grown in our stoves and hothouses, one kind (*P. bicolor*) having been introduced considerably over a century



Anemia tomentosa.

ago. This species was introduced to the island of Jamaica over 100 years ago also, and there it has become a thoroughly wild plant. This plant is not indigenous to the Western Hemisphere at all, but its real home is in various parts of Cochin China and in Northern India. Some handsome new species have been recently introduced and some beautiful hybrids have been raised at home. I have a spray of a Phajus from "W. H. R." asking for its name, which I am unable to give him with that amount of confidence I like to feel when giving the name of a plant sent to me for that purpose, as the flowers have all faded to a dull yellowish buff. The flowers, however, remind me of those of the plant raised by Mr. Cookson a few years ago between Phajus Wallichii and *P. tuberculosus*, and named *P. Cooksoni* in his honour by Rolfe. "W. H. R." may see by the description given below if it resembles his plant or not.

The Phajuscs have ample plaited deep green leaves, which spring from a short thick bud. These are persistent for several years. The flower-spike is erect, bearing many flowers, which last long in beauty. Most of them are terrestrial plants and are easily grown, doing well with a mixed collection of ornamental-leaved stove plants, saving the kinds from Madagascar, which hitherto have been found less amenable to cultivation. The majority of the kinds thrive potted in a mixture of good turfy loam and fibrous peat. The pots must be well drained, and during the summer or growing season the plants require a great deal of water both to the roots and overhead. Many persons keep the plants in the shade, and in such a position the leaves are of a deeper green, but I like to give them a fair amount of sun and light, shading, of course, during the hottest part of the day. They require strong heat when growing with a moist atmosphere, but during the winter months, when at rest, they may be kept in a temperature ranging from about 50° to 55°. The following kinds are all worthy of cultivation:—

P. GRANDIFOLIUS.—This plant makes large ovate bulbs, from which spring the plicate leaves, which are each some 3 feet long and rich deep green. The spike is erect, rising up to 3 feet or 4 feet and bearing many flowers, which, although not highly coloured, are always welcome, opening, as they do, during February and the beginning of March. The sepals and petals are china white on the outside, of a tawny brown within, and the helmet-shaped lip is of a lighter colour than the petals and flushed with rosy purple. It varies, however, in the depth and richness of its colouring a great deal.

P. MACULATUS is less robust than the preceding. The leaves are pale glaucous green, irregularly spotted with pale yellow; the scape is erect and many-flowered, the flowers some 3 inches across and of a pale clear yellow, the lip being crisp in front and of a dark reddish brown. It is usual for Orchid fanciers to look down upon this plant and say it is not worth growing, but my readers who do not know the species will be delighted with its blooms when they expand.

P. WALLICHI is a much larger and more robust growing kind than *P. grandifolius*, but it has the same habit of growth, with strongly plicate leaves of a deep green; the spike is stout, erect and many-flowered, the individual blooms being some 5 inches across; the sepals and petals are china white on the outside, tawny yellow in front, flushed with brown, the large lip being deep orange at the base, suffused with pale purple. The form called *P. Manni* appears to be a very superior variety, the flower being larger and more fully expanded.

P. COOKSONI.—This was raised by Mr. Cookson, of Wylam-on-Tyne, and it is the only known hybrid Phajus as far as I know, and it is the plant, I think, which "W. H. R." sends for a name. The sepals and petals are yellowish white on the outside, yellowish brown within; the tube of the lip and the spur yellow, the front portion being rosy carmine, which changes with age to a buff.

The following two species have been introduced in great numbers during the past few years, by Mr. Sander, from the interior of Madagascar, and they have both been rather difficult to grow; at any rate, they thrive best with those who have an East Indian Orchid house in which to accommodate them, with a nice moist atmosphere.

P. HUMBLIOTI is a very handsome and distinct kind, having somewhat small bulbs and broad plicate leaves which are rich green; the scape is erect, bearing a raceme of about ten or twelve flowers, each 2 inches or more across, sepals and petals thick in texture, white suffused with rose. The lip is somewhat fiddle-shaped, the side lobes brownish crimson, the front lobe having a white centre, which bears a pair of yellow teeth, the margin being of a lovely rosy purple. This plant I

have seen growing freely and well. The most difficult plant that I know in the genus or in the whole Orchid family to grow well and freely is

P. TUBERCULOSUS. This is more of an epiphytal kind, and although it has been now in our gardens for about thirteen years it has not yet been successfully grown. I have seen this plant thriving in the freest manner with Mr. Sander at St. Albans, where it is grown in baskets filled with peat fibre and Sphagnum Moss, and exceptionally well drained. The baskets are suspended over the water in the house used to grow the Water Lilies in. In this position the plants can have any amount of water, and they are never subjected to a lower temperature than 65°, whilst in the summer-time it runs up to nearly 90°. So great a temperature is not necessary to its well-being, for I have seen it growing and doing well with other people in a shady part of the house used for the *Aerides*, *Vandas* and *Saccolabiums*. It has fusiform bulbs bearing oblong lanceolate leaves, which are about 1 foot in length and deep green; the erect spike is somewhat longer, bearing several flowers, each of which is nearly 3 inches across and waxy in texture, the sepals and petals white, the lip three-lobed with large side lobes, with a ground colour of rich orange, dotted all over with reddish purple; middle lobe white, suffused with rose, and bearing on the disc three raised deep yellow-toothed lines. It is one of the most beautiful and striking Orchids that I know. W. HUGH GOWER.

Burlingtonia venusta (Hugh Innes).—I think this is the species you send for a name, but really this and the *Brassavola* were dried up past recognition. *Burlingtonia venusta* has rather stiff dark green leaves, the spike pendulous, and the flowers pure white stained with yellow in the lip, and quite destitute of any perfume.—W. H. G.

Oncidium zebrinum (T. Hudson).—It is by no means surprising that you call this an *Odontoglossum*, for the flowers are very much like those of this plant. *Oncidium zebrinum* flowered with Mr. W. Bull, of Chelsea, for the first time in Europe, about twenty-one years ago, but like most things it is a little early this year on account of the weather. The flowers are borne upon a long branching spike, the branches short and but few flowered. The sepals and petals are much undulated, white, transversely streaked with reddish brown, lip small, white with red dots and a yellow crest. It grows well in the cool house with the *Odontoglossums*. It comes from the mountains in Venezuela.—W. H. G.

Bifrenaria vitellina.—C. Poynder sends this old species for the correct name, which, I think, is given above. It was introduced many years ago from Brazil; the flowers are orange-yellow, having a spot of black at the base of the lip. It is by no means a showy plant, and it is not much grown; in fact it is only to be found in botanic gardens and such places.—W. H. G.

Oncidium pulvinatum (T. Green).—Flowers of this plant come for a name. This species was introduced by Mr. Harrison, of Liverpool, some fifty five years ago, and I think it has been grown in our gardens ever since. It produces long slender flower-spikes. The flowers before me are each an inch across, the outer segments yellow at the tip, passing into reddish brown at the base. The lip pale yellow with red spots. It is a very pretty species, and one that succeeds well in the stove or intermediate house.—W. H. G.

Sobralia from Cheshire.—These plants, I am glad to see, are becoming more popular. I some time ago noted a lovely new form from the Messrs. Pitcher and Manda, of Hextable, called *Princess May*, having pure white sepals and petals, the front lobe of the lip being suffused with delicate heliotrope, and now I have some beautiful forms from Mr. Hardy, Pickering Lodge, Timperley. One is very fine, resembling the flower of *Cattleya Schroderae*. The sepals are white, flushed with pale rose, the petals broader, of a more decided rose colour, lip large, the whole throat of a rich golden yellow, the disc deep orange, the outer por-

tion deep rose, continued all round the side lobes. The next is also a remarkable flower and very handsome, having pure white sepals and petals and a lemon-yellow lip, with a somewhat triangular patch of white on the front lobe. The next is a beautifully coloured form of *S. xantholeuca*, the whole flower being of a rich yellow, which becomes orange in the throat, the front lobe being prettily frilled and undulated. These plants require somewhat large pots, which must be well drained. Use for soil turfy loam and peat, and do not elevate the plants above the pot's rim; water freely when growing, keeping them in good heat. They may be rested cool and not allowed to suffer from want of water.—W.

CATTELEYA ELDORADO.

I AM in receipt of various forms of this very handsome kind from different persons, some asking for my opinion and some for a name. Amongst the latter are "D. M.," Mr. Appleton, "G. B.," and W. A. Gunner, who sends me a white form, which is called *Wallisi* in some gardens, but which was named and figured upon its first flowering by M. Linden, of Brussels, *Cattleya virginalis*. The form sent by Mr. Appleton is a light one and a poor variety; the others are fairly coloured forms, but a flower which has come from T. Grossmith is a grand form of the kind known as *splendens*. This plant was imported from the banks of the Rio Negro by M. Linden about twenty-seven years ago, and the first time I saw it in flower was in Brussels just before it left for the Paris exhibition, the year after its introduction. This *Cattleya* is decidedly a grand acquisition, and although it varies in the colour of its flowers, yet the peculiar stout leaves and pseudo-bulbs render it very distinct. In Mr. Grossmith's flower the sepals and petals are soft clear rose, the petals much broader than the sepals, the centre being pure ivory white and the outer part flushed with a deeper rose or rosy lilac; the lip is large, the throat rich deep orange, outside of which is a zone of pure white, beyond which is the deepest and richest violet-purple I have ever seen, while the margin is prettily undulated and toothed. The typical plant is less brightly coloured, but it is marked in a similar manner; whilst the variety *virginalis* is somewhat smaller and pure white, saving the orange throat. A variety called *crocata* has the sepals and petals of a soft rose colour, and the lip rich orange in the throat. Another known by the name of *ornata* has the sepals and petals of a deep rose colour, the petals tipped with rosy purple and the lip of the typical form. All these varieties are very desirable plants, and they should be grown in a somewhat different way to the great majority of the labiate section of these plants, that is to say, they require to be kept hotter, and during the resting season the plants may be kept drier. I had some newly-imported plants when with the Messrs. Rollisson and Sons, and they grew and flowered annually and in great perfection, producing many varieties. Upon one occasion we had a consignment all of which were *virginalis*. WILLIAM HUGH GOWER.

Cattleya aurea.—Flowers of this plant come to hand from Mr. Hamilton Leigh for C. Dowiana, which he says is a very free flowering plant. This seems to be its character. I think the plant which Mr. Leigh promises me a flower of later on, and which he says has the petals flaked with crimson, is the true *C. Dowiana*. The flowers sent are those of the variety *aurea*. I am glad Mr. Leigh is so successful with *Cattleyas*, but cannot understand why *gigas* proves so unmanageable. Try

growing it in baskets hung up near the roof glass with full exposure to the sun, shading only during the hottest part of the day to preserve from burning.—W. H. G.

Miltonia Regnelli.—Mr. Innes sends me from Glenville, Waterford, flowers of this species. I am always glad to see this plant, because I was the first to flower it in this country. A plant given to me by Herr Schiller when visiting his garden flowered soon after its arrival home. It was a far nobler form than the one sent. The flowers on a good variety are nearly 3 inches across, the sepals and petals white, the lip rose, streaked with rosy purple. The variety known as Mr. Rucker's, called *superba*, is the finest I have seen, having rosy purple sepals and petals and a large lip, which is wholly dark purplish magenta. Mr. Innes' variety is not this one, but I should like to see it again another season.—W.

Laelia monophylla.—Flowers of this very interesting species come to me from Hugh Innes, gardener to Mr. Goff, of Waterford. This little plant is a native of Jamaica, where it was rediscovered some twelve years ago by Mr. D. Morris, now assistant-director of the Botanic Gardens at Kew, growing upon the lower branches of trees on St. Andrew's Mountains at some 4000 ft. or 5000 ft. elevation. Mr. J. O'Brien has been the principal agent in bringing this plant before the growers of this country, and I have seen it growing freely in several places. It bears but a single flower, which varies in size on a strong and robust plant. The flower measures about 2 inches across, the colour being of a rich bright orange-scarlet. This plant is the only representative of the genus in the island, and it is not to be found, or has not been found, in any other spot. It is figured in the *Botanical Magazine*, t. 6683.—W. H. G.

Cattleya Loddigesii.—G. Eastnor sends a very fine variety of this species, which he says is much liked by his employer. It flowers freely, the blooms being thick and waxy, of a nice size for sprays, &c., the colour being a delicate shade of soft rosy lilac. This plant was the first *Cattleya* grown in the country, but in the early days it was called *Epidendrum*, to which genus indeed Reichenbach reduced all the *Cattleyas* before he died. It grows freely with the labiate section of the genus, and requires potting in a similar manner.—W. H. G.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT RYECROFT NURSERY.

A VISIT to the Chrysanthemum nursery of Mr. H. J. Jones at Lewisham cannot fail to be of immense value to all who are interested in this branch of horticulture. Here may be seen 6000 Chrysanthemum plants growing in pots, and without exception all are in superb health. Mr. Jones does not cultivate those kinds now so well known, such as the Queen family for instance, for the production of blooms, but devotes his time and space to the growth of new sorts. The plan Mr. Jones adopts with seedlings is to raise a big batch yearly from seed obtained from various sources, such as from America, France, and Japan, as well as from his own saving. The very best varieties are chosen for hybridising. Habit of growth is the first consideration. In the matter of colour those of decided tints are chosen as seed-bearers. Rich crimsons like Edwin Molyneux, which combines excellence of habit as well, is a favourite for this purpose.

As giving an idea of how thoroughly seedling Chrysanthemums are tested, Mr. Jones has 1000 plants raised from seed sown early this year. All are so far advanced at the present time as to be in a state to produce blooms this year. The most promising are marked and set aside for future trial. A period of two years is required before a variety can be thoroughly tested, as the flowers of many that turn out really good have the first year

but a single row of florets; 500 of these second-year trial sorts are now being finally tested. What strikes one most of all is the remarkably sturdy habit of growth the most of them possess. The present year's seedlings are now making their first break, many of them not being higher than 1 foot. The year-old plants retain that style of growth; the tallest plant was not more than 3 feet 6 inches at the time of my visit. Crown buds were fast appearing in the points of the shoots, which is an indication that the best blooms will be seen upon them. The date for bud-formation is evidently about the right time for testing purposes, especially when we consider that the bulk of the seedling plants belongs to the Japanese section. Varieties of the hairy kinds, of which Mrs. A. Hardy was the forerunner, are being largely tested. No less than thirty sorts from M. Sautel are being grown.

Mr. Jones evidently thinks that there is a future before this race, so peculiar and quaint are many of them with their hirsute appendage. New varieties like Charles Davis are being largely grown. Mr. Jones thinks highly of this latest addition to the Japanese section. Its parent, Viviani Morel, is now acknowledged to be the finest variety in existence, and its sport is said to be a fac-simile in style of bloom, but of a lovely yellow in point of colour. In growth it is promising, not exhibiting such a tendency to premature bud-formation as its parent. No less than 200 plants of Spaulding's new sorts are on trial also. M. Calvat's varieties are also receiving considerable attention. From the blooms shown in England by this raiser, they appeared to please the British connoisseurs. Princess May, Beauty of Exmouth, Robert Owen, Countess of Hambleton, and Ruth Cleveland are names that occur to me of sterling varieties that are likely in the future to be in demand.

It must not be assumed that the older sorts are altogether pushed on one side to make room for the newer introductions. Mr. Jones retains stocks of all that are worth a place. These are grown in small pots and plunged out of doors in one long bed, allowed to grow with but one shoot, and being struck late and not receiving artificial aid in the way of manure, as though they were cultivated for bloom, a splendid lot of cuttings is available when required. It might be thought that Chrysanthemum propagation is confined to so many months in the year. This is not so. Evidently it appears to go on all the year round to meet the demands of the trade. Summer propagation is done in shallow boxes of sandy soil stood in a frame with the lights taken off. Mr. Jones has a splendid batch of pompons of leading kinds, very bushy and dwarf.

E. MOLYNEUX.

SEASONABLE NOTES.

THE plants for all purposes are now making extremely rapid growth and need much attention in securing the points of the shoots to their supports to avoid being broken by strong winds or heavy rains. Some varieties are so short-jointed, that in low-lying, damp districts some cultivators are beginning to fear such plants will not ripen their wood sufficiently if we get a continuance of moist, dull weather. My advice to such persons is to thin the leaves judiciously, so as to admit a greater amount of sun, air and wind to the stems and branches. I do not mean to make the plants quite clean of their main leaves the whole length of their stem, but to remove an odd leaf here and there where they overlap each other. In districts similar to those already noted it is at times a difficult matter to get such varieties as the Princess Teck family forward enough to give satisfactory blooms by the middle of November, much less during the early part of that month. Where such a thing exists as a spare wall with a southern exposure, it is a good plan to stand the pots at the base of the wall and train the shoots on the wall so that they receive the benefit of warmth from the wall. This enables them to mature their growth and form the desired bud earlier than they would, by at least a fortnight in the ordinary way.

It is not necessary that a high wall only should be utilised for this purpose. A low wall, provided it has the proper aspect, will suffice equally well. The shoots can be trained crosswise over each other, but in such a manner that the leaves of one plant do not exclude the light too much from those of the other. The extra warmth derived by the plants from the wall must hasten on their growth and also the maturation of the wood. Varieties belonging to this family, and even the original as well, never produce shapely blooms from what are known as crown buds; therefore recourse must be had to buds formed a stage later and which of necessity throw the forming of this bud several weeks later. No variety that I am acquainted with exhibits so marked a difference between the blooms obtained from strictly crown buds and from others. In the former the blooms are flat; what few petals there are reflex instead of incurve, while the colour is several shades paler than it ought to be. The proper form of blooms in the Teck family is of the best incurved type; the depth very often exceeds the diameter, while the petals are very fleshy, thoroughly incurving, and possessing unrivalled colouring. The blush tint in Princess Teck is unrivalled, and so is the flesh-pink or rosy blush of Hero of Stoke Newington, a sport from the former. Some of the finest blooms ever seen belonging to this family were obtained by the aid of a wall in the manner described.

E. M.

NEW EARLY-FLOWERING CHRYSANTHEMUMS OF 1893.

So far as I have been able to learn at present, the early-flowering Japanese Chrysanthemums, of which we have recently received so many varieties, have not been so satisfactory as one might have expected. A large importer and grower of this class of Chrysanthemum informs me that he has nothing yet in flower that would justify a visit to his nursery.

The contributions to the lists have hitherto been received from continental growers, the American climate, on account of its heat and dryness, not being favourable to the growth of this section of Chrysanthemums. It is noticeable, however, in the American catalogues that a few early-flowered varieties are now being put into commerce, and no doubt if American growers can succeed in seeding these flowers which stand their summer the best, a new and useful race of early Chrysanthemums may thus be obtained.

M. Délaux, as usual, sends out a considerable number, and M. Boucharlart also contributes to the lists for the first time for many years. He tells us that the twelve varieties distributed by him are in every way distinct from existing sorts, each variety having been examined in comparison with those already in cultivation. It may be excusable to mention that it was from his nursery nearly twenty years ago that a set comprising the well-known Mme. Desgrange was sent out, and that if those now announced are of the same standard of excellence as that variety, there will be a ready acceptance of them by those cultivators in this country who pay special attention to early-blooming Chrysanthemums.

The forthcoming exhibition at the Aquarium in September seems to offer but little encouragement for the introduction of novelties, which is a costly and, it is to be feared, unremunerative business to those concerned. Many of the new sorts which are stated by the raisers to be in full bloom by a given date fail to respond to the description given of them. The difference between the climate of the south of France and ours may, of course, make all the difference, and it seems to me that the open border and not the show board is the place for which these early Chrysanthemums are more properly fitted.

Alfred Sabatier (Délaux).—Violet-rose, striped white, golden centre, dwarf.

Autocrat (Henderson).—Deep yellow.

B. Boissonnat (Boucharlart).—Japanese; purple-violet, good habit, dwarf.

Billecart Charles (Délaux).—Japanese; fine petals, dark carmine-yellow, shaded dark red in centre, reverse silvery.

Boule d'Or (Boucharlart).—Japanese; broad petals, light chrome-yellow, dwarf.

Candeur (Lacroix).—Japanese; long petals, pure white.

Capitaine Fournier (Délaux).—Japanese; violet-rose on white ground, striped and tipped white, centre golden.

Cassini (Lacroix).—Japanese; slightly incurved, bright orange-red, reverse old gold, dwarf.

Charles Gérard (Délaux).—Japanese; broad petals, lilac-rose, striped white, centre golden.

Creole (May).—Japanese; incurved; deep claret, reverse garnet.

Duminy (Délaux).—Japanese; long petals, violet, striped white, golden centre.

Edmond Besserat (Délaux).—Incurved; rose, glazed white.

Edmond Duval (Délaux).—Japanese; pure white.

Ernest Irroy (Délaux).—Japanese; salmon, nankeen and gold, striped rose, centre dark yellow.

Fadette (Délaux).—Silvery lilac, centre golden, fibrils 1.

Fulstaf (May).—Deep pink, base rose.

Gaspard Boucharlart (Boucharlart).—Japanese; brick-red, dwarf.

Georges Gayon (Délaux).—Japanese; twisted petals, creamy white, centre darker.

Haré d'Olphore (Délaux).—Japanese; violet-rose, speckled white, tubulated petals of silvery white.

Henri Clicquot (Délaux).—Broad petals, silver-lilac, shaded azure, dwarf.

J. Lermont (Boucharlart).—Japanese; dark chrome-yellow, streaked red at base of petals.

John White (Pitcher and Manda).—Fine pearl white.

Jules Fournier (Délaux).—Japanese; long drooping petals, silvery light lilac-rose, centre darker.

Jules Mumm (Délaux).—Carmine-amaranth, reverse silvery white, old gold centre.

Krug Paul (Délaux).—Japanese; long petals, golden yellow, edged and striped crimson.

Lady Florence (Pitcher and Manda).—Rich yellow, early.

La France (Pitcher and Manda).—Pink, early.

La Fontaine (Boucharlart).—Japanese; creamy white, good habit, fairly dwarf.

L'Été (Délaux).—Japanese; similar to Fremy, but colour rather darker.

Le Fidame de Moirax (Délaux).—Canary-yellow, glazed silvery white, orange centre.

Lumière d'Argent (Délaux).—Anemone; guard florists silvery white with lilac reverse, centre golden.

Mme. Bérard (Délaux).—Japanese; broad petals, golden red, shaded salmon and violet-rose tipped gold, centre same colour.

Mme. Cavalier (Boucharlart).—Japanese; bright rose, tipped sulphur-yellow.

Mme. Cavé (Délaux).—Japanese; dull white, edged rose.

Mme. Chapuis (Boucharlart).—Japanese; white petals, edged purple-rose, dwarf.

Mme. Dangeville-Guérard (Délaux).—Japanese; long petals, wax-like white, shaded violet-rose.

Mme. de Chossat (Boucharlart).—Japanese; pure white.

Mme. Henri Corbin (Délaux).—Lilac-rose, glazed silvery white.

Mme. Henri Corbin (Délaux).—Japanese; long petals, silvery white, shaded rose.

Mme. Jules Moquet (Délaux).—Japanese; bright dark yellow, lightened red, centre silvery rose.

Mme. Marchand (Délaux).—Japanese; soft rose and silvery white, golden centre.

Mme. Paul Pujol (Délaux).—Japanese; light yellow.

Mme. René Larriev (Délaux).—Japanese; broad petals, waxy white, lightened rose, golden centre.

Mlle. Marie Gourre (Délaux).—White, striped rose, centre gold.

Mlle. Madeleine Fabre (Délaux).—Rose, glazed silver, golden centre.

Mlle. Pujol (Délaux).—Japanese; white, centre cream, dwarf.

Mlle. Suzanne Courvreur (Délaux).—Japanese; fine petals, dull white, shaded rose.

Messidorine l'Aurel (Délaux).—Japanese; long drooping petals, silvery lilac-rose, reverse old gold.

Molière (Boucharlart).—Japanese; light salmon-rose, golden reverse.

M. Augremy (Délaux).—Japanese; silver and purple-marant.

M. E. Prouverelle (Lacroix).—Japanese; long petals, flesh-white, streaked light lilac.

M. Emile Rosette (Délaux).—Darker in colour than Edouard Audignier.

M. Henri Lorquin (Délaux).—Golden red, tipped velvety crimson.

M. Henri Corbin fils (Délaux).—Fiery dark crimson, darker than Culling'ordi.

M. le Dr. Jules Fabre (Délaux).—Japanese; dark gold, striped dark crimson-red.

M. Pierre Carayon (Délaux).—Japanese; broad petals, flesh-white shaded rose.

Mrs. Howard Hinkle (Hill).—Japanese reflexed; rosy terra-cotta.

Mrs. W. C. van Horn (Pitcher and Manda).—deep buff, shaded carmine.

Mrs. J. T. Anthony (Pitcher and Manda).—Japanese reflexed; dark pink changing to blush-white.

Mrs. Katherine B. Lewis (Pitcher and Manda).—Japanese; long petals, canary-yellow.

Mr. James T. Closson (Pitcher and Manda).—In-curved; lemon-yellow.

N. Farre (Délaux).—Japanese; long petals, canary-yellow.

Paul Valade (Délaux).—Salmon-red, golden centre, silvery reverse.

Perrier-Jouet (Délaux).—Broad petals, dark crimson-amaranth, edged white, centre gold.

P. J. Stahl (Boucharlat).—Japanese; crimson-red, shaded purple.

President Edouard Barre (Délaux).—Dark blood-red-crimson, golden centre.

President Leon Simon (Délaux).—Dark carmine tip, shaded and striped white, golden centre.

Professeur Maxime Cornu (Délaux).—Japanese; broad petals, pure white.

René Deutz (Délaux).—Japanese; long petals, purple-garnet-red, speckled white.

Saint Marceau (Délaux).—Japanese; long outer petals, cream, passing to white, centre dark cream.

Sigurd (Lacroix).—Japanese; broad petals, dark carmine, reverse ashy white.

Sr. de Jules Pourbair (Délaux).—Japanese; long petals, bright salmon, shaded golden violet, silvery reverse, tipped old gold.

Sr. de M. Courreux (Délaux).—Bright fiery-red, dark golden yellow centre.

Tolstoi (Boucharlat).—Japanese; brick-red on golden ground.

Vne. Louis Pommery (Délaux).—Pure white, edged dark carmine-rose, golden centre, dwarf.

W. Clibran (Boucharlat).—Japanese; broad petals, light garnet-red.

C. HARMAN PAYNE.

GARDEN FLORA.

PLATE 922.

DIPLADENIAS.

(WITH A COLOURED PLATE.*)

THE Dipladenias are amongst the finest of all our stove flowering climbers; in fact, I consider them unsurpassed when proper attention is given to their culture. More care and attention are required to attain to the best results than are needed with Bougainvilleas or Allamandas, whilst where the mealy bug is found pretty general it will be a marvel if the Dipladenias escape its ravages. Hence, no doubt, they are not cultivated so extensively as they would otherwise be, whilst in addition, from want of better knowledge as to their treatment at the root, many plants are ruined through excess of water. These allusions are not by any means made to deter cultivators from giving them further trials, but rather to point out where failure will occur and thus safeguard the plants. When these essentials to success are duly taken note of, the future of the plants is pretty sure to be of the most satisfactory character. Give them the same amount of care as one would bestow upon Cape Heaths or New Holland plants and they will grow freely enough. The

amount of water, for instance, which an Allamanda will absorb is vastly in excess of that required for a Dipladenia; in fact, the latter would come much nearer to the succulent plants as represented by Epiphyllums and other Cacti in this respect, although it does not, I know, come under the same classification. Starting with cuttings or young plants is better than taking to larger examples. Young plants can be purchased cheaply enough now-a-days. The presence, therefore, of the Dipladenias in our stoves should be far more general than it is. It is not surely too much trouble to give them the attention requisite to ensure their thriving well! As before stated, the mealy bug has no doubt ruined a good number of plants. Where this has been the case, then at once decide to exterminate the bug and make a clean start. It is to me rather astonishing that the burden of such a plant pest should be borne with so much equanimity, as it is, as if it were one of the deterrents to plant culture which has to be endured without any hope of

additions when the peat is not of the best; so also is yellow turfy loam. Firm potting I consider thoroughly essential, for it has to be of a more permanent character than in the case of such plants as Allamandas and Clerodendrons, which every spring may be reduced considerably at the roots. Not so with Dipladenias, however, unless one wishes to run a risk that has no compensating advantage even if it is escaped. The roots of the Dipladenias are so different, being much finer in the tissues, but not nearly so rapid in growth. They have a good store house in their tubers (somewhat after that of the Dahlia); these have not been provided by Nature without a "reason why." I take it that in case of drought to any excess these tubers supply both the top growth and the fibrous roots also. By overwatering and soddening the soil there is the danger of decay of the tubers setting in, hence the whole fabric suffers. But little room should be allowed for watering; this is a very good way of guarding against too much being given them. I have

known the plants when in the best of health and flowering freely to go for weeks together without being watered at all. In this way it is next to impossible to sour the soil, whilst the plants will continue for several seasons without more than a shift or two when they have once attained to a fair size.

In potting these larger plants, I once used some fertilising Moss to a moderate amount with very good results; the plants were then some twelve years or so old, yet they flowered more freely than ever after the use of the Moss. In younger plants it would probably have forced wood growth in a corresponding degree, but it is doubtful if the advantage would be permanent in such a case. A little of this Moss makes a good top dressing with peat when potting is not really required. As to training, I much prefer to grow the plants on wires near to the glass, either hori-



Dipladenia Brearleyana.

zontally or up the roof as the case may be. Never tie down the shoots as they grow when trellises are provided for each plant, but rather take up each shoot towards the glass by means of a piece of fine string as a support. When showing colour the flower trusses can then be arranged as desired upon the trellis. Considering the tender nature of the foliage, care has to be taken not to injure it when looking after insect pests. A camel's hair brush is about the best thing to employ; if its use with a well-tried insecticide be followed up there will not be any cause to complain of insects doing any harm. The points of the shoots should always be carefully preserved from injury when doing any work, for the loss of a point, unless very early in the season, means the loss also of one or more flower trusses, except in the case of such like kinds as *D. boliviensis*, which mainly flowers upon the lateral shoots. As to pruning, but little is required; it is rather a matter of thinning out the weakly wood to give place to the stronger. This should be done as soon as the plants go to rest in the autumn. Shading should be sparingly used at all times.

* Drawn for THE GARDEN by Gertrude Hamilton in the gardens at Gunnersbury House. Lithographed and printed by Guillaume Severeys.



Bottom-heat I do not care to recommend; at the best there is in its use a likelihood of too much moisture remaining about the roots, thus acting prejudicially thereto, whilst the soil itself will not be improved in any case. The only time in which bottom-heat might be an advantage would be in the case of quite young plants or cuttings. These latter strike freely enough, but take a little longer time in making a decided start than those of most plants; short growths with a heel are the best cuttings. The flowers of any kind are extremely useful in a cut state, lasting well when in water and being seen to best advantage in shallow glasses, resting on a carpeting of Fern or other suitable foliage.

VARIETIES.

There are, with the addition of the splendid hybrids now cultivated, a few, at least, of the species which are worthy of every attention. Of these latter I would particularly draw attention to the subject of this week's coloured plate—

DIPLODENDIA BOLIVIENSIS.—This being a white variety adds greatly to its value in many ways when cut, whilst upon the plant the free-flowering character it possesses adds further to its value. Month after month from early summer to late autumn it will continue to flower without any intermission. The trusses are not so large or of such a continuous nature as in most other kinds, but they are produced much more freely. Being a smooth-leaved kind it is not so difficult to keep clean, nor is it so liable to insects as the other and somewhat downy-leaved varieties. It was awarded the first prize as the finest new plant in flower at the R.H.S. exhibition on June 16, 1888. Messrs. Veitch and Sons, who introduced and exhibited it, say in their new plant catalogue of 1870: "This distinct stove plant may be best described as a very free flowering white *Dipladenia*. In habit it is very compact, producing an abundance of flowers in a much smaller state than almost any other species. The foliage is medium in size and of a light glossy green colour. The flowers are somewhat smaller than those of *D. crassanoda*, pure white, with a distinct yellow centre, and will be accepted as a pleasing addition to the already popular class of *Dipladenias*." These remarks hold good now as then. The only surprising thing about it is that such an exceedingly useful plant should even now be so little grown when cut flowers are more in request than ever.

D. SPLENDENS is another lovely species from the Organ Mountains. It is a vigorous grower, more so probably than any other kind. When seen in first-class condition it is a variety of surprising beauty, both the trusses and the flowers being large. The colour of the flowers when aged is nearly white, with a faint trace only of soft pink, the latter colour predominating in the younger stages. This species is one of the most continuous in producing flowers upon the same spike. As a parent, its characteristics are easily seen in *D. amabilis* and other kinds.

D. CRASSANODA is a species from Rio Janeiro. It is now seldom seen in good condition, being somewhat of a shy grower unless under the very best culture. It flowers freely enough after a good growth has been obtained. The colour of its flowers is a deep rose.

D. AMABILIS is one of the best known hybrids (*D. crassanoda* × *D. splendens*), being a most profuse flowering and free-growing plant. It is without doubt far superior to *D. crassanoda*. Its flowers are of the same shade, of the two darker, perhaps, whilst it has the continuity of flowering as in *D. splendens*. As a specimen for exhibition it is one of the very best. As such it was shown by Mr. Thos. Baines many years ago in splendid form.

D. BREARLEYANA is another grand hybrid, probably from the same parentage as the former. Its flowers are larger in size and possess of the two more substance than those of *D. amabilis*, whilst the

colour is several shades darker (an intensely dark crimson). It is not, however, so frequently seen shown as a specimen.

D. INSIGNIS has much of the same character as *D. Brearleyana*; the flowers are of a rich deep rosy carmine, as deep on the outer as on the inner side of the corolla, with the base of the tube white. It is a vigorous grower and also a free-flowering variety when under the best conditions. It was raised in Yorkshire from *D. amabilis*.

D. AMONA is another excellent hybrid, with flowers resembling those of *D. splendens*, which is no doubt one of its parents; the blooms are somewhat smaller, but with the same characteristics as that species. It should be grown as a companion plant to *D. amabilis*, being quite a contrast to it in colour.

D. WILLIAMSII is of the same shade of colour as *D. splendens*, with smaller foliage and greater freedom of flowering. Where it is already grown *D. amona* is hardly needed.

These form about the best selection now in commerce.

D. ATROPURPUREA, first introduced from Brazil in 1814, is now seldom seen, having apparently nearly dropped out of cultivation. It has flowers of a deep purplish or chocolate shade with a dark orange throat—not a striking combination of colour; in freedom of flowering and style of growth it is more after *D. boliviensis*, but cannot be compared in any sense with it. It was shown in good condition by Messrs. Sander and Co. at the last Temple show of the R.H.S. J. H.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

RUNNER BEANS.—Although runner Beans have bloomed most profusely this season, yet so far pods have not formed very freely, the parched state of the atmosphere being the cause of this. Now that the weather is cooler this will no doubt be changed, but if not, the best course is to syringe the plants lightly overhead just as the sun is going off them. This, coupled with the soil being kept well moistened, will lead to satisfactory results. Owing to the plants not having been overburdened with pods, there is every probability of even the first sowings keeping in bearing until cut off by frost. Even if the supply at any time is above the demand, it must be remembered that by salting down the surplus in earthenware jars a good winter vegetable is obtained. The pods should not be allowed to remain on the plants, as this will impoverish them as much as even dryness at the roots. In reserving pods for seed, it is better to give up a portion of a row for this purpose, selecting the best shaped pods.

TURNIPS FOR SPRING GREENS.—It is certainly late for sowing Turnips for coming to any size suitable for storing, but not for affording roots to produce a supply of spring greens, not but that the roots sometimes grow to a presentable size if the autumn should keep open and mild. Ground recently cleared of Potatoes will be in good condition for this crop without much preparation except forking over the soil. If at all loose the surface should be equally trodden over and the seeds sown thinly in drills. This latter is a necessity, as the seeds germinate readily at this season and a crowded growth is very undesirable. Where the opportunity was taken at the middle of July of making the main winter sowings, the beneficial showers generally experienced at this time caused a quick and even germination, the seedlings being very healthy. Do not upon any account neglect thinning them out, first going over with a hoe, leaving the seedlings in small bunches at equal distances apart, and a few days afterwards single them out, a surface hoeing afterwards settling the soil about them and so encouraging a free growth.

LIFTING POTATOES.—There will not be any need to leave any Potatoes, except the latest, in the ground much after this, indeed if at all. In those cases where the winter greens have been set out between the rows, the removal of the Potatoes will enable these to make a much more satisfactory growth. In lifting the tubers the better course is to take them away to a cool shed, and if possible place in a layer of about a foot in thickness, taking care to totally exclude light, or the tubers will quickly become green. If the shed will allow of light being excluded by darkening windows, this should be done in preference to covering up the tubers. Storing the tubers in large heaps is not to be commended, this causing them to become heated. The quality of more Potatoes is spoiled through over-heating after being dry than many people are aware of.

WINTER SPINACH.—This being a most important crop for the winter and spring months, it is necessary that preparation for sowing should now commence. If the soil has already been prepared, all that will be necessary to do is to strew a dressing of soot over the ground, also burnt refuse if at hand, this being knocked into the surface with a heavy rake, afterwards lightly treading the surface evenly over if at all loose. In cases where the ground has not been prepared, manuring will be necessary if at all poor; but as this crop follows well after Potatoes, and as the nature of the season has been such that this crop has not extracted much nutriment from the soil, a forking over will generally suffice, well breaking the soil in the turning. The drills should be drawn 15 inches or 18 inches apart, the seeds being sown thinly. As soon as the seedlings appear, another dressing of soot should be given, this making the soil all the more distasteful to grubs, which in some seasons play sad havoc with this crop. This and timely and frequent hoeing are what are needed to cause the plants to make a free growth. In the more favourable localities the 20th of the month is a good time for sowing, but a few days one way or the other will not make much difference.

A. YOUNG.

FRUIT HOUSES.

MELONS.—Of late there has been very little sunshine, the weather being all in favour of cracking of fruit and canker at the stems. It is when the fruit is near the ripening stage that both the cracking and cankering are most liable to take place. The remedy for the former is the maintenance of a drier atmosphere with the aid of more fire-heat and a little top air. Keeping the roots also a little on the dry side is a safe and good practice after colouring of the fruit has commenced, but it must not be carried out much in advance of the ripening period, or otherwise the fruit will be small in size and poor in flavour. If a space about the stems 9 inches in diameter is kept perfectly dry it is not often that canker will take place, but should it be discovered at the collar, scrape the affected part clean at once and dry the wound thoroughly with newly slaked lime, or failing the latter Portland cement. If this remedy is persevered with as often as need be, not a plant will be lost. Swelling fruit ought not to be much confined by supports of any kind. Secure the haulm at the footstalk to the trellis with a strong piece of raffia, and merely string up the fruit when it is seen they are nearing the ripening period.

LATE MELONS.—There will be a scarcity of Plums, Peaches, and Cherries this autumn, all having ripened or are ripening very much earlier than usual or desirable in many cases. This being so, there is all the more reason why Melons should be kept going as late in the year as possible in order to add a little variety to the dessert. Plants that are now swelling off their first crops should be kept in good health with a view to taking a second lot of fruit from them. Red spider ought to be kept down by means of sulphur in the syringing water, and thrips, green and black fly with the aid of tobacco water. Do not stop hard, but allow a few shoots to grow freely, then pinch out the

points, the second crop being produced by the side shoots that result. Much depends upon the state of the roots. Unless these can be kept in an active state, the first crop will not be of the best quality, and the second of still less value. In addition to keeping the soil uniformly moist add enough strong loamy soil on each side of the ridge to bring it up to a level, making it quite firm and also top-dress with more of the same, with a sprinkling of a quick-acting artificial manure added. If pulverised right soil is available, nothing will suit Melons better than this applied mixed with loam as a top-dressing. There should be no drying-off at the roots while the first crop is ripening, this whether more fruit has been set or not. In dull, cold weather during August and constantly afterwards fire-heat must be turned on, a brisk heat accompanied by a moist atmosphere being needed to swell the fruit to a good size. It is somewhat late to sow seed now, but if there are any small, healthy plants on the place, these might well be fruited in the autumn. Pot culture is to be preferred at this late date to planting out in ridges. Use pots 14 inches or rather more in diameter and a compost consisting principally of strong loam, to which a sprinkling of mortar rubbish, or lime, soot and bone-meal are added. Drain the pots well and pot firmly, taking care to keep the collar of the plants just above the level of the soil. Melons, unlike Cucumbers, will not stand having soil heaped up about the stems; therefore fill up the pots to the rims at once. A fairly brisk bottom-heat, generated by well-prepared stable manure, and later on with this and leaves, favours a strong clean growth, especially seeing that it obviates the necessity for applying much fire-heat for some time to come. Heating material, though desirable, is not, however, absolutely necessary. Either stand or plunge the pots nearly close together, pot Melons not requiring much room. Carefully train till the roof trellis is reached, side shoots being pinched out directly they show, leaving them till they need cutting out with a knife being a very risky proceeding. Train the leading growths straight up the roof to a length of about 3 feet and then take out the points. Laterals that do not show fruit should be early stopped at the second leaf, and those that have perfect female flowers should be stopped one joint beyond these. Up to the flowering period overhead syringing may be resorted to when the house is closed on clear days, but it should be discontinued directly the flowers are opening. Two fruits are quite as many as each plant will swell to a good size, and in order to be certain of these, two or three flowers ought to be fertilised at about the same time, or directly the pollen is dry. Once the Melons are swelling freely they must be kept going, liquid manure and a renewal or increase of bottom-heat being beneficial.

MELONS IN FRAMES.—It is the fruit nearing the ripening stage that gives the most trouble this season, these cracking and cankering badly. The fruits, as a rule, are of good size, solid and well-netted, but since the change in the weather many complaints are heard of Melons failing to ripen satisfactorily. While the fruits are swelling fast, and till such time as colouring commences, there should be no actual drying off at the roots, but novices are warned against over-doing either the watering or over-head sprinkling. It is the latter that is apt to cause cracking and should not be done in dull weather, nor at any time after the fruits are well netted. Lay them up on inverted pots among, but not wholly clear of the leaves, lightly thin out superfluous shoots, ventilate rather freely on warm days, and in particular give a chink of air at the back of the frame or pit before the sun has gained much power. A renewal of the linings or an increase of bottom-heat would greatly assist in the swelling off of late fruit, but care must be taken not to confine the vapour that may find its way inside. It is the coarse netted varieties that are most liable to canker, especially if syringed or sprinkled often. Some have been spoilt owing to drip reaching them, and drip ought, therefore, to be guarded against. Directly any of the coarse lines of netting open

unduly or give signs of canker, scrape the affected part with a knife and dress with newly-slaked lime. Unless this is done in good time the fruit may be spoilt in a few hours. When the fruits are cracked all round the foot-stalk cut them, but do not send them to the table till they are softer to the touch. Both Blenheim Orange and Hero of Lockinge are improved by being kept in a warm dry room for about a week after being cut.

PRACTICAL.

PLANT HOUSES.

GREENHOUSE PLANTS.—SHOW AND FANCY PELARGONIUMS.—All of these should by now be cut back after having been well ripened off and rested for a short time. The most exposed and sunny position out of doors will be the best for them. At the time of pruning, cuttings can be taken to keep up the stock; these are struck much the easiest by being inserted in sandy soil upon an open border out of doors. These cuttings will make nice plants to winter in 3-inch or 4-inch pots, being potted up towards the end of September. The whole of the stock should now be gone through, or at the latest as soon as the buds commence to swell up and burst. To leave this work any later will cause a check to root action, it being of the utmost importance to have the pots again well filled with roots by the time winter sets in. Reducing the old ball should always be practised. If the plants be vigorous ones and naturally of strong growth, a moderate reduction will suffice, so that they can at least go back into the same sized pot again. Others of weaker growth, as the fancies, should be reduced sufficiently to go into a smaller sized pot than that out of which they have been shaken. In these they will winter more securely with less tendency to make a sappy growth, which at that season is particularly to be avoided. After potting, stand again in the open air and keep them all as hardy as possible. For this autumn potting the soil should consist chiefly of good loam with sand and a small amount of manure from an old Mushroom bed, this latter being worked through a sieve, so that it may be well incorporated with the other soil. No rank manure or anything to excite growth should be thought of for reasons already given. In the event of a heavy rainfall, protection in a cold frame will be advisable to prevent the soil becoming soddened.

ZONAL PELARGONIUMS.—If any of the winter-flowering plants are not yet in their blooming pots no time should be lost in seeing to this work, but only just a shift should be given them now, using good soil with some manure, as advised above. These should not be allowed to flower yet, whilst if any shoots are growing away too freely, another and last stopping may be given them. Avoid keeping these plants in a damp place; the more sun and air they are exposed to the better will it be for their future welfare. I would much rather see the foliage hard and sturdy, perhaps rather pale-looking, with short foot-stalks and of medium size than larger and of a deeper green and sappy. The former will stand all the better. Earlier plants intended for autumn flowering should now be allowed to push up their flower-spikes; these will then come in useful in September and October. For the present these also should remain outside, only being taken in when the first trusses expand.

SCENTED-LEAVED PELARGONIUMS.—These are often despised and considered as being out of date or old-fashioned, but they are, nevertheless, very useful both as plants and for cutting. There are many things grown for the cool house that do not pay for their culture nearly so well. Varieties can be chosen either for cutting more particularly or for use as plants. For the former purpose I advise *radula* (balsam-scented), *capitatum* (rose-scented), and *fragrans* (nutmeg-scented), and to these for pot plants should be added *denticulatum majus*, *filicifolium odoratum*, *quercifolium*, *radula majus*, *Fair Helen* and *Lady Plymouth*. Now is a good time to take cuttings for striking in the open border or pots; these will make useful plants

another spring. Those who already grow them should keep their plants fully exposed to light and air, and should any stock have been cut hard or be otherwise out of health, a fresh shift may be given them, reducing the old ball or not, according to circumstances.

CINERARIAS AND CALCEOLARIAS, &c.—Do not let these escape notice; if the stock of either be short, another sowing should be made at once. The best of the latter that I ever had were only pricked into 2½-inch pots in October, whilst the former will also have plenty of time to grow in the spring for late blooming. *Cinerarias* now in 3-inch pots should receive a shift, the best plants going into 6-inch ones; others, perhaps, still in seed-pans should be potted off at once before they become drawn. Full exposure is by far the better treatment, to grow them rank and sappy is quite a mistake, as it also is to sow the seed too early and be thus compelled to pot on to save them. The plan of growing the *Cinerarias* in a frame under a north wall is not in my opinion ever advisable, unless it be for the sake of taking cuttings rather than depending upon seedlings. If the *Calceolarias* from earlier sowings be not yet pricked off, no time should be lost in doing this work; if forwarder, they will probably be fit for small pots. These plants I would keep in the shade for a few weeks longer; they require to be kept cool and moist, whilst there is not much fear of too free a growth yet. Do not in the case of either of the foregoing plants use a rich soil; good loam and leaf-mould will answer well, and for the first potting this should be worked through a sieve. *Primulas*, like *Cinerarias*, should be grown hard, not being kept in the shade. If the plants are of good size, the lights can be left off night and day in fine weather. Do not defer potting where it is needed, but bear in mind that large pots are not advisable if they are not well filled with roots in another month. A late sowing made now will give an extremely useful stock of plants for late spring flowering or for the special purpose of seed-saving, these being better than larger ones.

JAMES HUDSON.

ORCHIDS.

I HAVE urged the importance of being very careful to maintain a healthy state of the atmosphere and also to keep the plants free from all parasites. It is like putting water into a sieve to try to grow Orchids if they are not free from insect pests. The gardener's time, when he is not busy repotting his plants, cannot be better employed than by looking over them again and again for thrips, scale and green-fly, or a species of aphid of a distinctly yellow colour, with which I was too well acquainted a few years ago, but which I have managed to get rid of for good, I hope. Whenever the plant was touched the insects marched rapidly to the roots of the Orchid, where they would remain secure amongst the *Sphagnum Moss* until all signs of danger were over. By the frequent use of soft soapy water and tobacco liquor we at length quite destroyed them. They used to do much damage to the drooping spikes of *Dendrobium Farmeri* and the fair white blossoms of *Calanthe veratrifolia*. This plant has not long passed out of bloom, and now is a good time to repot it. I find fibrous yellow loam is the best material. This should be torn up by hand and be mixed with a fair proportion of decayed manure and leaf-mould. As far as my experience goes, I have concluded that peat is better left out altogether, but as the plants require a liberal supply of water when growing, and as at no time must the soil be allowed to become dry, the potting material becomes sour unless the loam is good and the pots are well drained. They do not form an immense mass of roots like *Cymbidium Lowianum* for instance, and during repotting care must be taken not to allow the roots to be injured. Our largest plants are in 12-inch pots, and these must be filled to about a third of their depth with clean drainage, large pieces at the bottom, smaller at the top; with over the

drainage some very tough fibrous loam from which all or nearly all the clay particles have been shaken out. Some coarse sand should be mixed with the compost. I use Belfordshire sand, the particles of which are like small pebbles; some broken potsherds and pieces of charcoal are also mixed with it, as it is necessary that it should be in a condition to remain porous for a period of from one to two years. In repotting all the *Calanthes*, the compost should not be raised in a mound in the same way as for *Cattleyas*, *Lælias* and such plants as need peat and *Sphagnum*. All the *Calanthes* are treated more like ordinary hothouse plants than *Orchids*. Even now, with all the increased facilities of obtaining knowledge of *Orchid* culture, one sees *Orchids* that grow naturally in loam, and are ditch plants in their native country, still found treated in the same way as *Vandas* or *Cattleyas* that are found high upon trees, and live by sending their long thong-like roots into the air. Besides the pure white *Calanthe veratrifolia*, there is *C. masuca* and the fine garden variety raised from it, *C. Dominii*. This last variety, by the way, is not at all common now. Our stock of plants got into bad condition, and although all attention was given to them, they gradually became worse, and I had reluctantly to throw them out. The best grown plant I ever saw, or perhaps anyone ever saw, was in the collection of Sir Trevor Lawrence, Bart., at Burford Lodge. About half the material it was growing in seemed to be lumps of charcoal, but I do not know whether it still retains its vigorous condition; perhaps not, but it would be easy to raise seedlings from the same parents. The deciduous species and garden varieties of *Calanthes* now require to be freely supplied with water at the roots, and to be kept in the warmest house near the glass roof, and frequent applications of weak manure water will give great vigour to the plants.

All *Orchids* growing in the warm house if in the midseason of their growth should be freely watered, and any *Cypripediums* which have passed out of bloom and are starting to grow should be repotted if they require it. Many of these do better in loam than they do in peat of any kind, and *Sphagnum* mixed with it. The very distinct *C. Spicerianum* succeeds well in loam, and it is feasible to suppose the hybrids raised from it in gardens will also succeed in loam. I have proved that some of them do. *C. Leeannum*, for instance, still one of the best of them, does admirably in loam, and is even more vigorous than the parent. *C. niveum* seems to do well with limestone in the compost, and the allied species and varieties, such as *C. bellatulum*, *C. Godefroyæ*, and probably *C. concolor*, would do well with similar treatment. So far as our knowledge extends at present, *C. bellatulum* seems to take best to artificial treatment. None of them like to get quite dry at the roots, but when not in growth they are better kept on the dry side. When repotting these small-growing *Cypripediums* it is better to err on the side of under rather than over-potting them; whereas, such species and varieties, of which *C. grande* may be taken as the type, can have a good shift almost at any time. We may expect the nights soon to be rather cold, and it will not do to be caught with no heat on now. The watchful cultivator studies his temperatures at 10 p.m., and by long experience of studying the weather at that time can tell what it is likely to be by the next morning, and will bank up his fires accordingly. There is not so much danger of the weather suddenly changing now as there is in the spring, but the temperatures in all the divisions should be well up to the highest point allowed at night when banking up at ten. The cool house ranges between 50° and 55°, with scarcely any help from artificial heat, and with rather more help from the heating apparatus the *Cattleya* house is about 60°, less or more, while it is better not to allow the East Indian house to fall below 65°, but it will more often be at 70° at ten at night. See that all the houses are well ventilated, but it is an error to allow a constant draught of dry air to circulate through the houses. When the

wind blows dry from the east, shut the side ventilators against it, especially in the cool house.

J. DOUGLAS.

FLOWER GARDEN.

HARDY FLOWERS.

IRISES AND IRIDEÆ.

I AGREE with my friend Mr. Ewbank that the *Oncocylus*, or, as Mr. Baker proposes to call them, the Cushion Irises are what may well be the *ne plus ultra* of the gardener's ambition. There are few things that equal them in beauty and nothing in the whole range of hardy plants that even approaches them in interest. Mr. Ewbank is himself, I hope, on the track of what may some day prove, if not a royal, at any rate a decent road to success, and when he has found it or made it, I will invest in a load of the Maidstone paving-stones and again try to grow the Cushion Irises. In the meantime, and *en attendant*, I intend to harden my heart, avert my eyes from their names in the autumn catalogues, and let them rigidly alone, for the game is at once too expensive and too disappointing to be played continuously. Apart, however, from this particular section, the very Faubourg St. Germain of the family, whose exclusiveness I admit for the present to be unassailable, there is a fuller and more prolonged interest and pleasure to be obtained by the cultivation of the Iris than from any other race of plants, and the interest is botanical as well as horticultural. From the former point of view, the Beardless or Apogon section are a host in themselves; while by occasional mild excursions into *Evansia* and by crediting some of the broad-leaved bearded Irises with specific honours, the same interest may be enhanced and extended. The whole range of bulbous Iris is yours into the bargain.

For a small garden I have a fair number of Iris species here, but last winter I invested in Mr. Baker's "Irideæ," and my knowledge of botany being, I regret to admit, hazy, not to say limited, a perusal of this book has robbed me of "all my peace of mind," like the "May Queen" at another floral festival, and has induced a general scepticism in the matter of my labels, which has destroyed my self-satisfaction as a collector and may possibly militate against the complete accuracy of what I may have to say about my plants. The scheme of these remarks is to notice only botanical species and only those that are more or less new to myself; consequently, I shall not mention many of the broad-leaved or Flag Irises; but while on this subject I may remark that I think it is a pity some effort is not made to reform the nomenclature of these by finally discarding Latin names for varieties which the best authorities agree are not true specific ones. There are at present seven Latin adjectives under which names the nurserymen sell these so-called German Irises. These are *germanica*, *pallida*, *amœna*, *aphylla*, *neglecta*, *squalens* and *variegata*. It is true that these names represent distinct "types," which, for the purpose of identification and sale, require names; but Professor Foster has shown conclusively that the sorts that pass under the third, fourth and fifth of these names have never been found wild and are clearly of garden origin. It seems to me, therefore, to be in the interest both of garden-

ing and of science to get rid of them in these cases. There could be no difficulty in finding substitutes. We have already got *Juno* in this connection, so we might stick to the classics and have *Venus*, *Minerva* and *Ariadne*, the latter, of course, taking the place of *neglecta*—that silliest of all Latin adjectives of the botanist in trouble for a word; or, on the other hand, we might enlarge the compliment already paid to "gallant little Wales," and add *Griffithia*, *Owensia*, &c., to *Evansia*, be-latinising, as far as necessary, the whole range of Welsh patronymics. This, however, is a question for the botanical hierarchy.

I observe, by the way, that Mr. Baker assigns to *I. aphylla* (a name—and not a very apposite one in this connection—given by Linnaeus) a habitat in Eastern Europe, but the *I. aphylla* of Linnaeus has evidently no affinity to the *Mme. Chereau* sort of thing of our gardens, but as far as I can make out (for there are many synonyms) is the same thing as what is generally sold by nurserymen as *I. nudicaulis*.

One of the finest of all Irises is the Asiatic variety of the common *I. germanica*, the flowers being of great size. Mr. Ewbank, to whom I am indebted for many good things of the kind, gave it to me, and I was obliged to get him to send me a second piece, for my first plant died away somewhat unaccountably. This is a species that requires some little care to thoroughly establish. The variety is usually known and sold as *I. asiatica*, but it appears to be ignored by Mr. Baker, who assigns the name to some variety of *I. pallida*. The rich purple variety of the German Iris and the somewhat dwarfer and equally rich coloured *I. Kochii* are both well worth possessing, the latter apparently flowering some fortnight or more later than the former variety, and a good contrast to the former, as flowering contemporaneously, is the white or almost white Sicilian form of *I. lutescens* known as *I. statellæ*. The whitest of the Flag Irises known as *I. albicans* does not appear to be as reliable or as floriferous as the more common *I. florentina*. Having regard to Professor Foster's admirable lecture on the subject and to my own confession of general ignorance at the commencement of these notes, it would be absurd for me to attempt to speak of any of the dwarf Irises (known in gardens as *I. pumila*) under specific names. I have here a dwarf species, distinct altogether from the common dwarf purple Iris of gardens, having very rich red-purple flowers, given me some years ago by Mr. Ewbank. I asked him last year to send me another supply of *I. balkana* (having failed to establish this the year before), and I duly received a piece, which also showed some disinclination to accommodate itself to my soil last autumn and winter; however, I coaxed it into good temper in a pot, and it has since grown well and flowered in the open. It is certainly not *I. balkana*, but I think it not unlikely that it may be one of Professor Foster's hybrids, of which that species is one of the parents. The general tone of the flower is light yellowish white, with blue blotches and markings, something like, though far dwarfer and less pronounced than a hybrid variety I saw at Kew the other day labelled *I. Baleng*, the parentage of which is not a very difficult conundrum to guess. *I. arenaria* is easy to grow, but it is not hardy in the open, and I have failed for some reason or other to keep it through last winter in a pot in a frame. I regret this, as it is a good deal the best of the yellow dwarf Irises. *I. flavissima* var. *Bloudowi* grows freely on a raised rockery and is quite hardy, but has not yet flowered here.

I. cristata grown on a raised tuffet of stones and peat grows freely and flowers well. I have taken some time to establish this, and have lost several plants. Here at any rate on my cold soil it must have peat, and I put a piece of glass over it in winter, which I daresay is unnecessary. The flowers are among the loveliest of this family and among the most fugacious. This is, I believe, the only species of the *Evansia* class that I now possess, *I. stylosa* being of no use in my soil and climate, even when planted in next to nothing between stones, though I have occasionally had flowers on it which proved toothsome to the winter slug.

I. lacustris I do not possess and have never seen. It sounds interesting and should be good, but I imagine it is at present rare in gardens. *I. verna* grows slowly, and has not yet bloomed with me. This latter, by the way, is classed in a sub-genus (*Pardanthopsis*), of which there appear to be few known species.

Among the more tractable and easily grown species of

BEARDLESS IRIS (APOGON),

I. tridentata is in my opinion the prince. I believe (though I humbly confess I am not certain) I am speaking of *I. tridentata* (Pursh.), and not of an Iris of which the proper name, by right of primogeniture, appears to be *I. Hookeri*. It is a beautiful bright lilac and very free blooming. I had the ill-luck to visit Mr. Ewbank's garden in May, 1889, being the year after one of the wettest and coldest summers of recent record, and this was one of the few Irises blooming well where many had failed to flower. I have had it in my garden ever since, and it has never failed until the present year, from which I infer that it is one of the sorts that do best in moist soil, and that an entire absence of moisture such as we have suffered from during the present year is fatal to its flowering. Another good Iris that has failed this year apparently from the same cause is *I. setosa*, a much richer and redder purple than the plant usually sold as *I. virginica* (properly *I. versicolor* var. *virginica*), which has also done poorly from the same cause. One of the most beautiful Irises of this class is *I. missouriensis* (syn., *I. Tolmeana*), with graceful pale green ribbed foliage and bright lilac drooping petals. This is one of the earliest to bloom. I have no doubt this name is correct, though some years ago I got a plant under this name from Ware's nursery with pale blue flowers, very much of the same form, and generally with the habit of *I. Kämpferi*, the difference being that my plant flowered freely in common dry soil, while *I. Kämpferi*, as all the world knows, does not. *I. prismatica* is a rich-coloured Iris, though I can see little difference between this and the fine form of *I. sibirica* commonly sold as *I. orientalis*, a name which is, it seems, properly attached to the tall white Iris named by Linnaeus and usually called *I. ochroleuca*. Another good Iris of the same style is *I. longipetala*. All these, except *setosa*, are N. American. I have strong plants labelled respectively *I. humilis* and *I. graminea*, but I cannot see much difference in them. The flowers in both cases are produced on short stalks, much shorter than the foliage, which is dark green and Grass-like. Another Iris with the same bad habit of flowering below the leaves is what THE GARDEN has named for me *I. ensata*, and which I bought at York as *I. Alberti*. This has narrow, rather dull lilac flowers, and, though vigorous, is not a valuable garden plant. *I. ruthenica*, which would be better called by Pallas' name, *I. caespitosa* (for it has a range from N. China to

Transylvania, and is by no means exclusively Russian), grows very vigorously on a raised rockery, but the flowers, though pretty, are sparsely produced. It probably suffers from the unfavourable climatic conditions which affect so many other Asiatic species in this country.

Some years ago I grew and flowered here a very remarkable Iris with yellowish white falls and netted at the base with claret-purple veins. This, which was sold to me as *I. Douglassi*, must, I think, be the "Santa Cruz" variety of that species. I have managed to get it again once or twice, but have not yet succeeded in establishing it again. I have failed, too, with one or two plants sent me by Mr. Ewbank of a much stronger and taller species under the same name. Mr. Ewbank's plant, I have little doubt, is the right thing, and it also has yellowish white flowers. This species is very distinct, and well worth any trouble to establish and grow. I at any rate do not mean to rest till I have got it doing well. *I. hexagona* is a beautiful species from the Southern States, and is not quite hardy in the open in such a garden as mine. *I. tenax*, a most remarkable and altogether lovely Iris, I have never seen anywhere except in Mr. Ware's nursery, or rather in his greenhouse. I doubt whether this has ever been established in the open in England, though it seems to occur as far north as British Columbia. If any of your readers has got this growing satisfactorily, I should be interested to hear about it. A year or two ago I bought *I. bracteata*, but after careful nursing the plant has flowered, and has produced blooms which the nurseryman who sold it me informs me are those of *I. pumila* var. *macrocarpa*. The latter name (which is, I fancy, quite new, original and entirely unauthorised and absurd) is perhaps meant to console me for my disappointment. I am disappointed, for it is said to be one of the finest of the yellow species; but after all what more beautiful yellow can there be than our own Water Flag (*I. pseudacorus*)? *I. aurea* is a magnificent species that somewhat resents moving. Its ally, *I. Monnieri*, has failed to grow, perhaps from the prolonged drought. *I. ochroleuca* (or are we to call it *I. orientalis*?) is said, I believe, to like moisture. I do not dispute this, but it has hardly ever flowered here until the present year, when it has bloomed freely, and the best plants I have ever seen of this were in a town garden on top of a dry bank. *I. cuprea*, a very remarkable plant, of which the flower is unique in colour, has bloomed here for the first time for many years. There is something very capricious about this species.

I have not been very successful with the early flowering bulbous Irises. *I. reticulata* grows with great freedom, but the varieties of this and such congeners as *I. Histrio* die away the second year. *I. Bakeriana* flowered here in Jan., 1892, in the open, but then one does not want this in the open at such a time, so I potted it and it failed to bloom this year, as did the pretty little *I. Danfordiae* and one or two others of this tribe.

Orthosanthus multiflorus, which I saw in the rockery at Kew some years ago, is not hardy, but is worth taking a little trouble about, and I should like to grow it if procurable. It is an Australian plant. Many other of the *Sisyrinchiums*, such as the dwarf *S. bermudianum*, are also well worth growing. I have never interested myself much in *Crocus* species, though I do not mean to imply that they are not interesting. The autumn species (to people

who are at home in autumn) are the best. The winter-flowering species are mere frame or greenhouse things. Most of the spring sorts (except perhaps *C. Imperati*) are out-paced and out-faced by the Dutch varieties.

J. C. L.

***Sibthorpia europæa variegata*.**—This variegated form of the Money-wort is wonderfully pretty when grown in a suspended pot, pan, or basket, or clothing what might be otherwise a bare spot with its neat, dense and prettily variegated leaves. It needs a fairly close, dampish atmosphere, as where exposed to draughts or to a direct current of air in any way the foliage soon becomes browned. The variegation, which consists of a comparatively broad white margin to the leaf, is very regular and constant. It was the subject of one of the first, if not the very first coloured plate issued with THE GARDEN. This was on January 23, 1875.—11. P.

Zonal Pelargonium Mons. Porrier.—This is a very distinct zonal Pelargonium of vigorous, yet compact habit and with strongly marked zonate leaves, very free blooming, and producing large, bold trusses of deep magenta-rose flowers. A bed of it in the gardens of the Royal Horticultural Society at Chiswick shows it off to the best advantage; the colour is distinct and striking. It would, I think, make an excellent market variety.—R. D.

***Verbaacum olympicum* and *V. phlomoides*.**—"A. H." does well to call the attention of your readers to the value of that grand old plant *V. phlomoides*. Here we have a plant of magnificent port and colour, whose only fault seems to be that it is easily and quickly grown. What other plant among biennials can surpass this both in colour and size? *V. olympicum*, though classed as a biennial, cannot be depended on to flower the year after sowing, even when it has the aid of a sunny wall. I have plants now in such a position that were sent to me three years ago and they have not flowered. One plant flowered this year, and has been very fine indeed, and one cannot help admiring it. Two others flowered last year, but we shall have to wait for the rest at least another year. With *V. phlomoides* planted in the same positions or in any open position in the garden, we could have had an annual display of colour far surpassing what we have had from the other kind. While writing of the *Verbascums*, I should like to caution anyone who may be intending to grow the varieties of *V. phoeniceum* against planting them where the mid-day sun will shine on them, or the flowers will look half-dead during the daytime.—J. C. TALLACK, *Livermore Park*.

***Maurandya Barclayana*.**—Treated as a tender annual this will flower freely if planted outside during the summer months, and it is really both pretty and distinct. It is a slender, yet free growing climber, with leaves more or less heart-shaped, while the flowers are tubular with spreading lobes after the manner of some *gesneraceous* plants. Their colour is a kind of violet-purple, though individuals vary somewhat in hue. It is quite an old plant in gardens, having been introduced from Mexico in 1825, and seeds of it are readily obtainable at a cheap rate. They should be sown early in the spring in a gentle heat so as to have good plants when the time arrives to place them in the open ground. They may be treated in various ways, but a very pleasing effect is produced by allowing them to ramble over a few sticks.—T.

Carnation Mrs. Reynolds Hole.—Mr. Yeung must be exceptionally fortunate to be able to grow this Carnation so well, and also in being able to call this "an ideal season for Carnations." Here I have great difficulty in keeping up a stock of the Carnation in question, and this year it is much worse than usual; in fact it is the worst kind I have out of at least fifty varieties. There can be no doubt about its being a most lovely thing when in good form, but my experience would not lead me to plant it in quantity for colour effect. *Carolus Durand*, on the other hand, may be absolutely

depended on to grow well and to give a wealth of lovely flowers which, if not exactly of the same shade of colour, come very near it, being rather deeper coloured than usual this year, and surpassing it in form, substance and vigour, the grass alone of this variety being a pleasure to behold. Of course, no one would be induced to throw away an otherwise good variety simply because a few of the earliest flowers split their pods; at the same time a variety which did this to any great extent should be discarded as soon as it can be replaced by another vigorous kind in the same colour not having this bad trait. I hope we may yet see the day in which we shall have a race of good garden Carnations, non-splitters and with good constitution in a variety of colour sufficient for all purposes of garden effect, while to this should be added that charm of charms among Carnations, a delicious scent.—J. C. TALLACK.

Cannas.—Some good examples of the large flowering race of Cannas form a very pleasing feature in Hyde Park. They are in the shape of large masses grown in pots and plunged in the turf at a sufficient distance from each other to allow for the full development of the handsome foliage. Many of them are flowering freely, and their brightly coloured blossoms serve to lighten up the mass of noble foliage. There are a great many flower-spikes in various stages of development, so that the display of bloom bids fair to continue till frost comes. One advantage of growing these large-flowered Cannas in pots is that as the season advances they can be lifted without any check, and may then be taken under glass, where their flowers will continue to develop for some time. The fact that they are very accommodating during the depth of winter is also another point in their favour.—T.

The white Virgin's Bower.—We were charmed lately with this plant as grown in Mr. Hugh Smith's garden at Roehampton. It was trained over a balloon-like trellis in the flower garden, and was covered with white flowers and creamy buds, forming a beautiful bower. The plant is quite hardy. This is another proof of what we have often said—that the greatest beauty of the Clematis is not in the large purple, metallic-looking kinds so common now, but in the smaller and infinitely more graceful wild sorts, of which there are many in cultivation, and some as yet not grown in gardens. Among them, however, it will not be easy to find any more beautiful than the various forms of Clematis Viticella—a white variety of which is the plant we saw at Roehampton.—*The Field*.

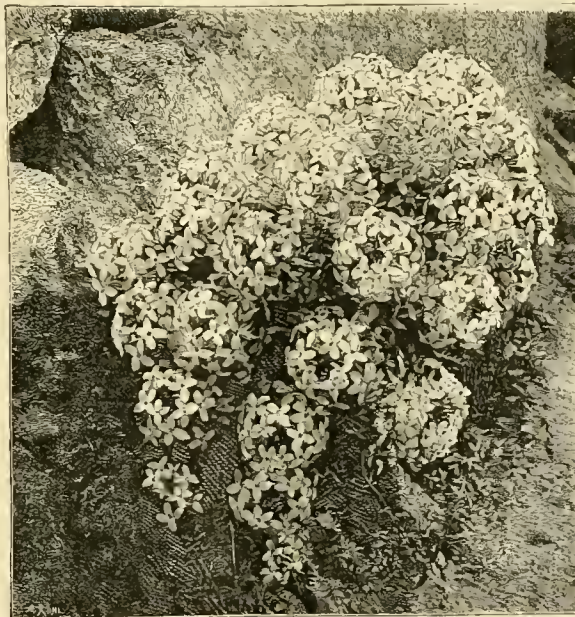
CARNATIONS—NEW SELFS.

AMONG the kinds on trial this year are some good ones that came to us from Mr. Weguelin, of Teignmouth. Lady Maud Hastings is very pretty and distinct, with a full, perfectly fringed flower that does not burst. In colour it is a distinct shade of salmon-pink. It has a drooping habit, but flowers freely. Mrs. Howard Paul, pink, is worthy of note, soft in colour and perfect in shape. Howard Paul, a scarlet kind, is bright and free, but the flowers all lack substance and are not full enough. There are much better red selfs in cultivation. Two more brilliant scarlets from the same source are good examples of what not to send out for garden decoration if they always behave as they have done with us. They are Lord Wolseley and Napoleon, two strong growers, sturdy and showy, but every bloom bursts. They were tolerable in the drought, but since the rain has come, every flower has burst. This is really a grave defect, sufficient to disqualify any new kind for garden decoration. It would be well if our raisers would regard it in this light, for it is satisfactory to notice that most of the fine new kinds do not burst. Others from Mr. Weguelin that do not offend in this respect, but are good in colour and constitution, are Mont Blanc, white; Rosalind, a bright pink, very good; and Aunt Rose, rosy pink. Baron Jules Evain, a French kind, appears free and good, profuse and distinct, its flowers being of a deep dark maroon. Mr. F.

Gifford sent several apparent acquisitions, especially Leander, a yellow self. Alfred Ash, from the same source, is fine, the flowers very large and full, but not bursting, the colour a rich deep pink. Cantab, deep red, and Montague, of a brighter shade of red, have been fine. Mlle. Hochard is a splendid white self from the noted French raiser, broad in petal and perfect in form. It has the appearance of being a white Countess of Paris, the expression of the flower and slight fringing of the petals being similar, but another season's trial with strong plants put out early must take place before it is proved to be a white Countess, flowering long and freely as that sterling kind invariably does. A. H.

TCHICHATSCHIEFFIA ISATIDEA.

This most beautiful alpine is a native of Asia Minor, and has been named by Boissier in honour of the celebrated Russian naturalist. It is perfectly hardy, and not particular as to soil or situation, but prefers growing among rocks. From a tuft of spatulate oblong leaves which



Tchichatschreffia isatidea. Engraved for THE GARDEN from a photograph sent by Max Leichtlin.

is formed in the first year, appear the flowers in the second season; the leaves are dark green, thickly beset with shining silky hairs, from amongst which, in the second year, rises the thumb-thick flower-stalk showing a combined thyrus of Syringa-like bright rosy lilac flowers, which are fragrant like vanilla. The bunch is over a foot across, and is in great beauty from the end of April to the end of May. It belongs to the Crucifere. Its striking beauty and uncommon appearance stamp it as a first-class plant.

Baden-Baden.

MAX LEICHTLIN.

Verbena Melindres.—Very often our so-called improvement of plants means the desertion of a noble wild type for a mixture of "new and choice" varieties which individually may have charms of their own, but in effect are poor. This is the case with the Verbena, the fine old red Melindres being a most effective plant, a brilliant red. The kinds raised from it are many and of all sorts of colours, but a mass of them is as nothing to a like mass of the old Melindres, as we have lately had an opportunity of observing by growing the two masses near and under the same conditions. In both cases the

plants were raised from seed in spring—a much better way than that of increasing named kinds by cuttings. The cuttings, even when carried safe through the winter, usually carry the germs of insect and other pests, too ready to eat up and destroy the young growth; by raising the plants from seed we have a clean start, and if the frames, pits, or houses in which they are grown are quite free from vermin, the chances are we may have a perfectly healthy stock to put in the beds. There is much to be said in favour of raising half-hardy plants from seed—plants that at no distant day were always increased by cuttings. We depend on the seedsman's enterprise to fix the colours for us, and offer beautiful things like Verbenas and many other plants in distinct and definite colours. This they are now doing successfully, and every year will see an extension of the practice.—*The Field*.

NOTES ON HARDY PLANTS.

Primula Reidi.—This plant is certainly a perennial. I have grown it four or five years and I have still a portion of the original root. I say a portion because I have propagated it by division, which, in part at least, is another proof that the root is of perennial duration. Seed-raising for this is doubtless the best means of propagation. It may be useful to point out the extreme irregularity of the growth of the seeds. I have a pan of seed that has been yielding for nearly two years. Further, I have two sowings of this year's seeds sown in June, and some have already vegetated.

Helianthemum Fumana.

—This is a very distinct Sun Rose, foliage evergreen, of dark hue, stout, and narrow, in the way almost of Phloxes of the setacea class. The flowers are not large, but in umbels, and bright lemon-yellow. It assumes somewhat the tree habit—on one stem, though but 6 inches or 9 inches high. It is a characteristic little shrub and flowers late, which is rather a recommendation. I find it likes a gritty soil and full sunshine.

Spiraea palmata.—We often see this in a shrivelled state both as to leaves and flowers. The cause is drought, and if the plants receive a check from this they show it clearly to the end of the season. Deep tilth and plenty of moisture they must have. Moreover, the crimson flowers are of a richer hue when the plant is well grown. I consider this one of our best herbaceous plants where it can be accommodated.

Spiraea palmata alba.—This in bold groups is especially useful just now, when white flowers are getting scarcer and the general effect in the garden is growing more rank and sere. Against this state nothing helps like masses of white, and this plant should be noted for the purpose. Indeed, any white flowers that come after the middle of July should be so planted as to show up in considerable quantity. This has been tried side by side with the typical crimson, and though in a measure they are contemporaneous and the effect proportionately striking, the crimson is rather too early for the white, and so the rich contrast that might otherwise have been got from flowers noted for their long duration is lost. Yet I have seen almost a full measure of success brought about by setting back the crimson in a double sense of the term, that is, causing the date of bloom to be a little later by setting back the plants in a little tree shade, but keeping the white fully exposed. It is not needful to say how much better these Spiræas do when in the close vicinity of water or boggy places.

Lychnis Sieboldi.—We should do well to plant this more; in fact, one rarely sees it even in

gardens where the largest and finest selections of hardy flowers are grown. It is something more, something better than a white variety of *Haageana*. The plant has a neat habit, a stature of a foot, and large flowers of snowy whiteness. The flowers remind one of the big white single blooms of *Primula sinensis*. Why a plant of this description is not largely planted it is hard to say. It lasts a long time in blossom and never looks shabby, like the taller *Lychnis*, and it is perfectly hardy and otherwise reliable in ordinary garden soil.

Lychnis fulgens is another good thing with dazzling red flowers, and with a bolder style than *Haageana* of the deepest varieties. It does not, however, last as long, but being of but a few inches stature it does not take much room or ever become untidy, and therefore it might be worth a place in good company. What it really requires is to be grown in good sized specimens or planted in groups.

Papaver glaucum.—I think I saw it stated somewhere that this was a perennial. It will not prove so, but it is a charming novelty, dwarf, neat, and bearing abundance of brilliant cupped flowers.

Reseda glauca is a beautiful plant quite worth growing for its neat glaucous tufts of pretty foliage, especially as it is a perennial. It is also an alpine species, and if not too closely examined resembles the alpine Pinks for foliar habit. Then it is rather a happy thought that we can now have the favourite *Mignonette* family represented among our alpine flowers by a neat little perennial like the present.

Silene quadridentata.—The very small true form, the one that often passes current as *S. quadrifida*, is one of those gems that all the summer long delights us with its snowy little flowers in masses, so that it often makes a more telling patch than many bigger flowers. I find that this is really a scarce plant in private collections, and even more so under what I believe to be its right name. The plant I grow is without doubt *De Candolle's* plant, tufted, with erect and slender stems freely brachied; leaves small, narrow, and pilose; flowers small, paniculated, with a clavate and campanulate calyx, and petals four-toothed. It begins to flower in May at a stature of 1 inch, and goes on till September, reaching a stature of 3 inches to 4 inches. It is a variable species, being the parent of *S. pusilla* (Waldst.). I find it a very easily grown alpine, and it likes nothing better than root-division once or twice in summer, when it neither flags nor stops flowering. In winter it goes back to quite a surface or Moss-like habit. If you disturb it then you may lose it.

Dianthus Atkinsoni.—I propagate this by very short cuttings with a heel of the older stems. It is true there is not an atom of grass to be seen even after its long season (quite eight weeks) of flowers. I get material for cuttings this way: I remove the many branched and top-heavy flower-stems somewhat before the flowers are over. The advantages are: you gain your object much sooner with ample time to root the cuttings before cold weather sets in; you save some of the vigour of the plants by removing the seed pods, which form in about 25 per cent. of the flowers, but which, though they fill fairly well, have never yet proved fertile with me; and you also probably catch all the grubs that eat the leaves hollow in the upper parts that are removed, and so save the stems from being bored. Anyhow, the sooner you cut the plants over, the more safety in this respect, but you should not omit to examine the old stools and stubbed parts, in order to make as sure as possible of freedom from grubs. Usually in three weeks after heading over grass is ready to take. I put the cuttings in a pan of sand and water for a day so that they almost float. There should not be so much water as to stand separate, only just to be level with the sand. After a day remove the bit of clay from the outer bottom of the hole of pan, when cuttings and sand will settle solid. The advantages of this plan are: the cuttings never flag, and they may be set in the open sunshine at once, when the rooting process goes on

more quickly than in shady places or closed frames, to say nothing of the more sturdy character of the little plants, which I usually have rooted and in their little pots in three weeks or a month according to weather. The more sunshine, the more attention and the more progress.

Silene Argoa.—This may be a scarce or even rare plant, as it is reputed to be, but I do not see why it should, only by the rule of seldom seen and seldom appreciated. Still there is a pleasing if peculiar feature about the plant when in flower. It grows 9 inches high with a dense habit both as regards top and underground stems, which are many branched. The flowers come in early summer and last but a short time individually, but some weeks in succession. They are 1 inch across, and of a dull salmon or nearly crushed strawberry colour. The whole plant is hoary, and when getting sere, almost hispid.

Epilobium Billardierianum.—Of all the species I know of this large genus, this is the most useful and pretty for the rockery. It is a perennial here, and reproduces itself moderately from seed as well. The genus is not a favourite one with gardeners, but this proves very attractive in a good patch; at a first glance few would take it for one of the Willow Herbs. It is a small species with big flowers that expand well and keep open, and they are of a soft flesh tint, but the more showy feature is in the foliage, borne on stems 2 inches to 5 inches high. The leaves, strap-shaped and half an inch to 1 inch long, are of thick almost leathery texture and glisten like wet glass; for most of the summer, if grown in full sunshine, as the plant should be, the leaves reflex, almost curl, and assume a lovely russet-red tint, and the stems being almost black they have a rich effect. Besides, the flowers, which appear about the same time and are half an inch in diameter, touch off by their flesh tint the heavier colours; the contrast is still more sharp by reason of the long seed-pods being of almost ebony blackness and bulky proportions for so small a plant. The plant is more or less in evidence the year round. I give no special care, indeed none, to it. It springs up in the hard walks and sunny places from seed, and is exceedingly pretty on top of a wall kept moist.

Hypericum nummularium.—Why this does not faster come to the front among choice alpinists I do not know, but in time I think it must do so. It is one of the comparatively few things that has all points good and not a single fault—dwarf, procumbent, neat, a pretty and distinct setting of foliage, large flowers of thick substance, that last a long time, sufficiently verdant in winter to be seen, and yet not more so than to practically reclothe itself with new verdure annually. It spreads but slowly, so that it is not like many of the smaller *St. John's Worts* that become pests. For clothing the sharp edges of moist rocks as with a living fringe, or for gilding narrow crevices in late summer with its numerous golden blossoms, nothing could be in better taste, and at the same time more novel. If once you see a plant of it well grown and in full blossom, it will need no further commendation. It likes light and moist black soil with plenty of sand. I lost many plants in stiff soil, and success only came under the changed conditions.

Dryas lanata.—My liking for this grows more and more. Of the kinds I grow, *D. octopetala*, *D. o. minor*, *D. tenella*, and *D. Drummondii*, I consider it the best. It is the latest to flower and is in now. In many ways it closely resembles *octopetala*, and for a time I saw little or no difference, for its specific name points to a property wanting in the British type. It is when the plants get vigorous that they assert themselves as distinct in their flowers, which are larger and more imbricated; the foliage also is rather broader and more woolly.

Woodville, Kirkstall.

J. Wood.

Some tender biennials.—Whilst *Pentstemons* are, when they can be induced to stand the winter safely, always very fine the following season, still

the somewhat tender nature of the plant renders it needful to bestow some care upon it. I have often raised plants from seed sown in March under glass, got them out into the open ground about the middle of May, had them flowering profusely all the autumn, and then have had every plant killed in the winter should that season happen to be severe. The very same thing has frequently happened to *Scapdragons*, for both these and *Pentstemons*, if they can be induced to withstand the ensuing winter, always then give the finest spikes of bloom. Unfortunately, such good fortune as saving the plants seldom happened. Even in such case ample reward had been found in the beautiful autumn blooming. Both of these charming biennials can easily be propagated by means of cuttings, but that means trouble, and few want to be so bothered. The best course on the whole to take is to sow seed now, and from the seedlings to plant out about the end of September the strongest, for small hard plants will often live where old ones will die, preserving the smaller seedlings in shallow boxes or dibbled up thinly into frames near the glass. These will make fine well-rooted plants to go out towards the end of April, and will bloom profusely through the summer. It is best to give some protection where possible, as in such case plants are assured, whilst they may otherwise be killed. The fine *Brompton Stocks* often get killed wholesale out-doors. Now and then in specially sheltered places they escape, but it must be where the soil is naturally dry and the atmosphere is active. It is indeed a pity that we cannot have *Brompton Stocks* as we used to do, for they are among the most beautiful of biennials. Those who, having sown seed about the end of May, can now put some plants into $\frac{1}{2}$ -inch pots and get them well rooted, and later have them shifted into 6-inch pots to stand the winter in a frame, turning them out into the open ground early in April, would in that way preserve their plants from harm and secure very respectable spikes of bloom. The richly perfumed branching *Queen Stock* needs somewhat similar care, for this, though said to be hardy, I have seen destroyed wholesale when planted even beneath overhanging trees. The various forms of the *Sweet Scabious*, very beautiful indeed, and flowering finely when kept through the winter, again need some protection during hard weather. It is a good plan to have these sown early in September in a frame and so wintered.—A. D.

GRASSES, &c, FOR USE DURING WINTER.

MOST Grasses and wild plants that are suitable for drying for decoration during the months of the year when flowers are difficult to obtain are now ripe enough for cutting, and most of us will be thinking of replacing our last year's stock. The *Cat's-tails* (*Typha latifolia*) are perhaps the most useful of aquatics, and are very effective. If cut in time, and just now they are about right, they will last from one season to another, but if left too late they will burst. A very suitable plant to use in conjunction with the *Typha* is *Arundo conspicua*, one of the most beautiful of our tall, reed-like Grasses. Its graceful silky plumes mixed with the brown tail like spikes of the *Typha* look very handsome. It should be used in preference to the *Pampas Grass*, except for high wall decoration, being much lighter. The *Aquatic Grass* (*Poa sp.*) must not be forgotten, for it is light and strong, and dries well. The feathery tufts of the *Cotton Grass* (*Eriophorum vaginatum*) may also be used with good effect. A very valuable addition to our collection is the *Eryngium*. There are many varieties to choose from. They last almost any length of time, but gradually lose their colour. While uncut they should be well tied up to prevent the stems from growing in fantastic curves, which may be awkward in decorating. Another large and ornamental genus of plants is the *Echinops*, or *Globe Thistle*. The blue or white florets look very pretty among Grasses, &c. All the above-named flowers and Grasses may be effectively combined in a terra-cotta vase about 18 inches in

height. The Cat's-tails and the Arundo can hardly be cut with too long stems. An arrangement of this kind is a charming finish to a corner of a drawing-room. If colour be desired, nothing is so showy as the large seed-pods of the Gladwyn (*Iris fetidissima*), showing the large orange-red berries. The common Teazel (*Dipsacus sylvestris*) would also give a touch of light colour when the flowers are freshly cut.

For smaller vases and for mixing with fresh flowers, the ornamental flowering Grasses are invaluable. *Agrostis nebulosa* and *A. pulchella*, the Quaking Grasses (*Briza*), Turk's-head (*Lagurus ovensis*), and *Eragrostis elegans* are the best. These are all annuals, and may easily be raised from seed. They should not be gathered until they are fully open, or they will shrivel and curl up. *Typha* minor, also the bright crisp flowers of the Everlastings (*Helichrysum*) and the lighter *Rhodanthes* are very useful to give solidity to arrangements of the finer Grasses. The *Helichrysms* and the *Rhodanthes* should be gathered when but partly opened and hung head downwards in a cool place till the stems are dry. None of the above should be put into water at all when they are cut for drying.

L. H.

A pleasing contrast of colour.—One of the most pleasing arrangements of flowers we have seen this season was made up of a bold group of *Gladiolus breuchleyensis* and *Honesty*, the contrast being delightful.

Gaultheria trichophyllea.—I am very glad to learn from Mr. Wood's note in THE GARDEN of July 22 the name of this charming little *Gaultheria*, which Mr. Wood kindly sent me three years ago, labelled "*Gaultheria* sp. from the Himalayas at an altitude of 14,000 feet." Planted in pure peat and sand, it has spread some feet over the rockery. It is a deep rooter, and makes its way under the stones, appearing among the surrounding plants. The blue berries are wonderfully brilliant.—ROBERT BIRKBECK, *Loch Hourn Head, Inverness-shire*.

Carnation Mrs. Reynolds Hole.—With all due respect to your editorial remarks in another paragraph headed "Carnation Mrs. Reynolds Hole," *Carolus Durand* is not by many shades as deep an orange as Mrs. Reynolds Hole, being more of a buff-yellow. I have grown this variety together with most of the best French Carnations for several years; it is a better flower and a more perfect bloom, but nothing that I have yet seen approaches the richness of colouring of this Carnation, except it be my own seedling Mrs. Frank Bibby, of which I have as yet only a few plants, and none for disposal.—H. W. WEGUELIN, *Sheldon, Teignmouth*.

Carnation Leander.—I must beg to differ with "A. H." in his statement in your number of July 29, that yellows as a class are "scarce, weak, and disappointing." I do not know what they may be in Sussex, from which county I believe he writes, but here in Devonshire I never wish to see finer and stronger plants than I have grown in yellows and yellow grounds this season. Leander did very well with me, and formed one of a box of eighteen blooms with which I took first prize at our local show. It was much admired, but I do not call it a thoroughly satisfactory yellow, being, although large, somewhat ragged, and cannot be depended upon not to split. However, when a good bloom is found it is very good, but not to be compared to such flowers, for instance, as *Simonite's Countess of Salisbury*. This is certainly the finest yellow I ever saw, being far larger than *Germania*, but at the same time retaining the form and beauty of colour of this now well-known variety. And then there are *Sybil*, *Exquisite*, *Duchess of Portland*, *Ovid*, and a number of others by the same raiser that grow as strongly out of doors as any Carnation can. And then how lovely are *Douglas' yellow grounds*, of which that splendid *Picotee Robert Sydenham* is perhaps the best. I had upwards of a hundred plants of this variety all in bloom at once the other day, and they were a splendid sight. *Almeira* has also done well with

me this year, and had the left-hand corner place in the box above alluded to. All these yellows and yellow grounds are planted out in October, are out all winter in all weathers without any protection, and flower strongly and well, giving good sturdy grass for layering in July.—H. W. WEGUELIN.

Poisoning by *Primula obconica*.—About eighteen months ago I was consulted by a lady for repeated attacks of an intensely irritable papular eruption on both hands. The eruption lasted three or four days, and then the skin desquamated. On one occasion the chin was affected. My patient was an enthusiastic gardener and had a considerable knowledge of plants. She suspected the *Primula obconica* from having read of its peculiar properties; and, in order to put her suspicions to the test, bared her arm and lightly passed a bunch of its leaves round the middle of the forearm. Nothing happened until the next day, more than twelve hours after the experiment, when a broad band of small papules appeared on a raised base giving rise to almost intolerable itching. She found that it was not necessary for the juice of the leaves to be applied to the skin, and also that if the fingers, after handling the plant, touched the face, the eruption was produced there as well. A strange feature was the fact that there was no effect until after the lapse of so many hours. The flowers alone had no evil influence. For several months before the cause of the trouble was discovered this patient's life was almost unendurable from the terrible irritation. After getting rid of all of this particular kind of *Primula* there was no further attack.—C. KINGSLEY ACKLAND, L.R.C.P., Lond., *Bideford, July 22, in Lancet*.

THE FRUIT CROPS.

THE FRUIT CROPS.

FRUIT growers and all interested in the production of hardy fruit generally will have had good reasons for remembering the year 1893. Our troubles, commencing with the flowering period, have increased as the season wore on, and they are not over yet by any means. The trees of all kinds were in an unusually promising state at the outset, the flower-buds being both abundant and stout. Apricots were the first to expand, and a very rough time they had of it. Severe frosts were experienced while the trees were in full bloom, and again after the fruit was about the size of Cherries, this being late in March. Strange to relate, a very little protection saved them, the crops being heavier than they have been for many years past. Plums, again, were in full flower exceptionally early, those against sunny walls being very gay about March 25. Frosts did not injure these either before or after the fruit was set, though at one time it did not seem possible for any to survive, 12° of frost being rather trying to tiny green fruit. The warm dry walls must have saved the fruit, and the crops are remarkably heavy. As far as standard and pyramid Plums are concerned, the crops with me are a complete failure. Pears against moderately warm walls were in flower at the end of March and promised well, but the newly-set fruit and late expanded flowers were not proof against the severe frosts experienced on and about April 13. Large quantities of newly-set fruit dropped off wholesale, and the crops are very variable accordingly. Where the sun struck full on the trees while yet in a frosted state very few fruits are now to be seen, but the trees against walls with a southern and south-west aspect are fairly well furnished with fruit. In some gardens in this district standards and pyramids are carrying quite heavy crops, in others they are very lightly cropped. Cherries in variety flowered

profusely and escaped injury from frosts. Better crops of fine fruit I never saw. Much the same remarks apply to Peaches and Nectarines. Many flowers were certainly blackened by frosts, but abundance was left behind, thinning out being necessarily severe. Apples in sheltered positions were the greatest sufferers from the frost. It did not actually destroy the flowers outright in all cases, but was responsible, I believe, for the great numbers of small malformed fruits there are this season. Trees more fully exposed to all weathers flowered later than April 13, and as a rule are heavily laden with fruit, too much so in many cases. Frosts did not injure Gooseberries and Currants as much as anticipated, but the early buds and flowers on Strawberries were all blackened.

It will thus be seen that a good start was made in spite of the frosts, the latter doing so little harm comparatively, owing to the dryness of the atmosphere. Had they followed upon hail or rain, or if there had been an average amount of humidity in the atmosphere, the delicate flowers and newly-set fruit would nearly all have been destroyed. But if a dry though cold air saved the crops, a long continuance of the same was not good for the leaf growth of the trees. It checked healthy progress and favoured the increase of all kinds of insect pests. Aphides, caterpillars, red spider, and diseases of a fungoid nature have all proved serious troubles, the long-sustained drought greatly aggravating the evil. This has been a fine season for vendors of insecticides and for the trial of all sorts of concoctions, but in every case it has been uphill work exterminating insects. We wanted drenching rains and more moisture in the atmosphere badly, and to all appearances very many fruit trees have sustained injuries from which they will not very quickly recover.

The very welcome change in the weather may have taken place in time to greatly benefit several kinds of fruit, but our troubles are far from being over. Early ripening has been the order of the day, but being able to gather various kinds of fruit fully a month earlier than usual is, in my opinion, a very doubtful advantage. In the first place it throws everything, so to speak, out of gear. Being able to gather Strawberries on May 5 was something to boast of certainly, but what about the hundreds of pot plants grown to waste, or what amounted to the same? That would, however, be a trifling matter, affecting the "many" but little, not having abundance of fruit during the tropical weather felt towards the end of June being the greatest drawback. A great heat so early in the summer is not good for the class of fruit we grow, especially if drought also prevails, Strawberries being among the first to indicate they do not like it. They coloured only too readily, but there was a want of sweetness and richness in the flavour not often observable. Other small fruits were very early and not nearly so sweet as desirable. Apricots, notably the Large Early and Early Moorpark, were fit to gather about June 20, but the fruit ripening then and since has not been so fine as usual and not juicy enough. Peaches, on the other hand, are greatly improved by the heat, the quality being nearly or quite equal to what has been grown under glass. I gathered the first ripe fruit of Early Alexander on June 18, Hale's Early being fully three weeks later instead of ten days or a fortnight, as of old, owing probably to the change in the weather. In any case, this should be one of the best seasons for Peaches on record, Nectarines also promising well. Of Plums the first to ripen was Rivers' Prolific, but Morocco is nearly as early

and a much better fruit. De Montfort on a south-east wall was perfectly ripe on July 10, and when slightly shrivelled is even more richly flavoured. Oullin's Golden was only two or three days later, and the tree is carrying a grand crop of fruit. Early Transparent, Green Gage, McLaughlin's Gage, The Czar, Victoria, Kirke's and Coe's Golden Drop are all equally well laden with fine fruit, but there will not be many left by the end of August or when they are often most wanted. Doyenné d'Été is the earliest Pear we have, and we commenced gathering ripe fruit on July 3, Citron des Carmes being nine days later. On July 16 the first ripe Jargonelle was gathered, and if all other varieties are correspondingly early in ripening, there will be fewer Pears left at midwinter than is the case in years of scarcity. We do not want Marie Louise and Doyenné du Comice ripe early in October, but it is only too likely that such will be the case. Apples promise to be both fine and early in ripening on young trees, and early as well as very small and abundant on old trees. The latter were the greatest sufferers from caterpillars and aphides, and the bulk of the fruit on those in old orchards is miserably small. Many thousands of the trees planted during the past ten years ought this season to give proof of the superiority of young trees over old ones, the Blenheim Orange excepted, and modern selections over those which gained favour in older times. If properly placed on the markets, home-grown Apples ought this season to more than hold their own against importations generally. As previously hinted, we are not out of our troubles when the ripening period is reached. Birds have been even more troublesome than usual, but these are more than rivalled by wasps. Nothing comes amiss to the latter, even unripe Pears and Apples being attacked by them. A tree of Jargonelle Pear was wholly cleared of fruit, nothing but skins being left, before we could destroy many nests; but a free use of gas tar among the nests and Davis' wasp-killer on the different kinds of fruit being attacked has done wonders, and I am in hopes the best portion of the fruit will have a chance to ripen properly. Nuts are fairly plentiful, or I ought to say were, for the squirrels were more numerous than of late years and were not killed in time to save the Filberts. Yet the kernels were not half formed when eaten.

W. IGGULDEN.

Marston Gardens, Frome, Somerset.

SOUTHERN.

Claremont, Esher.—A diary of outdoor gardening operations for May and June of the present season, so far as the kitchen and hardy fruit gardens are concerned, consists mainly of a record of watering, mulching, and battles against insect pests. Where water is laid on and there has been an abundant supply—where the hose in fact has literally been going day and night—crops have done well, for here it is nothing less than an Egyptian temperature following a flood of water. But such places are an exception, and in the majority of cases, despite an immense amount of labour, failures and disappointments have to be chronicled. Good surface mulching has proved of wonderful service on our rather light soil for both fruit and vegetables, and without it the amount of water we have been able to give in individual cases would never have benefited the recipients in the slightest degree. Every wall tree is mulched, as well as cordon Gooseberries and Currants, also half the vegetable crops, and very many flowers. Insect enemies have been very troublesome, red spider especially covering every kind of foliage at all susceptible to its attacks. We have managed

to keep it fairly in check except in the case of a portion of the Peach and Nectarine wall adjoining a Strawberry border. Runners of the latter fruit were late in coming this season. There was no opportunity for cleaning and less for soaking the Strawberry bed. It became simply alive with spider, and the trees on the wall had a bad time. Concerning the operation that brought them round and settled the red spider, I may have something more to say in a future note. It may be sufficient to record for the present that sulphur was thoroughly tried and found wanting. Aphides, green, black and grey, have been plentiful. Cherries and Plums especially have wanted constant attention. In the kitchen garden black fly has crippled two crops of Broad, and red spider very much checked French Beans. Thrips also has played sad havoc with the Peas. Wasps are plentiful, as may be imagined from the fact that fifty nests have already been destroyed within a radius of half a mile from where these notes are penned. As a set off against the wasps whilst on the subject of insects, bees have done well; a good take of honey is already (July 17) in hand, and given a favourable time for another six weeks, over 100 lbs. of honey will be taken off two hives, and yet plenty left to carry them well through the winter without artificial feeding. Earwigs are getting troublesome, and Bean traps on walls and small pots on Dahlia stakes are already strongly in evidence. The fruit crops, on the whole, are below the average in quantity, and very much below in size and quality. Peaches and Nectarines were numerically strong, but despite heavy thinning will be much smaller than usual. Apricots are very abundant, but these also are small; indeed, the latter remark applies so emphatically to every kind of fruit that it is useless to particularise individual cases. Cherries, both dessert and Morello, were and are very fair, but in the case of the first named the quality is not up to the average. Plums promised a grand crop and set well, but three parts of the fruit, all, in fact, not protected by the foliage, were blackened by a late frost; there is now only a fair sprinkling. Outdoor Grapes will be plentiful and good, berries already the size of small marbles. Apples and Pears are both very thin; so far as I have been able to gather they are a very partial crop this year, plenty in some gardens, but fruit a lot below average in size; in other gardens the worst crop known for years. In the matter of small fruits Strawberries were a thin crop and quickly over; Gooseberries also thin. Raspberries and all the Currants have been good; these are all grown in those parts of the garden least likely to be affected by the prolonged drought.

Vegetables, considering the season, have done fairly well; mulching has been largely practised in the kitchen garden as well as in the fruit garden, and watering as much as possible. Such vegetables as Spinach and the early and mid-season Cauliflowers have been in and over with lightning-like rapidity. Lettuce has been very scarce; the best to stand is Marvel, rather peculiar in colour, but a very valuable sort in a season like the present. Beans, runner and French, sown respectively in well-soaked trenches and deep drills and well mulched, are doing well. Such things as Celery, the Kales, and mid-season and late Broccoli are later than usual, but are making good headway since the rain. Peas (it has been impossible to water these) have been poor; late sowings, however, of William Hurst are looking well. Potatoes are small, but a clean, handsome sample and quite free from disease.—E. BURKELL.

Swanmore Park, Bishop's Waltham.—In spite of the remarkably dry season experienced here this year, the hardy fruit crop is by far the best I have seen for the last fifteen years. Some kinds of fruit are perhaps a trifle smaller than usual, owing to lack of moisture, but taken altogether it is a good season. The soil here is heavy and retentive for at least 3 feet deep, which is in its favour considering the extreme drought passed through. Apples are a heavy crop, especially such varieties as Cox's Orange Pippin, King of the Pippins, Devonshire Quarrenden, Irish

Peach, Worcester Pearmain, Blenheim Orange, Pine-apple Russet, Benoni, Red Astrachan, and Ashmead's Kernel Improved amongst dessert kinds; of kitchen varieties, Lord Grosvenor, Lord Sufield, Keswick Codlin, Warner's King, Ecklinville, Mère de Ménage, New Hawthornden, Yorkshire Greening, Tower of Glamis, Harvey's Wiltshire Defiance, Stirling Castle, Bramley's Seedling, Golden Spire, Lane's Prince Albert, Pott's Seedling, Bismarck, Councillor, Cardinal, Hollandbury and Grenadier. The foliage suffered somewhat in the early part of the season from the attack of aphids and a little later from red spider, which checked the growth of the trees, but by liberally washing the trees with tobacco water and so't soap dissolved these pests were kept under somewhat. The copious rains now falling will assist the swelling of the fruit considerably. Pears are by far the best crops we have had here both on the walls and in the open. Unfortunately, but few sorts will succeed in this soil when planted in the open; the soil being heavy and cold during winter, the growth of the previous season dies back very much, rendering the trees unfruitful. We have, however, good crops of Doyenné du Comice, Duchesse d'Angoulême, Comte de Lam, Beurré d'Amanlis, and Catillac. On walls we have Jargonelle, Marie Louise, Pitmaston Duchess, Louise Bonne of Jersey, Thompson's, Napoleon, Ne Plus Meuris, Williams' Bon Chrétien, Winter Nelis and Passe Colmar carrying good crops of fruit. Plums are an exceedingly heavy crop both on walls and in the open; the trees are healthy and the fruit promises to be of good quality. The most prolific kinds (they never fail here) are Coe's Golden Drop, Orleans, Victoria, White Magnum Bonum, Washington, Jefferson, Kirke's, Green Gage, Bryanston Gage, Diamond and Mitchelson's. Cherries bear full crops annually; indeed, the trees are yearly too heavily laden; some of them exhibit signs of exhaustion owing to the heavy crops of fruit they bear. Governor Wood is the best early sort; May Duke, White Heart, Bigarreau Napoleon, and Elton are all good. Morel's succeed capitally against a north wall. The fruit of this sort is finer than hitherto. Peaches and Nectarines are regarded here as the most certain of hardy fruit. The crop of all kinds is exceptionally heavy this season. We have them growing on various aspects, south, east and west; in all cases they succeed well. Alexander, Waterloo, Early Louise, Hale's Early, Bellegarde, Gros-e Mignonne, Royal George, Walburton Admirable, Dymond, and Princess of Wales are the Peaches grown. Elruge is the only Nectarine cultivated that crops freely. Much labour was necessary to keep the trees free from insect pests by daily syringing with clear water and an occasional washing of the leaves with an insecticide, copious supplies of water to the roots being also given. Where labour for this work could be expended, the trees enjoyed the fierce sun-heat. Strawberries in this garden were not a great success. The plants suffered from the severe frost of last winter and again from the drought of this spring, but in the neighbourhood where the soil is more inclined to sand or loam good crops have been secured. Several hundreds of acres of this fruit are cultivated in the neighbourhood for the London and other markets, and good prices have been realised. The fruit has ripened well, the flavour good, and the flesh firm. The number of varieties grown is few, Sir Joseph Paxton being the sheet-anchor of the market man. A few cultivators grow Noble, but not to a large extent. It is not found to ripen earlier than Sir J. Paxton, while in point of flavour and cropping it is a long way behind. Alice Maud, Lucas, Eleanor and Princess Frederick William are favoured by a limited few. Taken as a whole, small fruits have done very well. Gooseberries suffered a little from cold winds in the spring and also from red spider; in spite of this the crop of fruit was a heavy one. Black Currants ripened very quickly; in consequence of this the fruit was small. Red Currants were a full crop. Nuts are an average crop.

Vegetable crops have suffered severely where water and mulching material were limited, Peas

in some gardens being quite a failure owing to drought. By the aid of heavy mulchings of manure and copious supplies of water we were enabled to keep up a supply. Well-tried varieties, like Duke of Albany, Fortyfold, Sharpe's Victor and English Wonder, have again done good service. Potatoes, though small, are good in quality where the laud was deeply moved. All the members of the Brassica tribe have been much interfered with by caterpillars. Taking all things into consideration, the crops on the whole look remarkably well.—E. MOLYNEUX.

Grenehurst, Capel, Dorking.—Here we have a very abundant fruit crop this year. Bush trees of all kinds are very heavily laden. Gooseberries are very small, although so numerous, and the bushes have suffered very much from the ravages of the caterpillar. Strawberries were very poor owing to the long spell of dry weather, the late ones doing better than the earlier sorts. Raspberries were poor, but the autumn fruiting ones are promising to bear well. Peaches and Nectarines outdoors are a very heavy crop, and since the recent rains are swelling very fast. Plums, both on walls and standard trees, are carrying good crops of fruit. Had the rain not come as it did a fortnight ago I am afraid that orchard fruits would not have been worth gathering.

Vegetables are now promising well for the autumn, but during the long spell of hot weather we had great difficulty in getting enough to keep the kitchen supplied. Flowers have been almost a failure this season outdoors, and many Roses have died. Our soil is a very heavy, poor clay, but retains moisture for a longer period than soils of a very light nature. Wasps are very numerous in this neighbourhood, and unless the nests are destroyed either by heavy rains or by some of the many means now employed for taking them, I fear all the fruit will be destroyed.—W. SHEPHERD.

Woolmer Gardens, Liphook.—In this district all fruits have been and are plentiful, rather smaller than usual, and about a month earlier. Cherry and Plum trees were infested with fly, Gooseberry trees with red spider. Pears, Apricots, and outdoor Peaches have done better this year than for many years, and have been remarkably early. Waterloo Peach was ripe by June 20, and Apricots by June 25, Doyenné d'Été Pear by the 30th. Filberts and hedge Nuts abundant.

Vegetables have been poor, especially in gardens where water was scarce. Carrots, spring planted Cabbage, and early Brussels Sprouts were dying off wholesale with grubs at the roots. The recent rains have checked them somewhat now. The Onion maggot has been very prevalent. Potatoes in places have died away before a crop has matured. Peas have done fairly well, and the hot weather has suited Cos Lettuce to perfection. Nearly all vegetables are about three weeks earlier than usual.—J. TAVENER.

Royal Gardens, Windsor.—Considering the fine display of bloom in this district, the present state and prospects of fruit crops are very disappointing. The late spring frosts thinned the bloom considerably, and Pears on April 10, when 10° of frost was registered, fell off the trees in quantities. The early flowers on Strawberries also were killed; nevertheless, there would have been good crops, even better than of late years, had the season, as regards rainfall, been anything like normal, but the long and probably unprecedented drought had a most disastrous effect on the fruit crop. February was a wet month (rainfall 3.90 in.). During March, April, May, and June the total rainfall was only 1.71 in., and for six months ending June 30, 6.02 in., the average here being 12.00 in. It need scarcely be said that under such conditions fruits are small, and all crops, including vegetables, below the mark as regards quality. Watering has been persevered with daily, and was absolutely necessary in many cases, more with a view of keeping trees alive than saving the crop of fruit, but, I fear, with only partial success, and that many trees, especially wall trees and newly-

planted ones, are more or less permanently injured. After looking through the fruit gardens I may briefly summarise my observations as follows: Apples about half a crop and very small. Pears much under average. Apricots plentiful. Plums very few. Cherries abundant crop, but small. Peaches and Nectarines good crops. Strawberries good crops and very early. Bush fruits and Nuts medium crops. As usual, in a dry summer, insect pests are very troublesome, black-fly and caterpillars on fruit trees, and maggot made sad havoc among Onions.

Vegetables have all suffered from drought. Peas were early (first gathered May 16), and a fairly good supply has been maintained, but only by copious drenchings with the hose. Potatoes are very small and crop light. Late crops are looking fairly well, though mildew and fly infest the haulm, and no case of disease has up to date come under my notice.—OWEN THOMAS.

Knebworth, Herts.—The state of the fruit crops in these gardens and in the district is, speaking generally, very good. In some few low-lying positions and in others where exposed to the north-east winds, the frost on the night of April 13 did a deal of damage to Apple and Pear blossom, and as a consequence the crops are somewhat variable and below the average in those places. In all the higher positions, however, which I have visited, full crops of Apples, and Pears are the rule. All the stone and bush fruits are everywhere heavy crops. Strawberries and Raspberries are the two crops among fruits that have suffered the most from the long drought and excessive heat, more especially on light soils. Strawberries suffered more, in my opinion, from the tropical heat and want of moisture in the air to swell them than from want of water at the roots. This was certainly the cause in our case, for our plantations of plants had several delugings of water. There was more than a full crop of fruit set, but only the first-set fruits swelled off, the later set fruits failing to swell at all, and having the appearance of being cooked on the plants. We failed to get more than a first picking of fruit from the plantations, thus making the Strawberry season a very short one. Evidently the weather was too tropical for this temperate zone fruit. Raspberries, where growing on heavier soils resting on cool bottoms, are, as with us, good crops, *Semper Fidelis* being the heaviest cropper and the finest fruit. Speaking more particularly of the fruit crops in these gardens, only once before in a quarter of a century have we had so uniformly good crops of fruit throughout. Apricots, Peaches, Plums, and Cherries on walls are heavy crops, and have given a lot of trouble to thin out. The same may be said of some varieties of Pears, the crop of which fruit is perhaps the lightest of all, yet fully an average. Gooseberries and Currants are excessive crops. Crops under glass have benefited much from the fine sunny weather. Peaches, Nectarines and Grapes are extra good both in size and quality, but to carry them on they have required double the usual quantity of water at the roots and also damping down of the houses to keep the air from getting too dry and parched. It has also been necessary to cover the glass over the Vines with a thick coat of whitewash to preserve the leaves from scorching, and help to ward off red spider, which is very prevalent this season. Tomatoes are also heavy crops under glass, of excellent colour and fine flavour. Orchard standards of both Apples and Pears are heavily laden with fruit. Some varieties of the former, such as Wellington, Hawthornden, Ecklinville, Irish Peach, Fearn's Pippin, King and several others, are heavily cropped. The rains which have fallen since the 8th ult., and more copiously the last few days, have come in the nick of time, as many of the old-established trees were just beginning to show the effects of the long drought and were hanging out signals of distress. There is a chance now for the trees to swell the fruit off to a fair size, otherwise the fruit would have been small and poor. One very noticeable feature in all

the Apples and Pears without exception that have come under my notice this season is, they are free from skin blemishes, the fruit being clear and smooth and already putting on good colour—a result evidently to be credited to the long spell of fine, dry sunny weather, which has been inimical to the spreading of the fungoid pests, which attack the fruit in moister seasons.

It is among vegetable crops that the long drought and excessive heat have been most severely felt and had to be battled with, and, save where abundant supplies of water could be had ready to hand and where the soil was good, deeply tilled, and full of plant food, the crops have been very light, and in most instances of very poor quality. In this latter respect Potatoes are, however, an exception, as they are almost everywhere of excellent quality, samples very clean, though undersized. First earlies with us are about one-third of a crop as compared with last year, but second earlies now being lifted are turning out far better than we anticipated, crop about two-thirds in weight and the tubers of good usable size and of super-excellent quality. They have been growing on a piece of deeply worked ground full of manure, and this enabled them to go on growing and the haulm to be sustained in a fresh state, holding out against the drought much longer than it could or would have done had the ground been in a different condition. But this much can be said for all other crops growing on deeply tilled and enriched ground, and is one of the valuable lessons to be learnt from this trying season of drought. Late Potatoes in the fields were got in in a very dry soil, which remained in that state for fully ten weeks. The growth was very irregular, a great proportion of the sets failing to sprout at all, and altogether the crops looked very miserable up to the 8th ult., but the rains since then have revived them and they are now looking well, and as there is plenty of time yet for them to mature, fairly good crops, I think, may be looked forward to. Early and second early crops of Peas have been very fitful in the supplies, the pods filling badly. This arose not so much through being dry at the root, for ours were kept constantly watered, as from the excessive heat which, like the Strawberries, they could not stand against, the succession flowers and even the newly-formed slats being scorched and shrivelled up, and giving the plants such a check they could not get over it. The consequence was where we ought to have had several successional gatherings from rows we had to be content with only one. The later sown lots are now looking well and podding freely, and we shall have good supplies through August and September. Cauliflowers, Spinach, French Beans, and all kinds of salading have had to be constantly watered to keep the supplies up at all. The main crops of Carrots, Onions, Beet, and Brussels Sprouts which were got in early and growing on rich, deeply worked ground have held their own against the drought with very little water being given them, and are now looking well and promise good crops. They show no appearance of having passed through a long season of dry weather. Asparagus is the only vegetable which seems to have enjoyed the great heat and drought without having any water given it. The season of 1893 will be long remembered for many things. Among these may be named its abnormal earliness of most crops. We gathered our first dish of Peas (*Exonian*) on May 20, more than a fortnight earlier than on any previous year. On the same date we gathered the first dish of Strawberries (*La Grosse Sucrée*) three weeks in advance of any previous date. Most insect plagues have been more than usually rife, and a constant war has had to be carried on against them to keep them under. On the other hand, the garden slug was never so absent as this season. I have not seen a single slug. A valuable lesson will have been taught most cultivators of the value and necessity for deeply working and enriching the ground with sufficient and proper plant foods as against poorly worked and impoverished soil for sustaining crops through a long season of drought.—J. KIPLING.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 8, 1893.

THE Drill Hall was very well filled with exhibits at this meeting, more almost than one could expect considering the nearness of the larger exhibition at the Agricultural Hall, Islington. Orchids were not present in large numbers, but a few good things were shown. The entries for examination before the floral committee, however, were more numerous than at any meeting since the Temple show in May last. These were of a representative character of things in season, earlier than usual in some instances, Gladioli in particular being remarkably fine for the early part of August. Cannas, upon which the lecture on this occasion was delivered, were represented chiefly by the best of the flowering varieties. A fine lot of spikes of Hollyhocks was sent from Scotland. Hardy flowers from other sources were likewise good. Amongst fruit there were several Melons of promise, better than at any previous show this year. Numbers of dishes of Plums and Apples were also staged; also Peaches and Nectarines, denoting in many instances the earliness of the season.

Orchid Committee.

First-class certificates were awarded to

MILTONIA JOICEYANA, which is nothing more than a fine form of *Miltonia Clowesi* major, decidedly not a distinct species in any sense; the flowers have all the characteristics of *M. Clowesi*, but are larger, the peculiarity with which the lip with age assumes a dull yellow tint, being exactly the same; the flowers were large and well coloured. From Major Joicey, Sunningdale Park.

LÆLIA TENEBROSA (Walton Grange variety).—A distinctly coloured form of the type, with yellowish green sepals and petals, and a faint tracing only of the distinctly coppery shading of *L. tenebrosa*; the lip was tipped with pale rose, but in other respects similar to the type; a cut specimen, two flowers, being shown. From Mr. W. J. Thomson, Walton Grange, Stone, Staffs.

Awards of merit were made to—

LÆLIA NOVELTY (*L. elegans* × *L. Dayana*), the flowers of which are of the size of those of *L. Dayana*, the sepals and petals paler than in that species, but the lip darker, being of a rich velvety crimson, the growth rather taller than in the species just named. From Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea.

CYPRIPEDIUM THAYERIANUM (*C. Lawrenceanum* × *C. Boxallii atratum*).—This has much of the character of the latter parent, but with much deeper coloured flowers, the flowers being a rich vinous-purple. From Messrs. Sander and Co., St. Albans.

CYPRIPEDIUM ÆNA-SUPERBIENS (*C. granthamii* × *superbiens*).—In this hybrid the form and style of flower were those of *C. superbiens*, but it was larger in all its parts, a bronzy purple pervading the same; a very fine and distinct hybrid, the dorsal sepal large and the petals broad. From Sir Trevor Lawrence, Burford Lodge, Dorking.

Botanical certificates were awarded to—

AGANISIA IXONOPTERA.—A species with small, but pretty flowers, with violet shading on a light ground. From Sir Trevor Lawrence.

EARINA SUAVEOLENS.—A small botanical curiosity. From the Royal Botanic Gardens, Glasnevin.

A cultural commendation was most deservedly awarded to a finely cultivated example of *Vanda Sanderiana* bearing flowers of unusual size, the spike having eleven blooms fully developed. From Major Joicey. Sir Trevor Lawrence had a few choice Orchids, amongst which were several spikes (cut) of *Acerides Lawrencei* (Sander's var.); these spikes were extra vigorous and bore large massive flowers, richly coloured. *Schomburgkia Lyonsii*, a very pretty species, with purple and white flowers; *Cy-*

pripedium Har-froyæ (*C. Harrisianum* × *C. Gode-froyæ*), a large and fine hybrid, with rather pale-coloured flowers of superior form; *Cattleya Blesensis*, after *L. Dayana*, but paler; *Lælia elegans* Turneri Purple Prince, a splendid dark form, and *L. Philbrickiana*, not one of the prettiest of hybrids, were also shown (silver Banksian medal). Messrs. Sander and Co. sent several very meritorious plants, among which were *Vanda Sanderiana* in good form, *Cypridium Yongianum* bearing three flowers to the spike, all fresh and good, with distinct drooping petals; *Cypridium Macfarlanei* with green and white flowers after *C. Spicerianum*; *Acerides Ballantineanum aureum*, with distinct yellow lip; *Acerides Sanderianum* with fine spikes, with rich crimson markings on the flowers; *Grammatophyllum Fenzlianum*, with green and pale brown blossoms on a long spike; *Cypridium Maynardi* and *Calanthe Sanderiana* (silver Banksian medal). Mr. Measures, Cambridge Lodge, Camberwell, showed *Cypridium Numa superbum*, a distinct and showy form, also *C. Yongianum* previously alluded to. Mr. Owen Thomas sent from the Royal Gardens, Windsor, a healthy plant of *Saccolabium Blumei majus* bearing one fine spike of flowers.

Floral Committee.

First-class certificates were awarded to—

GREVILLEA BANKSI, a distinct species introduced as far back as 1868, but which has apparently escaped notice to some extent. The style of growth is that of *G. robusta*, but the leaves are not so much sub-divided; it is a very promising kind for use in a small state. From Messrs. John Laing and Sons, Forest Hill, S.E.

LIATRIS PYCNOSTACHYA, with long spikes closely set with small flowers of a pale purple colour. It was first introduced in 1732, and is a fine and distinct hardy border plant. From Messrs. Paul and Son.

MONTBRETIA CROCOSMILEFLORA FLORE-PLENO.—Best described as a double form of this fine species; the growth is also vigorous. From Sir Trevor Lawrence.

Awards of merit were given to

CANNA DUCHESS OF YORK.—A yellow variety with a profusion of orange-coloured spots, the growth free and the spikes of good size. From Messrs. Kelway and Son, Langport.

CANNA KONINGEN CHARLOTTE, of which plants were shown, a more commendable method than cut flowers. The growth in this case was extremely dwarf, the colouring after the style of *Mme. Crozy*, but lighter—a fine variety. From Mr. W. Pfitzer, Stuttgart.

CANNA MICHELET.—A very fine bright orange-scarlet, with extra large flowers and spikes. From Sir Trevor Lawrence.

CANNA CAPITAIN DE LUZZONI.—A large pale yellow variety, spotted with pale orange, the petals broad and massive. From M. Lemoine, Nancy.

CANNA GLOIRE DE L'EMPIRE.—A fine crimson variety, with large, broad-petalled flowers and fine spikes. MM. Vilmorin et Cie.

CANNA LOHENGRIIN.—A pale orange hybrid, self-coloured, and very distinct, the trusses large. MM. Vilmorin et Cie.

CANNA PRESIDENT CARNOT.—Cinnabar-red in colour, lightly spotted carmine, foliage rich purple, a distinct and handsome variety. From MM. Vilmorin et Cie.

GLADIOLUS DUKE OF YORK.—Spike extra large, also the flowers, in colour a rich carmine, with white feathering. From Messrs. Kelway and Son.

GLADIOLUS ALFRED HENDERSON.—Colour dark cerise, with purplish feathering; the flowers large, also the spike. Messrs. Kelway and Son.

GLADIOLUS GROVER CLEVELAND.—A dark cherry red, very fine and distinct, nearly self-coloured. Messrs. Kelway and Son.

GLADIOLUS JOHN WARREN.—Rich salmon-coloured flowers and dark featherings; another distinct kind. Messrs. Kelway and Son.

HOLLYHOCK AMARANTH.—A fine and very double seedling, with flowers of a decided amaranth-pink, extra large. From Messrs. Webb and Brand, Saffron Walden.

BEGONIA SEMPERFLORENS VERNON.—Extra dwarf habit, the foliage of a bronzy red shade; the flowers salmon-red, very profusely produced. The plant had evidently been grown out of doors, showing it to be a useful bedding plant. From Messrs. J. Laing and Sons.

CALADIUM PRESIDENT DE LA DEVANSAYE, with reddish foliage, almost self coloured, a narrow edging of olive green running round each leaf. Messrs. J. Laing and Son, and Mr. Bause, Norwood.

TRITOMA OSIRIS.—A very distinct addition to this genus. The flowers and buds were of a pale yellow, without any trace of orange or scarlet, the growth apparently rather tall. Messrs. Paul and Son, Cheshunt.

PHLOX ETNA.—A very bright salmon coloured variety with dense spikes and a dwarf habit. Messrs. Paul and Son.

HEDERA HELIX VAR. TESSELLATA.—A distinctly marked form of the common Ivy, with veinings after the manner of the variegated Japanese Honeysuckle, but not so distinct. From Miss Browning, Algiers.

CROTON MADAME ERNEST BERGMAN.—A promising addition to an already large family; the growth medium, the foliage broad, the colour rich golden orange, with dark olive green. Mr. Bause.

DRACÆNA ALEXANDER LAING.—Best described as a much improved form of *D. superba*, being more graceful in habit and slightly more robust, the growth free. From Mr. Bause.

Mr. Jas. Hudson, Gunnersbury House, Acton (Messrs. de Rothschild's), sent a large group of *Campanula pyramidalis* (silver-gilt Flora medal). Messrs. Kelway and Son sent a magnificent group of Gladioli in great variety, the spikes finely developed and in the best possible condition. Besides those certificated the following should be noted: *Marengo*, a rich scarlet; *Hemon*, a shade of buff; *Lord Hawke*, extra large, light salmon-pink; *Leonard Kelway*, an extra dark velvety crimson; and *Duchess of York*, with yellow spots. Besides the foregoing there were several fine varieties of *Gaillardias*, amongst which *Topaz* was very distinct, a pale or lemon-yellow self, and *James Kelway*, a dark red, with golden eye. *Belladonna Lilies* (*Amaryllis belladonna*) were shown well; also the best sorts of hardy herbaceous flowers in season (silver-gilt medal). Messrs. J. Laing and Sons had a group of plants, in which were included *Chironia exifera* with pretty pink flowers, narrow leaves, and dwarf growth; *Strobilanthes Dyerianus*, *Stenandrium Lindeni*, *Sonerila le petit Leon*, *Bertolonia Comte de Kerchove* and other varieties, *Croton Mortii*, and small Palms with other things (silver-gilt medal). Messrs. Dobbie and Co. had a large display of *Carnations* in bunches, which were feeling the effects of the heat somewhat. The best were *White Dame*, pure in colour; *Mary Morris*, still one of the best pinks; and *King of Scarlets*. Sweet Peas were finely shown by the same firm. The best of these were *Queen of England*, *Splendour*, *Monarch*, *Princess Beatrice*, *Orange Prince*, *Mr. Eckford*, *Marchioness of Bute*, *Her Majesty*, *Miss Blanche Terry*, *Emily Henderson*, and *Violet Queen*. Both *Carnations* and *Sweet Peas* were shown, as they should be, in bunches (silver Flora medal).

A silver Flora medal was awarded to Mr. John Forbes, Hawick, N.B., for a magnificent exhibit of Hollyhocks, the best seen in London for some years. The spikes were of extra length, not so dense as usual, and bore fine flowers, the finest being *Alba superba*, *J. M. Lindsay*, *James McDonald*, *Miss Dawson*, *Mrs. Edgar*, *Conquest*, and *Golden Drop*. *Pentstemons* and *Antirrhinums* were included. Messrs. Cannell and Sons, Swanley, received the same award (silver Flora medal) for a group of their splendid strain of tuberous *Begonias*, plants and cut blooms, *Octavie*, a beautiful pure white double, being one of the best plants; the singles were also excellent. Very fine *Antirrhinums*, cut and shown in bunches, came from the same source, showing great diversity of rich colour

and compact growth. Messrs. W. Paul and Son also received a silver Flora medal for a very fine display of hardy cut flowers and Roses, the effects of the past drought not having had any ill effects thereon; the best Roses to hold out were La France, Charles Lefebvre, Malmaison, Mme. Pernet Ducher, Mme. Charles Testout, Mme. Berard, and Mlle. Prosper Lugnier. Other hardy flowers embraced *Zauschneria californica*, not often seen, good *Lilium tigrinum* superbum, as well as *Montbretias* in beautiful variety. Cannas were also included.

A silver Banksian medal was voted to Sir Trevor Lawrence for Cannas (a fine exhibit) and *Gladioli* Childi (?). Messrs. Cheal and Son, Crawley, and Messrs. Shuttleworth also received silver Banksian medals for cut hardy flowers.

Fruit Committee.

There were some very fine collections of fruit staged, Apples, Pears, Plums and Peaches being largely shown. Melons were also shown in large numbers, and better than usual, no less than three awards being given.

Awards of merit were given to—

MELON HERO OF ISLEWORTH, a very finely netted fruit, green flesh, medium size, and of fine flavour. The fruits staged were scarcely ripe. This will undoubtedly prove a valuable addition to the somewhat limited number of varieties possessing green flesh. From Mr. Wythes, Syon House.

MELON COUNTY COUNCILLOR, a scarlet flesh, a cross between Triumph and Blenheim Orange, slightly netted and of good flavour. From Mr. W. Palmer, Cobden Villas, Andover.

MELON ROYAL PRINCE.—Very much like the above-named, but with white flesh, very sweet, the rind thin. Mr. W. Palmer.

Melons were also shown by Mr. Thomas, The Royal Gardens, Frogmore; Mr. Webster, Springfield Gardens, Great Marlow; Mr. A. J. Reed, Farnham Chase, Farnham Royal; and Mr. Sanson, Widsworthy Court, Houston, Devon. A very fine collection of fruit was staged by Messrs. Veitch, Royal Exotic Nurseries, Chelsea; over seventy dishes were put up. The Plums were remarkable for their large size and finish. These were grown in the open, the best being Washington, McLaughlin's, a very fine Gage and of splendid flavour; Belle de Louvain, Early Golden Drop, Early Transparent Gage, Angeline Burdett, Lawson's Golden Gage, and Kirke's. There were also some fine dishes of Apples, the best being Kerry Pippin, Lady Sudeley, Worcester Pearmain, very highly coloured, Seaton House, very fine, and Early Strawberry. Some good dishes of early Pears, Morello Cherries, Damsons, Raspberries and Crabs, and half a dozen Peach and Nectarine trees in pots in full bearing were also shown (silver-gilt Knightian medal). Messrs. Cheal, Crawley, Sussex, also had a very good collection of hardy fruits, some seventy dishes, including good Jefferson, Belgian Purple, Archduke and Golden Gage Plums, nice Irish Peach, Emperor Napoleon, Mr. Gladstone and Lady Sudeley Apples, and some fine dishes of Crabs and Pears (silver Banksian medal). Mr. Thomas, The Royal Gardens, Frogmore, contributed some very fine Peaches and Nectarines, having thirteen dishes of Peaches and eight of Nectarines, and several dishes of Pears. The best Peaches were Dr. Hogg, Violette Hative, Premier, Stirling Castle, Goshawk, and Grosse Mignonne, and the best Nectarines, Lord Napier, Elrue, Pine-apple, and Hardwicke Seedling (silver Banksian medal). Very fine smooth Cayenne Pine-apples, averaging seven to nine pounds in weight, came from Mr. R. Nicholas, Castle Hill Gardens, South Moulton, Devon (silver Banksian medal). Mr. Bunyard sent a very fine dish of Lady Sudeley Apple and three dishes of early Pears, the varieties being Benrre Giffard, a very good early fruit on the Quince, and Petite Marguerite and Précoce de Trevouf. Grapes were sent from Mr. Allis, Old Warden Park Gardens, Biggleswade, Beds, the variety being a good form of Hamburgh. A seedling Apple named Monmouth, a cooking variety, came from Mr. T. Godfrey, Edmonds Nursery, Hillingdon. A seedling Tomato came from Mr.

Freer, New Brompton, but it too closely resembled Perfection to merit a special award. A new ridge Cucumber named Baker's Triumph came from Messrs. Jarman, Chard. A very good collection of ornamental Gourds was sent by Messrs. Cheal, Crawley. A new seedling Potato named George Dickson, and one with considerable merit, came from Mr. Mackereth, Silverston. This was requested to be sent to Chiswick. Some Grapes affected with a new kind of mildew were referred to the scientific committee.

Mr. Baker, of the Royal Gardens, Kew, gave a lecture on Cannas. He also illustrated his notes with diagrams, and went at great length into the species and dates of raising various hybrids. He stated there were two types of the Canna, which is closely allied to the Ginger plant and Banana in its structure. He found that most of the hybrids came from two species, *C. iridiflora* and *C. glauca*, and by hybridising with the Warscewicz type there was a distinct gain, as this gave much larger blooms of a brilliant scarlet colour with dwarfier growth. The Canna was now used extensively for sub-tropical effect in the flower garden. On the Continent much greater strides had been made in the hybridising of these plants. Near Paris there were extensive establishments where these plants had been made a speciality of. The lecturer went into the merits of the earlier raisers, such as Miller, Roscoe, and others, and of the advantages of plates over dried specimens, as these latter could not be relied upon, the colours soon changing. During the last twenty years raisers had done much in improving the habit and size of foliage. One great advantage of these plants is that they fertilise readily. The new hybrids are of easy culture. Owing to this ready method of culture the original forms are largely going out of cultivation, but this should not be, as they are valuable for hybridising and as a means of reference. Mr. Geo. Paul stated he had considerable experience with Cannas, and found there was a lot of seedlings from hybrids not of great value, being too much alike.

GARDENING AND FORESTRY EXHIBITION, EARL'S COURT.

AUGUST 9.

ONE of the best shows of the season was that held at Earl's Court on Wednesday last. Hardy flowers in particular were a feature, and the groups of high merit. The tent was uncomfortably filled, and it would have been better if the groups had had a larger space devoted to them.

A fine group of flowering and fine-foliated plants came from Messrs. J. Laing and Sons, Forest Hill. It was a remarkably effective arrangement, bold, not too crowded, and well deserved the first prize. A variety of things was shown, and especially good were the tuberous Begonias, one kind named Sir Blundell Maple being a single variety with large orange-scarlet flowers. Other plants of note were *Campanula pyramidalis*, *Lilium speciosum* Krætzleri, or album, *Disa grandiflora*, *Odontoglossum Harryanum*, *Dracæna* Lord Wolsley, deep bronzy green, margined with crimson; *Gloxinias* and the pretty *Chironia exifolia*, the flowers rose in colour. We must also praise the group of *Lilium speciosum* from Mr. Charles Turner, The Royal Nurseries, Slough, which gained the premier award. The type and variety Krætzleri were both finely represented. An excellent group of Crotons and *Dracænas* came from Mr. W. Howe, gardener to Mr. H. Tate, Park Hill, Streatham Common, which was accorded first prize. The plants were well grown and of good colour. An interesting feature was the class for a collection of hardy flowers, and the first place was taken by Messrs. Paul and Son, Old Nurseries, Cheshunt, who had an exceptionally massive group. *Lilium tigrinum splendens* was splendid; also the various kinds of perennial Sunflowers, Phloxes (especially

the variety Le Nain Blanche, pure white), *Rudbeckia purpurea*, one of the finest hardy plants in bloom now; *Tropeolum speciosum*, *Pyrethrums*, and *Gaillardias*. An excellent second was Mr. Such, Mailenhead, who had a choice selection of kinds, *Gaillardias*, Phloxes, *Coreopsis lanceolata*, perennial Sunflowers, and a few other choice things. An extra prize went to Messrs. J. Laing and Sons for a very creditable display. Another important class was for an arrangement of flowering and fine-foliated plants, and here Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Isleworth, was first, showing *Francoas*, *Campanula pyramidalis*, and other well-known plants.

The bunches of hardy flowers formed a very beautiful feature. They were as a rule a little too crowded, and thereby lost in effect. The class for twenty-four was well filled, and Messrs. Paul and Son were first. They showed large masses of each kind represented, and therefore the effect was rich. *Gaillardias* in variety were noteworthy, particularly that good yellow-flowered kind named Vivian Grey; also Phloxes, *Liatris pycnostachya*, *Montbretias*, *Rudbeckia Newmanii*, and *Echinops ruthenicus*. We may also mention that a good second was Mr. Cuthbertson, Rothesay, N.B., who had a fine selection of plants. In another class for hardy flowers the winner of the first prize was Mr. G. Wythes, who had a choice assortment of kinds; a close second was Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Twickenham. For nine bunches the premier award went to Mr. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon; Mr. Sage second, he having a fine mass of *Inula glandulosa*. We noticed in the various collections of hardy flowers that *Eryogonum planum* was almost without exception exhibited well. We are pleased to see that this beautiful Sea Holly is popular.

As is often the case, the miscellaneous department was remarkably strong. Mr. Forbes, Hawick, N.B., showed a large bank of the East Lothian Stocks, white and crimson, representing a splendid strain, whilst the same exhibitor had the finest group of Hollyhock spikes we have seen of recent years. The varieties were not all new, and we noticed many of Chater's kinds, thus showing that a large number of the old varieties escaped destruction by disease. A silver-gilt medal went to this fine display. A large and remarkably well-grown group of *Campanula pyramidalis*, the typical and white variety, came from Mr. Hudson, The Gardens, Gunnersbury House, Acton (silver-gilt medal). A similar award was made to Messrs. Kelway and Son, Langport, Somerset, for a superb collection of *Gladioli*, *Gaillardias* and Cannas. Of the *Gladioli*, very fine were Countess Craven, rose; Marengo, scarlet; Duchess of York, light lilac; and John Warren, scarlet; whilst the *Gaillardias*, a yellow variety, with raised crimson centre, named Topaz, was of note. The collection also comprised such hardy flowers as *Amaryllis Belladonna* and *Eryngium planum*. A silver medal went to each of the following exhibits: Messrs. Barr and Son, Covent Garden, had a large group of hardy flowers, in which Sweet Peas were well represented. Pentstemons, perennial Sunflowers, Tiger Lilies in variety, Dahlias, Iceland Poppies and other things were staged in handsome bunches. Roses were not very freely shown, but Messrs. Paul and Son had a fine collection. Such kinds as Augustine Guinoiseau, l'Idéal, W. A. Richardson, Souvenir de la Malmaison, Alphonse Souper and Belle Lyonnaise were excellent. Lilies of the Valley, splendid for this season of the year, were shown by Mr. T. Jannock, Dersingham, Norfolk. Show Dahlias were exhibited in great variety by Mr. J. Walker, Thame, Oxon; the varieties Mrs. W. Slack, Bendigo, Harry Keith, John Walker, Harrison Weir, Colonist and F. J. Saltmarsh were worthy of mention. The flowers from Messrs. J. Cheal and Son, Crawley, comprised Cactus, decorative, pompon and show Dahlias, Sweet Peas and other things in bloom now—a bright and attractive group. Hardy flowers, such as Phloxes and *Gladioli*, were shown well and in quantity by Mr. Cuthbertson.

A charming feature of the show consisted of the various floral arrangements from Miss Lilian Hudson, Acton, a hall vase of Bulrushes and Grasses being exceedingly pretty, because arranged with rare taste. It was a creditable display, and deserved well the silver-gilt medal awarded. We do not want Chrysanthemums now. They are peculiarly out of season on a hot August day, but we must mention that a group of pot plants and flowers as fine as those often seen in November came from Mr. McMillan, Trinity Cottage, Edinburgh. The varieties Mlle. Lacroix, Edwin Molyreux, Annie Clibran, C. Wagstaff, and the single-flowered Mary Anderson were remarkably fine (silver medal). Messrs. J. Laing and Sons exhibited *Begonia semperflorens* (Vernon's variety) well, and a new Carnation named Stanstead Beauty. It has large fringed flowers, rosy pink in colour, and sweetly scented.

Fruit.

For six dishes hardy fruit, Mr. G. Wythes, Syon House Gardens, Brentford, was first, having very good Royal George Peaches, Pine-apple Nectarines, excellent Williams' Bon Chrétien Pears, Jefferson Plums, Morello Cherries, and Worcester Pearmain Apples—a nice even lot. Second, Mr. G. Sage, Ham House Gardens, Twickenham, with very fine Jefferson, Kirke's, and Green Gage Plums, Mulberries, Yellow Ingestre Apple and Pears. Mr. R. Nicholas, Castle Hill Gardens, South Moulton, staged the fine group of Pines he had the previous day at the R.H.S.; these were awarded a silver medal. Messrs. Cheal, Crawley, staged the very fine collection of Apples exhibited the previous day, also the collection of Gourds (silver medal). Mr. A. H. Rickwood, Fulwell Park Gardens, Twickenham, staged a nice collection of fruit, consisting of good Blaire's Early, Barrington, Grosse Mignonne, Early Louise, Prince of Wales, and Early Louise Peaches, Lord Napier Nectarines, Melons and Plums, Kirke's and Jefferson being the best dishes of the last (silver medal). Mr. T. A. Hester, Plumstead, had a great number of Plums consisting of the best known kinds, Apples, Cherries, Apricots, and Tomatoes (silver medal). Mr. Pocock, Cranford Gardens, put up some dishes of huge Peaches, pale coloured fruits of an American variety (bronze medal). Mr. Beasley, Ealing, had some dishes of very fine Lord Suffield Apples. Mr. McDougall, Stirling, staged his new seedling Tomato named Ravenna; this is much like Perfection. Mr. Eames, Twickenham, sent Cucumbers of nice shape and a dark green colour. Messrs. Spooner, Hounslow, had a collection of hardy fruit nicely arranged in baskets.

A full prize list will be found in our advertisement columns.

The weather in West Herts.—During the past week the weather has been on the whole unseasonably warm. On Tuesday the highest reading in shade reached 81° and on Wednesday 82°. On the other hand, during Saturday night a thermometer exposed on the surface of the lawn fell to within 7° of the freezing-point. The temperature of the ground at 1 foot deep now stands at 68°, and at 2 feet deep at 64°, or respectively 5° and 2° warmer than on the same day last year. On Thursday, the 3rd inst., about half an inch of rain fell, but since then no rain worth mentioning has fallen. Since the beginning of the month nearly half an inch of rain water has passed through my heavy soil percolation gauge, but less than one-tenth through the light soil gauge.—E. M., Berkhamsted.

Fruit culture.—The Board of Agriculture have been requested to draw the attention of fruit growers to an international exhibition, to be held by the Russian Society of Fruit Culture, under the patronage of the Czar, at St. Petersburg, in the autumn of 1894, with the object of showing the present condition of the cultivation of fruit and vegetables, of viticulture, of the cultivation of various special plants, and the manufacture of their products. A congress of pomologists will be convened simultaneously with the exhibition. The exhibition will comprise the following sections:

1, fresh fruit; 2, fresh vegetables; 3, dried fruit and vegetables, preserved or treated by other processes; 4, wine, cider, perry, and other fruit beverages; 5, hops and medical herbs; 6, seeds; 7, fruit trees and bushes; 8, horticultural implements and appliances, and technicality of production; 9, literary, scientific, and educational accessories, collections, plans, &c. Detailed regulations of the exhibition and programmes of the various competitions will be published and distributed towards the end of the year 1893. Persons interested in the progress of horticulture and pomology, both in Russia and other countries, are invited by the Russian Government to take part in this international exhibition and congress. Applications for further information should be addressed to the offices of the International Exhibition of Fruit Culture, 1894, Imperial Agricultural Museum, Fontanka 10, St. Petersburg.

NATIONAL ROSE SOCIETY.

As a very unnecessary circular from the secretaries of the N.R.S. appeared in your issue of the 5th inst., I now enclose that circular:—

NATIONAL ROSE SOCIETY.

Coombe Road, Croydon,
July, 1893.

SIR,

In order to obtain the views of as many members as possible on certain subjects which have been under discussion for some time past in regard to our society's arrangements, and which affect all of us who are exhibitors, I have had the questions which are annexed drawn up. I hope you will favour me with an early reply, for which I enclose a stamped envelope.

CHARLES J. GRAHAME.

1. Do you think the annual Tea Rose show at the London Scottish Drill Hall, Westminster, advantageous or otherwise to the society and its exhibitors, and would you maintain or abolish it?
2. (a) About what date do you consider best for our annual metropolitan show?
(b) Do you think Saturday the best day on which to hold that meeting, or do you think the exact day of the week immaterial?
3. About what date do you consider best for the provincial show, bearing in view that this meeting should be fixed chiefly to suit growers in late districts?
4. (a) Do you think two metropolitan shows of equal importance would be preferable to the present arrangement of a metropolitan and provincial show?
(b) Or if the arrangements for the two shows be left as they now are, would you divide the prize money more equally?
5. Do you think it would be desirable that candidates for membership in our society should go through a form of election?

No one unless intensely stupid could think the circular was official, and as to any necessity for such sanction, I repudiate such an inference. As the secretaries have thought proper to notice in public print the fact, without explanation, that I have resigned my membership of the committee of the society, I beg to say I did so early in June, and also the local secretaryship at Croydon, as I found it worse than useless to belong in any way officially to a society in which stolid opposition is offered at committees to all suggestions and propositions made in the society's best future interests by the younger members of it. It may be within your readers' recollection that in 1891, partly with the valuable assistance of your journal, I carried an important reform in the working of the society; then, as now, the most strenuous opposition was offered to my proposals, notably by the secretaries who have now addressed you. Do the secretaries think that reform could now be undone? I have no hesitation in stating that this year, as before, any reforms which the members desire will be carried at the annual meeting, and that also notwithstanding all opposition which may be generated from either a

spirit of jealousy or of red-tapeism.—CHARLES J. GRAHAME, *Hunning Hall, Brighthelm, I.W.*

. We insert this at Mr. Grahame's request, but sincerely wish that exhibitors would think more of Roses and less of their shows and little personalities.—ED.

Death of Mr. Thomas Laxton.—We regret to have to announce the death of a very distinguished raiser of plants, Mr. Laxton, of Bedford, who died on last Sunday afternoon, after an illness of some eight weeks' duration, in his sixty-third year. He was well known to many of the interesting results of crossing plants whereby many notable additions to our gardens have been made, including Strawberries, Apples, Peas, runner Beans, and Sweet Peas. Among Strawberries Royal Sovereign he considered the best he had ever raised. We understand that the business will be continued by his sons under the style of Laxton Brothers.

Kainit (J. Gallier).—Kainit is a potash manure obtained from large beds of crude potash salts worked in Germany. It is a white crystalline mixture of salt, &c., and may be bought guaranteed to contain 25 per cent. of sulphate of potash. In 1 cwt. of such a sample there will be 15½ lbs. of potash—as much as there is in a ton of really good farmyard manure.

Moss-covered walks.—We have had here this season a perfect plague of the greenish olive coloured Ulva, which covers all the walks. For some years past we have had it more or less on the white limestone gravel walks, but since the rains following the great drought and heat, it covers also the blue limestone gravel in the kitchen garden. The fact that it springs up freely in one night on the limestone which has been watered with weed-killer some time previously seems to corroborate the popular notion that it comes in the thunderstorm. Can it be that the spores are carried in the thunderclouds? Does it appear on granite gravel in the abundance in which we have it? I have seen it in ferruginous sand gravel. With us it never appears on the turf, and scarcely if at all on the borders.—R. MILNE-REDHEAD, *Holden Clough, Clitheroe.*

Water bouquet (Constant Reader).—See THE GARDEN numbers of Sept. 14, 1889, p. 235; Sept. 21, 1889, p. 259, and Oct. 12, 1889, p. 340.

Names of plants.—S. H. B.—Please send better specimen; that sent was quite rotten.—H. R. J.—1 and 2, send better specimens; 3, looks like *Eulalia zelandica*; 4, *Viburnum Lantana* (the Wayfaring Tree).—T. A. J.—*Cattleya Schilleriana*, middling form.—W. Thompson.—We do not name florists' flowers.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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"Farm and Home" Monthly Parts.—This journal is published in neatly bound Monthly Parts, in which form it is most suitable for reference previous to the issue of the yearly volumes. Price 5d.; post free, 8d.

"Hardy Flowers."—Giving descriptions of upwards of thirteen hundred of the most ornamental species, with directions for their arrangement, culture, &c. Fifth and Popular Edition, 1s.; post free, 1s. 2d.

"The Garden Annual" for 1893.—Contains Alphabetical Lists of all Branches of the Horticultural Trade. The Lists of Gardens and Country Seats (containing over 9000) have been very carefully and extensively revised, and are admitted to be the most complete ever published. Price 1s.; by post, 1s. 2d.

All of our readers who are interested in the improvement of cottage homes are invited to help us to make **Cottage Gardening** known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, 1a Belle Sauvage, Ludgate Hill, E.C.

No. 1135. SATURDAY, August 19, 1893. Vol. XLIV.

"This is an Art^{33M}
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

FLOWER GARDEN.

HARDY WATER LILIES.

It is well-nigh impossible to say too much in favour of these exquisite flowers when seen doing well. I can corroborate all that "A. H." (p. 86) says of *M. Latour-Marliac's* new seedling *Nymphaea Laydekeri rosea*, which is a gem in its way and neat in habit as compared with other kinds. It is, perhaps, the finest in colour of all the pigmy *Nymphaeas*, although *N. pygmaea helvola*, with soft yellow and orange stars amongst its red foliage, runs it pretty hard. As growing here in a cold water pond, both have flowered freely for many weeks past along with the typical white *N. pygmaea* from China, and all have passed the two recent winters entirely unscathed.

Perhaps the freest and most luxuriant of all is the sulphur-flowered *N. Marliacea Chromatella*, presumably a hybrid between *N. flava* (or *N. mexicana*) and the Bohemian *N. candida*. This has leaves of a stout olive-green tint marbled with purple or red-brown, and its flowers are soft sulphur-yellow tinted with orange in the centre. As cut from the plant and gently opened with the fingers, and then floated in a big bowl along with two or three of its own leaves, nothing could well be more lovely in the way of a flower. I have been cutting flowers of this for over two months, and still there is a new and ample supply forthcoming. The same may be said of two or three other kinds sent me by *M. Marliac*, viz., *N. Marliacea carnea* (deep rose) and *N. M. albida* (rose shading to white). These are also very luxuriant and free blooming, both leaves and flowers being very large and effective in form and colour. The true rosy Water Lily of Sweden, *N. alba rosea* (*N. Casparyi*), has not as yet bloomed here, but it is growing well, as also is the Cape Cod rosy variety of *N. odorata*, a charming and shapely sweet-scented flower. Of white varieties there are three or four at least all good and free, and none more beautiful than our native kind, which, however, varies enormously in form, size, colour and habit. In the old herbals a larger and a smaller form of *N. alba* are often mentioned and sometimes illustrated, and in a recent number of *THE GARDEN* mention was made of a rosy English form having been seen, as also a greenish white one, while some forms are of a creamy white, even approaching a sulphur hue. A friend who was admiring our Water Lily pond the other day assured me that he had seen a pale rosy form amongst some common white ones on the lake or tarn that is sometimes passed in

ascending Snowdon from Llanberis, but it was not of the clear deep rose of Caspary's plant from Nerike, nor even that of the dainty *N. odorata rosea* of America. *N. candida*, the glossy-leaved Water Lily of Bohemia, and *N. tuberosa* (from North America) are alike white forms, well worth a place where space is ample for their accommodation; but the finest of all the whites, perhaps, is the giant form of *N. alba* (or is it of *N. candida*?) long ago famous in the classical old gardens at Hampton Court. I saw established plants of this variety (see Thompson's "Gardener's Assistant," second edition, page 720) in Co. Wicklow the other day, and the flowers fairly astonished a Water Lily-loving friend by their size and shape. The foliage was also most remarkable, and, if memory serves me rightly, I believe this variety is grown at Oxford under the name of *N. candidissima*. Can the name be a mistake for *N. candida*? I ask this because it is a name quite common in gardens, as at Oxford and Cambridge and elsewhere, but it is not to be found in books or dictionaries. I hope all travellers who are fond of aquatic plants, and of *Nymphaeas* in particular, will observe any kinds they may come across very closely, since forms varying in size and in tint are not uncommon, and some varieties are earlier, later, or more free-flowering than are others. The only drawback to Water Lilies is their slowness in establishing themselves unless on a deep rich bottom. They are much benefited by a rich mulching of river or pond mud and cow manure, and even by the addition of liquid manure to the tank or pool in which they grow. The rosy varieties especially never show their best form and deepest colouring until thoroughly at home in the mud below, say the second or third year after planting. The present season has been a most favourable one for these and most other aquatics, and if we could look forward to other years as sunny and as warm, we should not despair of establishing some of the sub-tropical *Nymphaeas*, such as *N. thermalis* and *N. coerulea*, even if not the hardier Japanese and American varieties of the princely genus *Nelumbium*.

A pond is not always an absolute necessity for the enjoyment of these lovely flowers. At Easton Lodge I lately saw several large pots full of *N. alba* plunged in a little cement tank only 18 inches or so in depth, and they were flowering freely. The late Rev. J. Ellacombe used to grow a collection of *Nymphaeas* and other aquatics in tubs in an enclosure near to a pump that supplied the water. There are three kinds at least, viz., *N. pygmaea* (white), *N. pygmaea helvola* (yellow), and *N. Laydekeri rosea* (rose-pink) that could be grown in any tub or large bowl in a foot of water and 6 inches of rich mud and sand.

The enemies of Water Lilies are water rats or voles, and swans and other aquatic birds often pull them to pieces, but the plants can be protected with wire netting. Wherever there are pools or lakes and ponds near the house the careful introduction of Water Lilies and other aquatics will yield a charm

not easily attainable in other ways, and once well planted they will increase in beauty and interest from year to year. F. W. B.

INTERMEDIATE STOCKS.

THESE are extremely useful and showy plants, but, as far as the south of England is concerned, not so much employed for the decoration of the flower garden as I think they deserve to be. The general plan is to have intermediate Stocks in pots for house decoration, and while extremely useful in that way, it appears to limit their capacities for floral decoration, as when a good strain is employed they make charming fragrant beds in May and June and remain in bloom for a considerable period. They have been termed "spring Stocks," and the designation is an appropriate one.

We have very fine strains of white and scarlet intermediate Stocks, the former especially, in cultivation at the present day; the purple is also to be met with in good character, but it is not so plentiful as the other two. When employed for house and window decoration, one method of raising plants is to sow in August or early in September, using a fine and rather light rich soil, placing four or five seeds in a pot and plunging them up to their rims in ashes in a cold frame with a glass covering; then when large enough the plants are thinned out to three, or the pots can contain more or less according to their size. Some sow in boxes, and when the plants are large enough they are potted singly into small pots. Shifted into $\frac{4\frac{1}{2}}$ -inch pots and bloomed in them, when well managed and in good soil fine heads of flower are obtained.

Some plant their intermediate Stocks out in beds. They are very gay while they last, and in the case of a good double strain the bloom continues for some time, and they can then be succeeded by dwarf Asters in bud, as the last-named come into bloom quickly and take up the floral succession at once and carry it on until the autumn. Or the Stocks may be planted with some coloured *Viola* which will contrast well with them, and when the Stocks have done blooming, they can be removed and the *Viola* will fill the bed.

The most valuable section of bedding Stock is that known as the East Lothian Intermediate. By sowing early in March under glass, such as a cold frame, and taking care to sprinkle the seeds thinly over the surface so as to avoid much thinning, the plants may remain in the seed-beds until they are planted out to bloom in autumn, care being taken meanwhile to keep them as stocky and robust as possible. Care should be taken to transplant them with good balls of soil, and if properly planted in the beds, they will flower in August, September and October, and, given a mild autumn, up to November. This is the method usually adopted in the north, and I have seen lines of the East Lothian Stocks in grand bloom at the end of August. In the south, where they will stand better than in the north, they can be sown a little later, and, duly planted out, in a favourable season they will bloom in autumn and again in spring if they survive the winter, and they seem to be of a hardier character than the Bromptons. The colours of the East Lothian are crimson, scarlet, white and purple. A strain of the latter distributed by Mr. John Forbes, Buccleuch Nurseries, Hawick, is very fine indeed, as could have been seen at the Chiswick gardens of the Royal Horticultural Society this summer.

Stocks must have good soil; the richer the soil the more finely do they bloom and the more brilliant are their colours. The ground should be deeply dug and well manured. The roots of Stocks travel for a considerable distance downwards; hence the advantage of having the soil deeply stirred. R. D.

Zonal Pelargoniums at Chiswick.—One of the more interesting features in the Chiswick gardens this year is a collection of zonal Pelargoniums,

each variety planted side by side in rows, thus affording opportunity to make comparisons. It is not often one gets such a "trial" of this peculiar bedder, but such a representation of the zonal Pelargonium is worthy of note. The double varieties are of small account for the open, and against the singles make a conspicuously poor display. This class has received many fine additions of recent years, the individual flowers of perfect shape, and borne in large, heavy trusses. It is not easy to describe the colours of the flowers in the blaze of varied hues presented to the eye. A few of the finest in the collection we carefully selected, some well known, others comparatively scarce. W. B. Miller may be described as vivid crimson, a peculiarly brilliant shade, the flowers individually of large size. One sees a number of kinds of the Henry Jacoby class, such as General Outram and Dr. Orton. A brilliant kind is Ayesha, the flowers bright rose-crimson, and held well up. An exceptionally fine type is Gen. Quinot, pure self salmon, a clear shade and bright. A fine crimson is Col. Seeley, with a white eye that adds to its lustre. One of the best in this large collection is Charles Mason, which produces a neat bold truss of scarlet flowers set off by a small white central eye. Rev. F. Hay produces a splendid truss, the flowers individually pure scarlet, and another fine scarlet kind is Fournaise, very rich and striking. That fine Pelargonium Souvenir de St. Amand is well represented, and both in pots and in the open this variety shows to advantage. It is one of the most distinct in the whole collection. Ouida, brilliant scarlet, is also good. Also worthy of cultivation are Mrs. Miller, pink; Armand de Pontmartin, lilac; La Lorraine, rosy lilac; Amy Amphlett, white; Mrs. Pearson, orange-scarlet; and Col. Colville, purplish crimson. The majority of the plants, except the doubles, which require pot culture to develop their true beauty, are in full bloom, and those interested in zonal Pelargoniums would find a rich assortment of the best kinds at present in cultivation.

Tufted Pansy Bluebell.—It is very interesting to find that at Hampton Court this fine old Viola is still more largely grown and used than any other. Whether mixed with silver variegated Pelargoniums, with which the blue flowers so pleasingly harmonise, or whether associated as an edging with that pretty silver Grass, *Dactylis glomerata variegata*, Viola Bluebell is beautiful, blooming most profusely, and could not in effect be excelled by any other even ever so new. It speaks volumes for the old variety that it should be grown far more than any other almost universally, for I see it constantly in cottage and villa gardens; indeed, it crops up everywhere. For growth, freedom, and size of flowers it is still one of the very best of tufted Pansies, and will long be grown.—A.

Begonias as bedders.—Whilst closely planted masses of these popular flowers almost invariably fail to produce a very pleasing effect, yet when the plants are put out thinly on to some suitable carpet they are charming. A large bed at Hampton Court edged with Mrs. Pollock Pelargonium and Iresine Herbsti intermixed has the centre of large crimson-flowered Begonias, all specially selected to match in colour, intermixed, but thinly, with white-flowered Fuchsias, each plant standing separate from the other, and on a carpet of *Koniga variegata* and mauve Viola Mrs. Turner. This is so far from being a stiff, formal bed that it excites much admiration. Large white Begonias intermixed with creamy Zinnias and mauve Violas are also very pleasing.—A. D.

Lilies in the north of England.—After reading the interesting article by "J. C. L." in THE GARDEN, July 29, it occurred to me that a few notes on Lilies as grown in the north of England might be acceptable. This garden slopes to the south-east, nearly 800 feet above the sea level, stiff loam full of stones, an ideal soil for Roses, which flourish better than the Lilies. Liliun candidum does only fairly. White and common Martagons well; the white likes a little shade. L. chalcedonicum, croceum, davuricum, and the old-fashioned yellow

Turk's-cap flourish and increase fast. One bulb of pardalinum is now a large clump and flowers well. Pomponium verum has increased in the same way, and has more flowers. The Tigers do well both in the border and in a made peat bed, where I have also in a flourishing condition double Thunbergianum, pink and white speciosum, canadense, and Szovitzianum. One bulb of L. testaceum planted eight or nine years ago in loam is now a clump with eleven stems. Last year they stood 6 feet high; this summer the drought (the greatest in the memory of the oldest inhabitant) has kept them shorter. L. superbum is now (August 1) bearing two great heads of bloom on stems over 5 feet high. Now for the failures. L. Humboldtii, Batemannae, and auratum are dead, but I mean to try them again. Kramerii has come up two years in the peat bed, but only to a height of 6 inches. Brownii is the same this year; last summer it was the glory of the garden with a large head of flowers. I may add that no Lily here has ever been protected (and the last three winters have been arctic), except that the shrubs in the peat bed are some small protection to the young shoots in spring.—M. P. F., *Ullswater*.

DURATION OF LILY BLOOMS.

OWING to the hot and dry weather the individual blooms of the different Lilies did not remain long in beauty unless exceptionally situated, but whether exposed to the full sunshine or protected from it, some species retain their freshness for a very much longer period than others. The bulk of the earliest Lilies in the open ground consists of those with erect blossoms, corresponding with the sub-genus Isolirion of Mr. Baker, and as a rule they do not remain long in beauty. This feature is especially noticeable in L. davuricum or L. umbellatum, as it is often called, different forms of which are commonly to be met with. They are very bright and effective when first expanded, but soon become dull, though the petals do not drop for some little time after the change in colour takes place. The dwarf L. elegans or Thunbergianum is very prolific in varieties, and some of the red ones, notably biligulatum and sanguineum, change as quickly as the forms of L. umbellatum. The richly tinted Van Houttei, illustrated in THE GARDEN, November 8, 1890, retains the brightness of its colouring much longer than those above-mentioned, while the yellow varieties, such as alutaceum, Prince of Orange, and Alice Wilson, change but very little before they drop. Two species of this section stand out as especially noteworthy by reason of the length of time that the flowers remain in perfection. They are L. bulbiferum, that flowers much about the same time as L. davuricum, but the blooms are brighter and remain in beauty for a very much longer period, and above all the old Orange Lily (Lilium croceum), a clump of which with me has been in flower from the middle of June to the end of July. Not only has a succession of bloom been maintained, but each flower retains its beauty for such a long time. This is certainly one of the best ordinary garden Lilies that we possess, as apart from its other features the blossoms are of a very bright and effective tint. Some of the members of the Martagon or Turk's-cap group have petals of unusual substance, and they all remain in good condition for a longer period than most Lilies. The yellow-flowered L. Hansonii, the Black Martagon (dalmaticum), and especially L. chalcedonicum, which is commonly known as the Scarlet Martagon, are all good lasting Lilies. L. chalcedonicum is, however, the best of them all in this respect, for the blooms remain in beauty a very long time, and that, too, during what is generally the hottest period of the year, for its usual period of blooming is during the month of July. The small, but prettily reflexed and brightly coloured blossoms of this Lily are very beautiful, and it should certainly be more generally planted than it is. In common with many others, it will seldom flower much the first season after planting. L. Leichtlini, a pretty pale

yellow flower, plentifully dotted with brownish red, remains fresh for a considerable time, while there are several of about an average duration. Under this head must be included such kinds as L. auratum, L. longiflorum, L. tigrinum, L. testaceum, L. Batemannae, L. Brownii, L. canadense, L. Szovitzianum, L. pardalinum, L. Kramerii, L. Humboldtii, and others. The most conspicuous of all the varieties of L. auratum is the red-banded rubro-vittatum or cruentum, which when the blossoms are first expanded is wonderfully bright and effective, but the coloured portion soon changes to more of a dull brownish hue, and it is then not nearly so attractive as at first. From the fact that they do not flower till the summer's heat is as a rule a good deal abated, all the varieties of L. speciosum remain in beauty longer than many of those that bloom earlier in the season, for towards the end of August or in September and even October they remain fresh for a very long time. The new L. Henryi has much the same substance as L. speciosum, and lasts about as long as that does. The stately L. sulphureum (the once L. Wallichianum superbum) is one of the later blooming Lilies and a good lasting one, but the most noticeable in this respect of all the tube-flowered group is the Neilgherry Lily (L. neilgherrense), whose long, tube-shaped flowers are of a thick, wax-like substance. This is particularly noticeable for its large massive flowers, often borne on comparatively short stems, the late season at which it blooms, that is, the three last months of the year. The short flower-stems frequently met with in this Lily are caused by the fact that in some individuals the stem, after leaving the crown of the bulb, proceeds in a horizontal or even downward direction for some little distance before it appears above ground, and when it does so the flower-stem is sure to be short. In pots the stem will often go to quite the bottom of the pot and come up on the side directly opposite to that where it went down. In speaking of Lily blooms, one curious fact may be noted with regard to some forms of L. Washingtonianum, and that is when first opened the flowers are white or nearly so, but they quickly change to a purplish hue. H. P.

CARNATIONS IN PAPER COLLARS.

THE methods adopted by exhibitors of Carnations of showing the flowers they grow so well are mostly very poor and formal, tending to detract from the beauty of the flower, but the most ridiculous of all is that of showing Carnations with paper collars round their necks. The only wonder is that a storm of ridicule and abuse does not arise and put a stop to the whole thing, for a small body of florists would hardly continue the practice if those who provided the main support of their society made a strong protest against it. We visited the recent Carnation show, and found quite half of the flowers set up in this way. A society that permits, in fact encourages, this does nothing to benefit Carnation growers at large. In its full force of colour in the garden, the Carnation is ahead of the Rose if one grows the fine self kinds in bold masses, but no one would dream of this or form the slightest idea of its value as a garden flower from visiting the London Carnation show. One of a flower's charms is its individuality, but the florist allows none of this. He has a fixed ideal in his own mind to which the flower must conform, and whether he is showing twelve or twenty-four or any number of kinds, he puts each one in a paper collar, and with his tweezers proceeds to manipulate the flower, laying out the petals one by one till he has made the flower come as near as possible to his self-created standard of supposed perfection. There is no secrecy nor attempt to disguise the fact, for one has only to go to the show during the early morning hours to see the thing performed. It is all a part of the wretched tenets that bind the florist to his narrow ways. He tries to justify the practice by claiming that it sets forth the flower and better displays the marking on the petals of the flaked and bizarre kinds. It is wrong, however, to give these undue

prominence, as the important kinds are the selfs. These, too, though they have no stripes, whatever their colour, whether red, rose, white or purple, all are enclosed in the inevitable white collar and set out on green boards without a scrap of foliage of their own. If flowers are shown, the least we may ask is to see them as they grow, and then we can judge them truly on their merits. No flower is worse treated than the Carnation, and the whole proceeding is so simple and childish as to be unworthy of notice but for the serious attention that many give to it. If no actual harm is done, it misleads the general public and shows them a fine flower in a false and stupid way.

FLOWER GARDEN NOTES.

CARPET BEDDING.—Although it would seem that this particular style is gradually dying out, yet the fact that both in public and private gardens occasional beds are still met with testifies to a slight demand, "just," I have heard it remarked, "for the sake of variety." If anything of the kind is attempted, it should be thoroughly well done, and as beds will now be about at their best, notes may be taken of specially good points and of errors in judgment, for it must be remembered that good carpet bedding does not simply mean that these particular beds should be well filled and nicely kept, but that sound taste must prevail in the original construction of the bed, the aim being to avoid on the one hand splitting it up into too many lines and patterns, and on the other too great a preponderance of any given colour. In this latter matter one sees, for instance, tiny patterns that are utterly worthless for producing any effect dotted very sparingly on a heavy groundwork of green or yellow. Again, it seems a pity now that the rigid adherence to a perfectly flat surface is at an end, and we have a free and welcome use of dot plants to insist on the prompt and entire removal of all flowers from succulents, where at any rate these are employed on or towards the centre of beds. As a slight instance, let us imagine a large bed in which two large stars on a groundwork are the main idea. The centres of these stars might consist of *Echeveria glauca* in flower, and the points of *Iresine Wallisi*, whilst if the variegated *Mesembryanthemum* was employed for the groundwork of the bed, any bright patterns of say *Alternanthera amena* in the same might also have flowering *Echeverias* as centres. They are also very pretty and effective on a groundwork of *Herniaria glabra*. As a set off against this I should like to draw attention to a few beds just now in good trim that are making a grand show at a minimum of expense. A 5s. packet of seed has given us three large beds of Margaret Carnations; planted at a foot apart they have furnished the ground well, and are throwing up a fine lot of flowers in many shades of colour. This new race is a great boon to all who have not the time to spare or object to the initial expense of choice named border varieties, and although they cannot hold their own in the way of individual beauty with such choice things as Countess of Paris, Ketton Rose and the best of the Cloves, some excellent flowers are produced from each packet of seed, and the plants are invariably free and vigorous in habit.

I suppose of all bedding plants *Violas* make the finest show at the least possible cost. Their employment together with suitable herbaceous plants for large beds has been previously recommended. Let me just give an instance or two of their effectiveness when so employed. Four large beds were thinly planted (at intervals of 4 feet) last autumn with nice little clumps of the variegated *Spiraea Ulmaria*, with *Statice latifolia*, *Zauschneria californica* and *Lobelia cardinalis*, and in the early spring were filled in respectively with *Violas* Archie Grant, Ardwell Gem (a lovely pale yellow), William Niel and Countess of Kintore. The perennials have not shown quite their true form in this exceptionally dry season, but the four beds are bad to beat, and are likely to bear testimony

to the fine and long-sustained summer display that can be secured with the aid of such materials. I thought of trying next season in a similar manner the white *Antirrhinum* with *Illuminator Viola*. Writing of *Antirrhinums* reminds one that this as well as many other perennials may be sown at the present time if there is a desire to increase existing stock in this manner. It is not necessary to do this every year, as some very good things are obtained from a packet of seed, and these can the next year be increased by cuttings or division as the nature of the plants requires. All hardy plants can be sown if necessary on the open border, but it is just as well to give them the benefit of a frame if there is one to spare; any trouble with birds is thereby avoided, and the soil can always be kept in just about the right condition for the quick germination of the seed and consequent development of the plant. If the Snapdragons are wanted for purely bedding purposes—that is, to form lines or patterns, the Tom Thumb varieties of *A. majus* will be found most serviceable. If *Myosotis* and *Silene* are likely to be required for any special spring display, they can be sown thinly on a shady border. Both these annuals, however, are now more generally used in outlying parts of the pleasure grounds, bulbs, *Polyanthus* in variety, the choicer strains of Wallflowers and *Violas* having taken their place in the immediate neighbourhood of the mansion. A good batch of Sweet William is always acceptable. If seedlings are ready and the ground not yet prepared for their reception, they can also be pricked out on some shady border ready to be transferred to their permanent quarters. It may be as well to remind those who are likely to want a good supply of cut flowers early in the year that good *Daffodils* seem likely to be obtainable at low prices, and there are few things more easily grown or more appreciated. At the expenditure of one guinea or something like it, 100 each of those useful varieties, *obvallaris*, *princeps*, and *Stella*, can be secured sufficient to furnish a goodly supply of successional bloom for cutting.

E. BURRELL.

Claremont.

The Purple Coneflower (*Echinacea purpurea*).—This is subject to such an amount of variation when raised from seed, that an erroneous impression might be formed concerning it. The variations are not merely of a slight character. I remember seeing a batch of seedlings in flower in Mr. Thompson's nursery at Ipswich, and there was a variety of forms even to an extreme degree, some quite inferior with narrow petals which reflexed, and others having long, broad petals spread out into a bold, showy flower. I had a similar experience when raising the plant from seed. The only way to increase it in its finest form is by division.—A. H.

A new Lily.—Since writing the note under the above title on page 98 I have had an opportunity of seeing numerous examples of this Lily in the hands of different cultivators, and also of perusing Mr. Baker's article thereon in the *Gardeners' Chronicle*. It is by Mr. Baker regarded as a variety of *L. japonicum* of Thunberg under the varietal name of *Alexandria*, and its supposed hybrid origin is passed over. Still, I cannot agree with Mr. Baker where in speaking of *L. japonicum* he says *L. Krameri* and *L. Barriannum* are forms of the species with pale red flowers. I know nothing whatever of *L. Barriannum*, but between this new Lily and *L. Krameri* there are very few points in common except that they both belong to the same section of the genus. Neither in bulb, foliage nor flower do they resemble each other in the least. After an examination of the numerous examples that have come under my notice I am still further convinced of the hybrid origin of this Lily, as there is a considerable amount of variation to be found among different individuals, some showing a greater leaning towards *L. longiflorum* and others to *L. auratum*. Not only do the leaves vary in size and disposition on the stem, but the flowers differ a great deal from each other. In

some the tube is short and the flower widely expanded, while in others it is longer and narrower and altogether more of the longiflorum shape. While in most cases the anthers are brown, examples occur in which they are of a deep yellow tint, not very much removed from some forms of *L. longiflorum*. In some the greenish shade extends much farther over the flower than in others, while occasionally a flower with a pinkish tinge on the exterior may be found.—H. P.

MARKET GARDEN NOTES.

RUNNER BEANS.—When these make 14s. per bushel in the last week of July, it is a sure sign that the yield generally is very deficient. As a fact I have never seen the field crops which furnish the London markets look so bad. Even where the ground is subjected to high culture the plants are stunted and incapable of giving any quantity of Beans. Should we get copious rain during this month and frosts keep off in September, there will undoubtedly be abundant supplies during the early autumn, otherwise Runner Beans will remain dear. Even at a very moderate price this esculent pays well in a favourable season, as the plants yield for a period of three months, and a large amount of Beans can be taken from an acre where the ground is well cultivated. This season, however, in spite of the much higher prices obtainable, the yield is so light, that the extra money will not compensate for loss of bulk. It is curious, too, that whilst vegetables generally have been this season earlier than usual, Runner Beans are rather later.

ONIONS.—These on our light Surrey lards are a failure. Here and there one may see a very moderate crop, but in a general way there will not be enough taken from the ground to pay expenses. From twenty acres of land one grower will not get more than twenty bushels of Onions. The weather being so parching, the young plants could not get into free growth and were eaten up by maggots. When June happens to be very dry we rarely get good Onion crops, and this year the heat and drought during that month were phenomenal. From the time the seed was sown up to the end of July we did not get enough rain to moisten the soil more than an inch in depth. Even where the grub has not been so destructive the Onions are small in comparison to what they would have been with more moisture in the ground. In localities specially favourable to Onions where the maggot is not destructive, the bulk of produce taken from the ground will be much under average, and prices for Onions this coming winter will undoubtedly be considerably higher than usual.

WINTER GREENS.—The few showers we have had during the last fortnight have been very welcome, rendering the planting out of large breadths of Coleworts and other winter greens easier and more satisfactory than has hitherto been the case. With the ground in a dust-dry condition and no means of watering, the plants were quite as well, or even better, in the seed beds until the rain came. Brussels Sprouts put out for early gathering a month or more ago will be almost as late as those planted since the change of weather. Some that were put out in the beginning of July looked a week afterwards quite shrivelled up; they seemed to have hardly a vestige of green leaf left to them. The Cabbage tribe has wonderful powers of recuperation, but such a severe check at planting must have an influence on the crop, retarding progress and lessening its value.

CUT FLOWERS.—The intense heat has brought on hardy flowers employed for cutting so rapidly, that the London markets must be poorly supplied during September and October. Many things that are relied on for giving a lot of bloom during the coming month will be over by that time; herbaceous Phloxes will soon be over, and even Michaelmas Daisies and some of the perennial Sunflowers are being brought into market at the present time. Early flowering Chrysanthemums are a month

before their time, and will be past just when in ordinary seasons they are in full bloom. If September frosts keep off there will be plenty of Dahlias, but if they should be cut off early in the month, there will be little in the way of cut blooms in the open to take to market. Up to the present this has been a fine season for those who make a speciality of Dahlias. The plants came into flower some weeks earlier than usual, and where they were put out in good time and well cared for, a large quantity of bloom has been taken from them. One of the very best things for cutting is the Gaillardia. Plants raised from seed give some little range of colour, and the more they are cut from the more they bloom. The newer varieties have been much in request this summer. Iceland Poppies are also greatly in favour, and both these and Gaillardias have stood the heat and drought very well. When sent to market, however, the former must be cut just before the blooms are quite expanded or they shatter. J. C. B.

ORCHIDS.

TWO COOL HOUSE VANDAS.

(V. AMESIANA AND V. KIMBALLIANA.)

I AM much interested in these two plants, having seen the former when it first flowered. Afterwards I saw V. Kimballiana when it first bloomed in Mr. Low's nursery at Clapton. Mr. Boxall, who collected these plants, says he got them in the Shan States, on the north-eastern boundary of Burmah. They grow mostly on rocky prominences, and also on trees at some 4000 feet to 5000 feet elevation. Consequently the plants grow far better under cool treatment, but not so cool, I think, as some of my friends try to persuade me. Mr. Boxall informed me that the ground is frequently covered with hoar frosts in the early morning, but I do not urge my friend Mr. Gibson to try to imitate such a condition of things with these plants under cultivation. We know that many plants thrive with us under very different conditions to what they are subjected to in a state of Nature. I saw in Mr. Low's nursery V. Kimballiana in very fine condition and flowering most profusely, whilst at the same time of year I saw in a gentleman's garden some plants out of the same batch, and some of the best pieces too, that had been treated as East Indian Vandas. The latter plants apparently had not recovered from their journey, and had but a poor spike or two of bloom; whilst those plants left with Mr. Low and treated as Odontoglossums were perfect pictures of health, bearing many spikes, and some of these carrying twelve flowers. I advise both these plants to be grown in the warm end of the Odontoglossum house, giving them an abundance of water during the summer season, but reducing the quantity considerably in the cooler weather. Drain the pots well, filling up with clean and sweet Sphagnum Moss, and do not let the plants suffer from want of moisture in the resting season.

V. KIMBALLIANA, of which a coloured figure appeared in THE GARDEN of April 9, 1890, is a beautiful plant. It was dried to such an extent upon its arrival, that many took it for a plant having terete leaves. The peduncles are axillary, and bear from six to twelve flowers, which in the sepals and petals are pure white; the lateral sepals are a great deal the larger and sickle-shaped. The lip is large, the side lobes small, yellow, spotted with reddish brown, the middle lobe large and flat, of a bright rich amethyst-purple, having a long incurved purple spur.

V. AMESIANA.—The Messrs. Low had but a single plant of this species when it first flowered in their nursery, and it was figured in the "Orchid Album," t. 296. Curiously enough, when next it came to them with V. Kimballiana the plants appeared more robust and fuller of roots. Although the flowers vary considerably in colour, I have never seen any so richly marked as those of the plant that found its way to Mr. Ames' collection in America. It, like the above, makes leaves that are deeply channelled on the upper side, rounded below, and pale green. The spikes are erect, bearing many flowers, which are very fragrant, the sepals and petals white-rose or rosy purple, the lip being rose. In some varieties this colour is quite absent, and this form gets the name of alba in gardens, and a form with the lip stained with rosy mauve I have seen called lilacina. WM. HUGH GOWER.

Cattleya citrina aurantiaca.—This is a new variety of the well-known old Mexican species, having quite a novel appearance. In addition to being so distinct in colour, the sepals and petals are spreading, less fleshy or waxy than usual, nearly equal, and pale lemon-yellow in colour. The side lobes of the lip and basal part are deep lemon-yellow, and have several raised lines from the disc to the front, of a very deep orange-yellow, the front of the lip being of the same hue. The plant, I am told, is quite undistinguishable in its growth from the type, but the flowers are quite different; so much so, that I failed to recognise them at first. It was sent to me from The Woodlands collection at Streatham.—W. H. G.

Cattleya Dowiana aurea Statteriana.—This beautiful form first flowered in the grand collection brought together by Mr. J. Statter, of Whitefield, Manchester. It is a superb and showy variety of the typical plant, having sepals and petals of a soft creamy white, the large three-lobed lip being soft crimson-magenta on the front lobe, streaked with distinct lines of rich gold.—*Orchid Album*, t. 468.

Lælia Schilleriana.—"W." sends a flower with a question asking if it is not *Lælia elegans* Schrederer? I am totally unacquainted with such a variety. The flower sent is none other than a very good form of the kind named above. I am somewhat surprised at seeing it at this season of the year, for it generally flowers during the late spring or early summer months; the sepals and petals are light, and the lip is similar to that of the typical form of *L. elegans*, of which it is generally considered a variety, but from which I distinguish it at once by its middle lobe not being clawed, as in *L. elegans*.—W.

Aerides Sanderianum.—This very gorgeous plant is now flowering very freely in the nurseries at St. Albans. It is quite as vigorous as the noble *Aerides Lawrenceæ*, of which it is but a colour variety. It varies in nothing but the ground colour of the flowers, which in the variety now under consideration is of a soft shade of yellow, whilst in *Lawrenceæ* the ground colour is waxy white. The flowers of both plants are very fragrant. We are told that these two plants often grow together with *Phalenopsis Sanderiana* and *Vanda Sanderiana* in the island of Mindanao.—W.

Cymbidium eburneum.—This plant, figured in the "Orchid Album," t. 467, has deliciously fragrant flowers. It first flowered in English gardens in 1847, and it remained rare and expensive until 1875, when Mr. Williams imported some in very good order. He also received word from his collector of the conditions under which the plant existed in a state of Nature, and from that time the plant has grown well and flowered profusely.

Cattleya Gaskelliana.—I have before me sundry flowers from readers of THE GARDEN, and it really is quite astonishing to note how much the flowers vary, some of them being quite worthless. G. Hubbard sends a very good variety which reminds me much of the form which I used to know by the name of *labiata pallida* in years gone by. The

flowers are nearly 7 inches across, the sepals and petals broad and full and deep rosy lilac in colour, lip large, prettily undulated round the edge, and margined with rose, ground colour of the front lobe creamy white, with a large broad apical blotch of rich magenta, and a citron-yellow throat, which makes up a flower of great beauty. C. James sends three flowers of as many varieties that do not require special comment, they being all fair ordinary forms, and Mr. Broome, from Llandudno, sends a very handsome flower, but nearly destitute of colour in the lip, which I cannot call a good variety. H. Johnstone sends me the pure white, known as *C. Gaskelliana alba*, the flower of which is wholly pure white saving the throat, which is clear soft yellow.—G.

Sobralia Sanderæ.—This in growth somewhat resembles *S. macrantha*, but I am told it is from a quite different region. The flowers are large, having a full spreading lip, and, like the spreading sepals and petals, are of the purest white; the white lip is prettily frilled, and the throat is a rich yellow. The plant is quite different from the variety which I noted from Mr. Hardy's collection at Timperley, Cheshire.—W. H. G.

Aerides Warneri (G. B.).—This is a rare old plant now seldom seen. I do not know from what district it was brought. It is quite distinct from *crispum* by its ascending leaves and by its slender stem. The flowers, however, very much resemble those of *A. crispum*. "G. B." may send me as many flowers as he likes, but I do not wish him to wait until he can send a whole spike intact, as in the present case. I should very much like to see the *Aerides* and *Saccolabium* again become popular, as these plants are extremely showy, pleasing and ornamental, yielding also a delicious perfume.—W.

SHORT NOTES.—ORCHIDS.

Lælia elegans leucotata.—This is a sterling novelty, which I recently saw at Mr. Measures', The Woodlands, Streatham. In growth there is little or nothing to distinguish it from the typical *L. elegans*, but the flower, as its name implies, is of the purest white.—G.

Cypripedium callosum Sanderæ.—This is a very beautiful variety. It has the depressed petals of the typical plant, but the whole flower is of the purest white, saving the green veins, which in the dorsal sepals are very conspicuous. It is a flower possessing much grace and elegance.

Cattleya Triana Regina.—This is at once a neat and showy kind. The variety originated at Holloway, but is now in the collection of the Hon. F. L. Ames, of Boston. It is one of the most chaste varieties of *C. Triana*, the whole flower being pure paper-white, saving the large stam of purplish magenta and pale yellow in the throat.—*Orchid Album*, t. 466.

Cattleya Sanderiana.—Two remarkable flowers of this variety come to hand from Mr. Wilkinson. They are not remarkable for their size, but this will doubtless improve, for the sender says the plant was divided last year. The colours are exquisite, the whole lip being intensely deep coloured. I should like to see this variety next season and in fresher condition. I have never observed so deep a colour before.—W.

Odontoglossum Edwardi.—This (figured in the "Orchid Album," t. 465) is a very distinct and handsome species. It was discovered by Edward Klaboch, a nephew of the world-renowned Roehl. The plant flowered for the first time in this country in 1880 under the care of Mr. Osborne, when he had charge of the very fine collection brought together during the life of the late Mr. H. J. Buchan, of Southampton.

Cattleya Schofieldiana.—"W." sends me a very good variety of this plant, which some authorities reduce to a variety of *granulosa*. It is a grand plant, having large flowers, which have a ground colour of tawny yellow in the sepals and petals, flushed with greenish purple and profusely spotted with crimson, side lobe of the lip white, the large front lobe clawed, of a bright magenta-purple, thickly set with little papulae. It is a beautiful and showy flower.—W.

SYDENHAM, NORTH DEVON.

SYDENHAM is situated about seven miles north-west from Tavistock and eight miles east from Launceston, and is, therefore, close to the borders of North Cornwall. The drive from Coryton (the nearest railway station) is a delightful one, leading through woodlands and pleasant meadows, fringed with wooded slopes. An ideal wayside cottage is passed on the road, such as would delight the artist in search of a picturesque subject. The porch is smothered with fragrant Honeysuckle (just now in full bloom), while Roses and Ivy almost cover the rest of the building, which is made still more attractive and cheerful by bright-coloured Gladioli, Phloxes and other flowers close to the drive. A shady wood is passed next, and through openings are obtained every now and then delightful glimpses of scenery, with fertile

Sydenham has an interesting history. The oldest portion of the building is so old that no record of its construction can be traced, but the greater portion was restored and partly rebuilt in the Elizabethan style about the year 1600 by Sir Thomas Wise, who died in 1629. In the accompanying engraving the oldest part of the house is that seen on the left. The enormous old window lights up a grand old staircase, with balustrading of carved Oak. Adjoining is the spacious dining-room, being probably the oldest room in the house. The walls are panelled with carved Oak, blackened by age and decorated by inlaid work of unique design. The magnificent fire-place in the hall was added in the year 1656 by Sir Edward Wise. During the civil war the mansion was garrisoned for the king, but was taken in 1645. It is probably after that date that the more modern smaller windows in the right

bourhood. The walls on this side are covered with several kinds of creepers, some of them of considerable size, viz., Cluster Roses, *Magnolia grandiflora*, *Forsythia viridissima*, yellow Jessamine, and Ivy.

The opposite side of the house, i.e., the south-west front, is depicted in the engraving. The climbing plants covering the walls are *Crataegus Pyracantha*, *Kerria japonica*, *Clematis Jackmanni*, Virginian Creeper, Roses of several kinds, notably *Gloire de Dijon* and white Cluster. Over the door in the centre are festoons of white Jessamine, and the receding wall to the right is clothed by a huge *Wistaria sinensis*, Everlasting Pea, *Pyrus japonica*, *Clematis*, *Escallonia* and others, all combining to form a delightful picture. Hardy Fuchsias and Yuccas are planted on each side of the steps leading from the central door to the formal garden.



Sydenham House, Devon. Engraved for THE GARDEN from a photograph by Mr. Hayman, Launceston.

meadows traversed by the river Lid on one side of the road and steep hills covered with stately Oak and other timber on the other side. Here and there an *Abies Douglasi*, Silver Fir or Copper Beech stands out prominently among the Oak and Beech composing the main body of the wood, and an undergrowth of Hollies, Ferns, Hazel and *Rhododendron* is kept just sufficiently light to admit of a charming peep between the trees at frequent intervals. Near the corner of a branch road is the quaint little gardener's cottage nestling among the trees. The building is covered with Ivy, Jessamine and Cluster Roses reaching up to the thatched overhanging roof. The small garden in front is bright with standard Roses, Dahlias, &c. A little further on an avenue of stately Elms, the age of which must be several centuries, leads up to Sydenham House.

The owner kindly conducted me over the most interesting parts of the house and grounds.

wing of the house (as seen on the illustration) were constructed. The Tremayne family came into possession some time after the death of Sir Edward Wise in 1675. In 1736 the iron gates of the main entrance were erected. They are immediately opposite the avenue of Elm trees referred to above, and from here a broad gravel path some 40 yards in length leads in a straight line through a square lawn and over granite steps to the front door on the north-west side of the mansion. The ground plan of the house is in the form of the letter E, and two beds of *Begonias* on each side of the steps are of the same pattern; four other flower beds on this small lawn are also of angular shape, but in the form of the letter L, edged with Box and planted with *Verbenas* in distinct colours. The portico, which bears the family crest, is built of granite from the tors of Dartmoor, but the main building was erected with stone of a slaty nature found in the neigh-

The south-east wall of the mansion is covered by two huge horizontally trained Pear trees, viz., *Swan's Egg* and *Duc d'Orange*. On one of these trees (which is seen on the illustration) I counted over forty pairs of horizontal main branches which had evidently been trained with faultless regularity.

The formal garden, from the centre of which the view here depicted was taken, is surrounded by a wall about 7 feet to 8 feet high, and forms a square about $1\frac{1}{2}$ acres in extent. Unlike many so-called formal gardens of the modern type, this does not contain a single feature which is not strictly in harmony with its ancient surroundings. Here no modern flower beds of the wall paper pattern have been allowed to mar the beauty of the velvety lawn, and there are no pieces of statuary or crockery to spoil the dignity of the time-honoured mansion, but all is simplicity itself, and, therefore, a sense of complete harmony pervades the whole. The

broad gravel walk in front of the house is perfectly straight. Between this and the house is an old-fashioned border for hardy perennials, and the wide part in front of the receding portion of the mansion has been turned into a flower garden. The flower beds are angular, and of the same L shape as those on the north-east side. They are edged with Box and planted with dwarf Roses, the ground between the Roses being covered by a carpet of Heliotrope—a happy combination. The terrace slope is not abrupt, but gently undulating, with a straight streamlet of water about 18 inches wide running parallel with the main walk. Those walls of the formal garden which run at right angles with the house are covered with fruit trees of all kinds, which just now (August 1) are mostly heavily laden with an abundant crop. At the foot of these walls is a narrow line of Lily of the Valley, and a herbaceous border edged with Box running parallel with the walls is separated from the lawn by a straight, broad gravel path. These borders are filled with Pionies, Irises, Phloxes, Anemones, Enocheras, Dahlias, fine plants of the bright yellow *Centaurea macrocephala*, Austrian Briers, Aconites 7 feet high, Gladioli, Campanulas in many varieties, Golden Rod, Red Valerian, and many others intermixed with Sunflowers and dwarf kinds of annuals. A sloping lawn 12 yards wide studded with handsome shrubs borders the Ivy-covered wall running parallel with the house. The square piece of lawn, which is completely surrounded by the broad gravel walks, measures about 100 yards each way, and contains in the centre a rectangular pond about 90 yards in length and 10 yards in width, the straight line being broken by semi-circular recesses in the middle and by plants of graceful outline, notably several *Arundo Donax* and *Glycerium argenteum*, as seen in the foreground of the picture here engraved. Here I also noticed eight handsome specimens of the Royal Fern (*Osmunda regalis*), which I was told were planted nearly fifty years ago, and measure now quite 12 feet in diameter.

The formal garden is bounded on the south-west side by park-like meadows traversed by a tributary to the river Lid, and on the south-east side by the well-stocked kitchen garden, about $1\frac{1}{2}$ acres in extent. The glass is confined to a greenhouse and frames employed chiefly in the production of the plants required for the flower garden and borders.

Close to the main entrance on the north-east side is a piece of pleasure ground of about $2\frac{1}{2}$ acres, which is separated from the other parts of the gardens by a public road, and has been called the "Turtle Grove." This was formerly an orchard, but has been transformed by the present owner, who pointed out to me among other interesting features a Cedar of Lebanon about 40 feet high, which had been planted in 1847, and was raised from seed which Mr. Tremayne himself had gathered on Mount Lebanon. All the walks in this pleasure ground are straight, so as to correspond with those near the mansion. There are also angular beds of Azaleas, Rhododendrons, and other flowering shrubs intermixed with hardy perennials and annuals. Among the larger trees I noticed good specimens of *Abies Douglasi*, Red Cedar, Hemlock Spruce, Searlet Oak, Sycamore, Copper Beech, and Scotch Fir. Many walks are so arranged as to lead from one tree to another with square spots of gravel for seats beneath the trees.

Mr. Tremayne also owns the charming estate of "Helliggan," near St. Austell, Cornwall, famous for its fine avenue of *Benthamia fragifera*, the first introduced into this country and

raised from seed imported by the father of the present owner. F. W. MEYER.

Exeter.

KITCHEN GARDEN.

FRENCH BEANS.

WITH me so far the present season has been one of the best that I can remember for the growth of this crop. The seed of the dwarf kinds sown early in the season made rapid progress, owing to the hot weather, and yielded a very early supply from the open ground. Runners, too, that were sown in April had made good growth by the beginning of May. These, however, had to be protected, as the garden lies very low, and so is subject to late spring frosts. This season was an exception, no frost being registered after April 27. The early rows of dwarfs have long since been over, but the first row of runners is now in full bearing, and with care and attention will continue to be so for a month or more. Beans require good ground and plenty of room to grow if satisfactory results are to be obtained. I adopt the plan of sowing in rows 8 feet apart, usually on ground that was occupied with winter Spinach. Trenches are taken out 2 feet wide and about 15 inches deep, and these being about three-fourths filled with decayed manure, the remainder is filled to within 2 inches or 3 inches of the surrounding ground with the soil which was taken out. The seed is sown in two lines 9 inches apart, the seeds being 6 inches from each other in the row. When growth has been made to the extent of a few inches, stakes are put to the plants. I use 12-feet hop poles, which are thrust into holes made in the ground with an iron bar. The holes are made a foot apart along each side of the row and about 6 inches from the plants. The poles are put up obliquely, leaning over the open space between the rows, so that they will be about as far from each other at the upper ends as they are from those of the next row. The bine from two plants is taken to each pole and secured with a green rush, this process being repeated from time to time as it is found necessary till the plants have reached the tops of the poles. Owing to there being so much bine, it is evident there must be a corresponding amount of produce, for when runner Beans are grown in this manner, the foliage and flowers are exposed to all the light and air possible.

To keep the plants in a healthy flourishing condition, it is clear that a large amount of food will be requisite for their support. If we consider the amount of moisture absorbed by such a crop, it will at once be apparent that more nourishment must be supplied to keep the plants fruiting than even the liberal supply of manure afforded in the first instance. Nitrogen plays an important part in the growth of Beans, especially when the pods are swelling, so that this element must be supplied occasionally in small quantities as it is required. Such manures should be rendered very fine, so that when sprinkled along the sides of the rows they may be more easily dissolved by rain or watering. Potash is also very beneficial, and should be supplied in a similar manner to nitrogen, but the cultivator must be guided somewhat by the weather and other circumstances if he would make the most of the different materials used. In showery weather plants do not require so much feeding, for the rain liberates the various acids and gases of the soil, so that the roots can take

them up. It would, however, take a great quantity of rain to thoroughly moisten the soil at the foot of a row of tall Beans when in full growth, for the quantity of moisture extracted therefrom is enormous. Anyone can easily satisfy himself of this, for if a row of Beans be given a soaking in hot weather, it will be found on examining the soil a couple of days afterwards that scarcely a particle of moisture is left in it, so that unless artificial manures are dissolved the roots cannot imbibe them. For this reason when water is given do not fail to give sufficient to carry the various compounds down to the lowest roots, so that all may do their fair share of work. Nor is this all. The thoughtful grower will not fail to see that all pods are gathered when large enough for use. It is not so much that the pods rob the plant of its nourishment as the seeds which are being formed in them. Therefore, if we would have the greatest amount of suitable pods for food we must not attempt to save seed, but rather leave them to those who grow exclusively for that purpose. If, however, some special variety is required, then select some of the longest and straightest pods and mark them by tying a piece of matting or string round the stem, so that they may not be plucked while gathering for the kitchen. It is a good plan to go over the crop every other day and take off all pods that are fit for use, as this will greatly benefit those that are swelling. The pods thus picked off may be put down in brine for winter use, but they must be covered and not too many kept together, or the flavour will be spoilt. About the middle of August is a good time to sow seed of a dwarf kind for succession. The seed should be sown on a warm border or a raised bed in the Melon ground, where the plants can have the assistance of a cold frame temporarily after the middle of September, for the nights get cold and slight frosts often occur. Heavy rains, too, are very prevalent towards the end of the month, which prevent the flowers from getting fertilised. The lights should, however, be removed on all favourable occasions, or the plants will become tender.

H. C. P.

TOMATOES ALL THE YEAR ROUND.

AT this date Tomatoes are abundant, the tropical summer having just suited them. Even the outdoor plants are showing heavy crops, fruit having been gathered earlier than ever was known from plants grown in the open. Owing to the favourable Tomato season the earlier or summer plants will become exhausted sooner than usual, but there will be no difficulty in securing a succession if plants are grown for the purpose. No doubt late in the year and early next year Tomatoes will command a good price. I have in previous notes pointed out the value of early Tomatoes. A good lot of late fruit is equally valuable, and with such a favourable early season there will be more demand for late fruits, as I do not think green vegetables will be any too plentiful unless we get a very favourable autumn, as so far most of the Brassica crops do not look promising.

To get a late batch of fruiting plants I sow in April and May. These plants are grown as sturdily as possible, plunging them in ashes in the open during the early summer months, giving the final shift into 12-inch pots at the end of July, and by the end of August they are studded with fruit, when they are removed to a low pit, tied up to the roof, plunging part of the pots and feeding. These plants give fruit well up to the end of the year. Having been grown in the open, they are very dwarf. They are given no heat till we get frost or fogs in the autumn, and then only sufficient to keep the atmosphere buoyant and prevent damping. It is surprising what a quantity of fruit two

dozen plants will produce. With care good fruit may be had through January and February. I would point out the importance of growing these autumn plants as sturdily as possible, as if kept too warm they will collapse with a change of weather; also the value of a good set before introduction to their winter quarters. I am writing these notes from a private grower's point of view. No doubt large growers would not be content with a small quantity and would adopt other methods. Those who have a few plants left over from a late sowing would find them serviceable if they grew them on for late fruit, and from several years' experience I can testify to their usefulness. I now come to the supply through March or April or earlier, and here there is greater difficulty. As everyone knows, these fruits are difficult to set in the last and first months of the year.

I am now raising (the end of July) the plants for late work. The seedlings are grown as sturdily as possible and potted into 6 inch pots as soon as ready, again potting into 8-inch. By the end of September or early in October these plants are placed on shelves in fruit houses. They are then showing fruit freely, but this must not be forced. The plants must be kept moving by giving a little weak manure water. By giving abundance of air in fine weather the plants set a few blooms in October if carefully watered. Early in the year they are removed to the house just cleared of the late autumn fruiters, tied up to the trellis, and the pots plunged over the rims in rich compost into which the top roots soon find their way. The house should be kept at from 55° to 60° according to the weather. With more warmth the fruits commence to swell, are ripe early in March, and may be had in abundance in April, and by extension of side branches the plant will fruit all the summer. Some may object to plunging the pots, but it is necessary to restrict root action. If planted out, a new growth would take place, and the fruit set would be at a standstill. I would also point out the necessity of airing freely in mild weather. In potting Tomatoes for winter no manures of any kind should be used. Attention must also be paid to varieties for winter work, and so far as my experience goes, the smooth, even-fruited varieties are bad. Last year I grew a few Conference, but prefer the Old Red, as I find it sets best, and though not handsome, it is of good flavour and useful. Good winter fruit may also be secured from cuttings, but it is necessary to strike early. I formerly adopted this plan to get early crops, but find I get the best results from plants sown and grown as hardy as possible.

G. WYTHES.

Sandwich Island Mammoth Salsafy.—This is far superior to the old form, and will, I feel sure, be more largely cultivated, as it gives much better and larger roots, being longer and more fleshy. I am aware there are various objections to Salsafy, the chief one being its tendency to run or bolt in the late summer months; but the above variety is much superior in that respect, as it does not run so badly and is of excellent quality when cooked. Another objection is trouble in cooking, but this is soon overcome, as the roots being larger, they are more readily prepared. If this variety is sown early in May in ground not freshly manured, there will be few complaints as to running or forking, as in the older kind. This variety is valuable in the spring when there is a lack of other vegetables, as it keeps well till that date if stored in a cool cellar or root store. I prefer it to Scorzonera, as it is grown more readily and with very little trouble. Both these vegetables have not been extensively cultivated, owing to the reasons given above, but they are often sown much too early and in heavily manured land.—G. WYTHES.

Cabbage caterpillars.—As breadths of Cabbages have been terribly infested and much injured this summer both by attacks of caterpillars and aphids, it may be interesting to learn that through the simple use of fine salt sprinkled lightly over Cabbages once a week, not only were both classes of insects entirely destroyed, but the fertile pro-

perties of the salt assisted to make the dressed Cabbages into first-class samples. That salt has undoubted manurial properties we all know, but, all the same, we too seldom recognise the fact by employing it. The recent very dry weather presented a most desirable opportunity for testing the value of salt, not only as manure, but also in the production of moisture. Had dressings of salt been thus applied, it seems very probable that many crops, otherwise dried up, might have thriven and been profitable. The person who told me the result of this Cabbage salting experiment said that a mild form of pickle might perhaps be as efficacious, or more so. It is very interesting to learn that the salt exercised no harmful influence on the Cabbages, but, of course, the leafage is of a hard leathery texture and not likely to suffer from moderate dressings. It is not at all too late for the effects of either dry salt or of salt water to be tested upon autumn Cauliflowers, for many of these are infested with insects; so also are many Cabbages, Savoys and Brussels Sprouts.—A. D.

THE POTATO CROP.

HOWEVER injurious the past dry weather may have been to vegetable crops as a whole, this has been an ideal season for the Potato. Failures, no doubt, there are, but where the soil has been well worked and properly manured, the crops, as far as my observation has gone, are better than they have been for some years past. As yet not a trace of disease has been seen or even heard of hereabouts, and it is to be hoped that this is general. Even varieties which in the ordinary run of seasons generally get tainted with disease are this year perfectly free, so we may well look forward to some fine crops being stored. The season being so favourable, the second-rate later varieties will be much better in quality, so it behoves growers to see that the tubers are stored in a manner to ensure the quality being improved. So much depends upon the storing, that however perfect may have been the growth, the quality, if the tubers are not well stored, deteriorates. The tubers are certainly rather smaller than usual (as might be expected), but instead of this being a defect, it should enhance their value. Of course, it must not be inferred that I refer to very small tubers from poor soil, but Potatoes grown under a proper system of cultivation.

As regards manuring, it would be interesting to know how the crops have fared where only artificial manures have been used, as on account of the dry state of the soil, this season has not been favourable for their free action. Of course, no one can tell how the season is going to turn out, or we might work accordingly. Evidently this has been a season where stable or farmyard manure has been of decided benefit, this retaining moisture and giving it off for the benefit of the crop. This year I used well-decayed manure with a free use of burnt refuse, this latter being scattered in the drills, and in the case of the earlier crops old Mushroom-bed manure as well, this also being scattered along the drills. The Potatoes have made full use of it, as when the tubers were being lifted, they were in a cluster about the manure. I never had Potatoes clearer in the skin.

The first early Potatoes will have been lifted ere this, as well as second early. It is strange how some people will persist in leaving their Potatoes in the soil after they have stopped growing and the haulm fallen over, or until every vestige of green has died away. This is what I may call inviting the disease and spoiling the quality as well. With late Potatoes it is certainly advisable to let the haulm change

colour before lifting them, as it has been proved again and again how much superior late Potatoes are in quality when lifted as the haulm changes colour. On account of the season being so early, the lifting of the latest crops even will be fully three weeks earlier than usual, but this is an advantage, as it will enable their being dug in good weather. The quality the tubers will ultimately attain depends so much upon the storing, that too much care cannot be taken in what may appear a very simple process. Stored in large heaps, sweating takes place, and when this is the case the Potatoes become what is termed "soapy" in texture. The same also happens if the tubers are kept closely covered up after being dug, the moisture not being able to escape. If possible the tubers should be laid out in a layer of about a foot or 18 inches in thickness, but be totally excluded from light either by darkening the windows or covering over lightly with a thin layer of straw or old mats, this allowing the moisture to escape and so enabling them to become perfectly dry. Low and damp cellars are the worst possible places for storing Potatoes; therefore for this reason select as dry a shed as possible if there should not be a proper Potato store.

Abberley Hall, Stourport.

A. Y.

TOMATO CULTURE.

THE Tomato seems to be a wonderfully ductile plant in the matter of methods of culture, and the varying results obtained, all more or less good, show how very difficult it is to lay down any hard and fast line for its cultivation. A few days since I saw plants being grown in gigantic pots big as washing-tubs. That they were enormously overdone with root room was very evident, and yet they cropped fairly well. At Teddington more recently I saw a row of plants on either side of a span house, the centre stage full of double Begonias. These were fruiting finely in 8-inch pots, and if the fruits were not large, they were very handsome and solid. The grower believed that under such root restriction he obtained the best flavour and greatest solidity. That is a matter well worthy of consideration. In another garden a splendid crop of Hepper's Goliath was being got from a bed about 15 inches wide and 6 inches deep, the plants being about 14 inches apart. And elsewhere grand crops of several fine varieties, such as Challenger, Conqueror, &c., were being got from a similar bed of soil, but the plants were only 12 inches apart. When we remember what a capital crop Mr. Hindson obtained last year at Gunnersbury from plants growing in ashes only, we must conclude that an excess of soil is a great mistake, that it is needless, and that the product is somewhat coarse fruits, rather soft and watery, and by no means of the best flavour.

The tendency of fruits to crack on the upper or stem side is generally due to too much root-moisture and too much atmospheric humidity. Plants that are allowed to become dry then are deluged with water, especially when they are carrying ripening fruits, of necessity suffer from the great changes in sap-production resulting from this varied wet and dry treatment. Even where the roots are kept fairly moist equably, and they never should be allowed to become wet, they yet often suffer from the alternations of atmosphere. Practically, Tomatoes cannot have too much air provided they have warmth, whilst always the drier the air is the better. On the other hand, excessive heat is rather conducive to barrenness, just as a low temperature is conducive to the same end, and when the sun is exceptionally strong, and the temperature, even with all possible air given, yet ranges high, it is a question whether a little temporary shading may not be useful. It has been asserted that at such times gentle syringings are helpful in setting the bloom. That may be, but

certainly they should be given early ere the sun attained too much power. One of the oddest things about Tomatoes is the exceedingly varied nature of the recommendations given to both old and new sorts by various growers. The chief gain, so far as I can discover, that is found in some new sorts is that we are getting greater weight in a smaller area, and a larger percentage of pretty, and hence more saleable, fruits. I greatly prefer the deep or Apple-shaped varieties, such as A 1 and Challenger, to the large flat Trophies or allied varieties, and if these fruits be set up in a small pile on a dish as Apples are, judges would all the more readily discern their merits. They seldom crack, are very solid, are never too big, and are of the best flavour, especially when grown in a limited root area. A. D.

AUTUMN-RAISED CAULIFLOWERS.

LIKE the sowing of Peas in November, so the raising of Cauliflowers in the autumn is looked upon by many people as old-fashioned. Taking the ordinary run of seasons, I never remember to have seen so few notices in the gardening press as to one variety of Cauliflower being better than another. This, of course, is on account of the almost general failure of the crop. My impression is that where the plants were raised in the autumn and well cared for during the winter and early spring, they have proved better able to withstand the trying ordeal than others raised in the spring. Good Cauliflowers can be grown by being raised in the autumn if the details attending their growth are well attended to. Amongst the causes of failure there are two or three which I will now draw attention to as being the most general. The first is sowing the seeds too early, the second not providing suitable soil for the young plants to root into after being pricked off, and, lastly, coddling them up too much. In pricking out any class of vegetable, too much reliance is placed on old potting soil. Old potting soil is useful material, all gardeners will admit, but for pricking out Cauliflowers into it is perfectly useless. It is not holding enough, and, instead of being able to lift the plants with a good ball, the soil falls away from the roots, and when this takes place with spring-planted Cauliflowers they rarely recover from the check. The evil is pretty much the same if the roots go down deeply, as on account of this taking place it is impossible to take up the plants with a compact ball. If no soil is at hand suitable for the purpose of pricking out, then the best course to adopt is to pot the plants.

I consider the first week in September quite early enough to sow the seeds. Considering that only two or three square yards are needed, it is an easy matter to add a little finer and fresh soil, and if at all dry, well moisten the seed drills before sowing. As mildew is apt to attack the young seedlings if the site of the seed-bed is not favourably situated, see that this has a full southern exposure. By sowing at the time stated the plants have time to become large enough for pricking off before an inclement time arrives. The frame must be placed in an open position and also on a hard surface of cinder ashes, this preventing the roots striking down deeply. Pricking out the seedlings on to exhausted hotbeds is not at all a good practice, as by this process the plants will surely become too large before it is safe to plant them out, and besides the check received in the removal from such rich rooting quarters will again end in failure. The frame having been placed in position, over the bottom should be laid a thickness of 2 inches or 3 inches of

rotten manure, which should be beaten down rather firmly. Over this should be spread another like thickness of good holding soil, say three parts loam to one of pulverised horse droppings, with a little leaf soil also added. The young seedlings should be pricked out 4 inches apart. Although frame protection is now given, the plants must not in any way be coddled by keeping the lights over them when not needed, or they will surely become much too large to transplant safely; in fact, the lights must be kept off except during cold rains. In severe frost the plants require to be efficiently protected either with mats or straw over the lights; the sides of the frames also should be protected, as if the weather should be severe, frost quickly penetrates through the sides. The plants would also be further benefited by having the surface soil stirred occasionally.

In growing the plants in pots the same treatment is needed as regards protection and so forth. Five-inch pots, or what are termed 48's, are the best to use, as when smaller ones are used the roots become cramped; consequently the plants are apt to receive a check. The soil for pot plants should be made as holding as possible. After being potted off, the better plan to ensure their wintering well is to plunge the pots in the frames, keeping them as close to the glass as possible. Where there are sufficient hand-lights for the purpose at disposal, the young plants may be even pricked out into these, placing the lights on the border where it is intended for them to remain until they come to maturity. In fact, by this method the earliest heads obtainable are cut, unless of course actually forced. The soil in the first place must be well worked and manured, and into each light prick out nine plants, these being further reduced to four or five plants in the spring. The best varieties to sow in the autumn are, I consider, Early Dwarf Erfurt, Early London, Walcheren and Large Asiatic. A. YOUNG.

Thinning Seakale crowns and feeding.—

Thinning the crowns of Seakale was scarcely ever practised when old roots were grown year after year; indeed it was not so necessary, as the plant was split up into several crowns spread over a larger surface, but with single roots it is more important, as if these small side growths are left the root is much weakened, and the leading shoot or crown does not make a thick growth so desirable with roots for forcing. When the young sets are planted in lines there is more necessity for this thinning, as the growths soon become crowded and much weakened, but if each shoot is restricted to the strongest growth, there will be more room for the plants, and early ripening is facilitated. Feeding is also equally important, as if a strong growth has resulted from planting in rich soil the roots will have absorbed and used up the food placed in the soil, so that a dressing on the surface of a good fertiliser after the removal of such shoots or useless growths will be of great value. I am induced to send this note on feeding, seeing the excellent results obtained by flooding with sewage. I have never seen such Kale as that grown on a sewage farm, thus showing that food is required in addition to that placed in the soil. I am well aware that only a few can give the above stimulant, but many can utilise liquid manure from the stables or cow yard, and even without such manures Seakale of the best quality may be grown by dressing between the rows with fish manure; this may then be washed down. I have found fish manure a valuable help for Seakale and Asparagus, while Celery is also greatly benefited.—G. WYTHES.

Celeriac as a winter vegetable.—This, though not grown nearly so much as it deserves, is an excellent vegetable on account of its good keeping qualities. It is described as Turnip-rooted Celery and used for soups. This latter is a poor

description, as if well grown its use for soups alone will not bring it into favour. I have seen some very poor examples in our greengrocers' windows in this country indeed only fit for soup, but there is no need to have such poor roots, as if the same attention as is bestowed on Celery were given to it, there would be no reason to complain of it. Celeriac is not so difficult to grow as Celery, and is not so readily affected by severe weather. Those who have a stock and are desirous of securing strong roots by winter, would do well to bestow a little attention in the way of feeding and moisture. I would also point out the value of the root for use in the garden where vegetables are required in variety, especially where stewed Celery is liked. If sown at the same time as Celery, pricked out similarly, and then planted in rich ground 18 inches to 2 feet apart in rows, there will be nice roots by winter. Celeriac is often starved. I would advise copious supplies of liquid manure now and whilst in active growth, and during hot or dry weather there is no better plan than mulching between the rows with decayed or spent Mushroom manure. I also prefer to plant in drills, so that the plants at the start do not suffer from want of moisture. Salt or, what is better, fish manure sprinkled between the rows in showery weather is a grand fertiliser. I have also used guano, but I prefer fish manure. It is necessary during growth to go over the plants and restrict the growth to one crown. There are only a few varieties of this vegetable. The Early Erfurt and the large smooth Prague are the best. I prefer the latter.—S. H. B.

THE ROCK GARDEN.

ACCESS TO ROCKS AND PLANTS.—II.

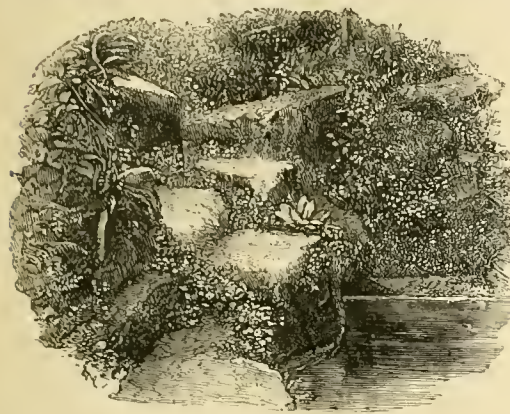
(2) STEPS.

STEPS in the rock garden are quite as important as the paths referred to in the last chapter, but their use is naturally confined to the boldest and most irregular part of the work, where, in spite of more or less sudden elevations or depressions, access to rocks and plants would be desirable. It has been previously pointed out that sunk rock gardens possess many advantages for growing choice and rare alpine, and such excavated ground will often require steps in various places even if the work is only of moderate extent. Deep rocky slopes without steps would be inaccessible, and plants growing in such positions could not be attended to as easily as would be desirable. Here a path would not be practical, as it would be too steep for comfortable walking, and would, moreover, be partly destroyed after every heavy shower. For such steep places then steps would be the most convenient and practical mode of access, forming not only an easy approach, but enabling us to grow many of the floral gems delighting in the chinks and fissures offered by such a situation. Among the rocks themselves I think only one kind of steps suitable, viz.,

IRREGULAR STEPS.

Nothing could be more calculated to mar the harmony and beauty of a picturesque rocky scene than the introduction of a regular staircase among the rocks that should resemble Nature's work. Steps may be a necessity, but this should never be evident. The passage through the rocks might resemble a natural winding ravine, the steps appearing like a continuance of the rocky ledges adjoining them, being in one part close together, in another farther apart; here turning to the right, there to the left, and though forming on the whole a very easy means of ascent or descent, looking in reality as different as possible from steps proper. Nor is this all; the realistic effect will be enhanced by not confining the

rocky steps to the main passage or ravine alone, winding and irregular as this may be, but by introducing branch passages connected with other rocky ledges, grass paths, or rocky paths, so that if design were apparent at all, it would be difficult to point out to what particular object or in what particular direction the rocky passage is leading. In a rock garden thus arranged visitors might traverse any number of steps without being aware of it, owing to the complete absence of anything in the least suggestive of a staircase or steps in the ordinary



No. 1.—Irregular steps through steep part of rock garden.

sense of the word, and owing also to the proper blending of the rocky ledges which serve as steps with the adjacent rocks.

The illustrations are good examples of work of this kind. In No. 1 ("Irregular steps through steep part of rock garden") the flat portions of the rocks which serve as steps do not lead to any particular place, but are arranged with careless irregularity, while the chinks and fissures between the stones are receptacles for plants of all kinds. The second engraving (No. 2)—"Steps on gently sloping ground in rock garden"—shows a variation of such steps suitable for the less abruptly sloping parts of a rocky passage. Here the stony ledges or steps are kept farther apart, with here and there a space of coarse rocky *débris* intervening and fringed on both sides with luxuriant vegetation of alpine plants.

The construction of steps such as those depicted above is not difficult, but requires careful planning at the beginning of the work. My own practice is as follows: When entrusted with the construction of a rock garden, I invariably prepare a rough ground plan of the work, showing its relative position to other parts of the garden, and especially showing the most desirable and practical approaches. The position of paths, steps, and rocky passages is then marked out on the ground and furnishes a basis for arranging and distributing the chief features of the work. I consider it a great mistake to erect the bolder masses of rocks first and not to provide proper facility for access until the principal work has been almost completed. From experience I find it much more difficult to build steps which shall blend harmoniously with rocks already constructed than to build rocks which partake of the same character with regard to form, stratification, &c., as the rocky steps which have been constructed first and serve as a sort of foundation for the other work. Cement I never use for securing such rocky steps, but the stones are embedded firmly in soil which is rammed with a stick, while a person stands on the stone to ensure its being so fixed that no footsteps can ever shake it. Where two or more stones are required to form one step,

they are let into the ground so as to leave a narrow crevice between them, which is afterwards filled with soil suitable to the plants to be grown. When constructing steps of this kind, I begin, of course, at the bottom, laying after each stepping-stone the foundation-stones for the adjacent rocks at the sides, which latter often receive in this manner additional support through resting on the stepping-stones. By this procedure the adjoining rocks are made from the outset to correspond with the steps, and a proper blending is easily effected. The rise from step to step should vary continually, but should never be more than 6 inches or 7 inches, as a greater rise would make walking uncomfortable, especially to ladies. But the width of the steps might vary from a foot or two to a yard or two. The more variation the better. The intervals between the steps, too, should vary considerably, being, of course, closer together in the steepest parts, but broken here and there by portions of rocky or other paths, according to the more or less slanting nature of the ground, and with a view of enabling us to arrange the adjacent parts so as to be the most effective and at the same time easily reached.

REGULAR STEPS IN THE ROCK GARDEN.

I have just stated that regular steps of any kind should be strictly avoided among rocks, and that where steps are necessary they should be of such a form as to suggest the idea of their having been formed by Nature. As frequently pointed out, however, a rock garden should never consist of rocks alone. If the work is of any extent at all, there would probably be one or more grassy slopes or shrubby banks forming a kind of connecting link between the rock garden proper and other parts of the garden, and here steps of a more regular pattern would be not only suitable, but often preferable. In such a position not even the most fastidious critic could object to rustic steps of some kind, however regular they may be, provided they are not arranged in a straight line, but in a suitable curve and form. But steps which, in my opinion, are the most objectionable are those which can be called neither regular nor irregular, and have consequently an appearance too clumsy to suggest the skilful handicraft of man and too formal to look like

Nature's work. If we must have steps, let them be either regular or quite irregular, but never a mixture of both.

This does not imply that regular steps in a position like that above indicated should consist of costly masonry, hewn stones and the like. On the contrary, the simpler the better, but the work might be at least neatly done, and though having quite a "rustic" appearance, it need not look clumsy and awkward.

RUSTIC STEPS OF WOOD OR STONES.

WOOD STEPS.—A very simple method of making rustic steps consists in the employment of wood for that purpose. The great disadvantage is that sooner or later the wood will decay and require renewal, but where timber is plentiful this may be of little consequence. Larch poles say 6 inches to 8 inches

thick are a good material for this purpose. The poles are sawn in halves lengthways, and are then cut into equal pieces 3½ feet to 4 feet long, according to the desired width of the steps. For sharp curves the pieces should be a little longer, as they would have to be placed in a more diagonal direction than steps approximately parallel. The bark is preserved by the driving in of a few nails with flat heads, and if thus secured will last at least for several years. Two Oak posts are next driven firmly into the ground, so that the top end is about an inch below the level intended for the first step, and against these posts a piece of Larch is nailed or screwed securely. The next step is kept on a level about 6 inches higher and secured in the same way as the first, and when all is completed the space between each two steps is filled with stones and gravel as for an ordinary path. As the posts were kept an inch below the level of the step, they will be covered by the gravel and completely hidden from view. The wood used for steps need not necessarily be Larch, but any kind with a rough surface will do as well. Pieces of gnarled and knotty Oak are best used without the bark, and are very suitable for the purpose.

STONE STEPS.—For stability, steps made of stone should undoubtedly have the preference. If the stones procurable are not of the required shape, a skilled mason will soon overcome the difficulty. Several stones may be used to form one step, but they must be firmly embedded in the ground, and, like the irregular steps described above, these rustic steps may have the fissures intervening between the stones filled with suitable vegetation. But steps made of wood cannot well be adorned in the same way, as plants would naturally tend to hasten the decay of that material.

RAILINGS.—Rustic railings made of crooked Oak or other wood are sometimes fixed to steps of this kind, and, it cannot be denied, look often very pretty for a time, especially if intertwined with Clematis and other suitable climbing plants. But, unfortunately, the duration of the wood-work is seldom more than three or four years even if painted with boiled oil and other preservatives. Of late years rustic wood—as, for instance, the bark of Silver Birch and other kinds—has been very successfully imitated



No. 2.—Steps on gently sloping ground in rock garden.

in iron. When really well done, this has a light and graceful effect combined with the very desirable quality of being practically indestructible.

F. W. MEYER.

Exeter.

(To be continued.)

STOVE AND GREENHOUSE.

THE CHIMNEY BELLFLOWER.

(CAMPANULA PYRAMIDALIS.)

This variety is probably one of the oldest of the genus under cultivation, having been under culture in one way or another for nearly 400 years, being at the same time a native of Europe and hardy in favourable localities in this country. Around London it has been known to stand outside uninjured through the winter, but it is scarcely advisable to risk the stock in this fashion. What has most to be feared during the winter is excess of moisture rather than extreme cold in outside culture, whilst in frames a close atmosphere is equally prejudicial, more particularly if the crowns of the plants be dense ones with lateral shoots and foliage in proportion. The prevalence of fogs around the metropolis and other busy centres also militates against this plant, and these not being pure fogs further aggravate the mischief when outside entirely. In any cold frame, however, with an average amount of care it is easy to keep the plants in safety. The best way is to plunge the pots in coal ashes up to the rim, or over it, at the same time keeping them as near as possible to the glass. From the end of October until well in March no watering should be thought of, and any signs of decay in the leaves at the same time be attended to and removed. If in extremely cold weather it is considered desirable to use protecting material, it is a better plan to leave on a chink of air than close down for days, together perhaps quite closely. When room cannot be found under glass, the next best way is to stack the plants, as Strawberries are sometimes done, on their sides, so as to keep the roots on the dry side. In the case of frame-grown plants, no protection at all is needed after March; they may then stand outside entirely, but be plunged, if possible, so as to protect the roots in some measure.

CULTURE AND PROPAGATION.

Considerably more plants are no doubt raised from seed than by any other means, but they may be increased by root cuttings in a similar way to Seakale. This latter plan is a capital one when a superior form is detected amongst a batch of seedlings so as to secure its increase without future variation. They do vary, and that in an unmistakable manner both in colour and habit. The deep blue and the pure white are possibly the two best shades; whilst in the habit there is a considerable difference in the density of the spikes as well as in the height of the plants, which varies from 2½ feet to 8 feet. The taller plants are in many ways the most ornamental when with dense spikes 4 feet and 5 feet in length. This shows the necessity of either careful selection of the seed or propagation by root cuttings. The seed should be sown from March to May. The earlier sowing will often yield plants of fairly good size that will flower in about sixteen or seventeen months from the sowing of the seed. These may be useful, but they are not so ornamental or imposing as plants nearly a year older. If sown

in May, pricked off as soon as fit to handle, and afterwards potted and wintered either in 3 inch or 4-inch pots, they have all the next season in which to grow. Thus they make grand plants for the following season in 10-inch or 12-inch pots. After being wintered in small pots they may be potted about April into 6-inch pots, or larger ones if the plants be extra strong. Another shift will be needed later in the season. This time the most promising may be potted into their blooming pots if there be room enough to winter them thus, otherwise into about 9-inch pots, one further shift being given the following April or early in May, at any rate before the spikes begin to push up. The soil best suited to them is good turfy loam with some silver sand or road scrapings; to this a little leaf-mould may be added in preference to any rotten manure, the latter having a tendency to create too vigorous or sappy a growth. In potting after the seedling stage has been passed the soil should be made as firm as in pot Strawberries, or firmer if possible, the crowns of the plants being kept slightly elevated each time of potting, as in the case of hard-wooded Cape Heaths.

WATERING AND OTHER TREATMENT.

The water-pot must not at any time be used too freely, otherwise the plants will decay at the base of the stem, or run a risk of doing so. Anyone can note for himself in the breaking off of a fresh leaf what an amount of sap is stored in its vessels; this points to a careful course of watering. When the plants are well rooted, weak liquid manure is decidedly beneficial, more particularly during the flowering season. That made from cow manure with some soot added thereto is suitable. No plunging should be practised when the plants are potted into their flowering pots, otherwise there will be a tendency towards too much moisture.

USES, &c.

As soon as the first flowers unfold, the plants should be placed in a light and airy greenhouse where they will make a fine display for about a month or longer. When more fully expanded, a light shading is beneficial. Flowering as they do from the middle of July to the end of August, they are of essential value in conservatory decoration, supplying colours and form not seen in anything else. Considering their easy culture (and inexpensive too), *C. pyramidalis* should be more grown than it is. It is equally at home in the conservatory of the rich as in the more modest structure of the amateur. As a market plant, however, it would not probably pay to grow it, but this is no real criterion of value and utility.

BLUE BELL.

Allamandas.—The two most popular varieties still of Allamanda for growing as specimen plants are without doubt *A. Hendersoni* and *A. nobilis*. They are both splendid kinds and quite distinct from each other in colour, both being free growers and as free bloomers under good cultivation. *A. Hendersoni* is sometimes met with still under the pseudonym of *A. Wardleacea*, which may as well be dropped once for all, the origin of the latter name and supposed variation being well known to most old plant growers of twenty-five years back. These two species (*A. Hendersoni* and *A. nobilis*) must rank as two of the finest. To these should at least be added *A. grandiflora*, which when well grown, the plants being grafted one upon as free-growing stock, are no mean rivals for either of the fore-

going. This species succeeds admirably planted out, and for many purposes in a cut state is preferable to other sorts. This family of plants has in the past suffered in reputation more than once through being grown in the shade. None should be given them; rather let them act as a shade to other plants. The blossoms will then be more profuse and of greater substance.—H.

Clerodendron fallax.—Those who possess good flowering plants of this variety may turn them to good account in other than their stove houses at this season of the year. In the stove the flowers do not last so long, while at the same time there is frequently a disposition to damp off, thus injuring others. In a cooler house these drawbacks are avoided in a large measure, whilst the plants are perfectly safe for at least six weeks to come.—H.

Dipladenia boliviensis as a specimen plant.—Considering the time this species has been in cultivation in this country, it is surprising that it has escaped notice to such an extent as it has done for growing into a specimen plant. At the last show at Newcastle-on-Tyne two grand plants of it were exhibited in profuse flower, whilst as regards healthy, vigorous growth nothing better could be desired. These two plants were shown respectively by Mr. Letts and Mr. Nicholas, the former gardener at Aske, and the latter at Up-leatham, two of the Marquis of Zetland's seats in Yorkshire. These two plants were patterns of what specimens should be; they were trained upon globular trellises and in flower all round, not being got up to such a face as is frequently seen. This same species is grown splendidly by Mr. Gibson at Halstead, near Sevenoaks, in a similar way. Being a variety that continues in flower for such a lengthened period, more attention should undoubtedly be given to it. Given a healthy young plant, it does not take long to grow the same into a good specimen, besides which there is nothing at all like it among stove climbers.—H.

Heliotropes.—Numerous fine examples of President Garfield, one of the best of the dark-flowered varieties, are just now in unusually good condition in Hyde Park. Many of them are pyramid shaped, or nearly so, and 4 feet or 5 feet in height, each bearing a great profusion of richly-coloured fragrant blossoms, though, as regards this latter feature, the dark varieties are not so fragrant as the lighter ones. In the deep-tinted forms, too, the clusters of flowers are more compact than in the others. A group of a dozen or so good specimen plants plunged in the grass has a very pretty effect, while Heliotrope is such a general favourite, that it attracts a considerable share of attention. Good examples are also to be seen hawked in the streets of London grown in the regulation market pot. Again, where cut flowers are in demand Heliotrope at all seasons is very useful, and trained up the wall or pillars of a warm house a plant will often bloom throughout the winter.—H. P.

Telfairia occidentalis (The Oil Nut of Western Africa) (*G. Cameron*).—This is the name of the flowers you send, which you say you received from Old Calabar under the English name given above. It forms a very ornamental climber in our stoves, its pure white flowers, which have a purple eye, being prettily fringed round the eye. The flowers are succeeded by large handsome yellowish green fruits, which have a number of wings, and which contain a quantity of large seeds, which are cooked and eaten by the natives.—W. G.

Tecoma jasminoides.—The finest flowered example of this beautiful greenhouse climber (alluded to on p. 120) that has ever come under my observation was a dozen years ago or thereabouts in the gardens at Hillfield, Reigate, where during the lifetime of the late Mr. Wilson Saunders a remarkable collection of plants was brought together. It was after the dispersal of the collection there that I saw this particular specimen, which was planted out in a greenhouse and had taken possession of a good part of the

roof. Some of the lights were removed during the summer, so that the plant received plenty of sun and air, and as it had not been pruned or tied in any way, the long flexible shoots hung about in wild confusion. Under such treatment it was profusely laden with its beautiful blossoms, the bright coloured throat of which contrasted markedly with the pure white of the rest of the flower. I also know several large specimens of this climber that are subjected to periodical pruning and tying, the result being a total absence of bloom. We should doubtless see a far greater amount of bloom on many roof climbers if they were allowed more freedom of growth, for under the treatment usually accorded them the wood does not get sufficiently ripened for the production of blossoms. That this ripening is very essential to their flowering is well shown in the case of a near ally of the above, *Tecoma capensis*, that rarely produces blossoms when growing in a partially shaded greenhouse, but if the strongest shoots are taken as cuttings in the spring and, after being grown on, are exposed outdoors to the hottest of the summer's sun, they will flower freely.—H. P.

SHORT NOTES.—STOVE AND GREENHOUSE.

Cuscuta chiliensis.—"H. B. P." sends a piece of this plant for a name. He says it has been remarkably pretty, but is now fading. This is a species rarely seen. It has drooping flowers like *Lily of the Valley*, and is very beautiful; you should save seeds of it.—W. H. G.

Abelia floribunda (T. Hughes).—This is a fine free-flowering plant, of which a plate was given in THE GARDEN some few years back. It requires a cool greenhouse to grow in your district, and you should plant it in loam and peat made sandy. The flowers are tubular, rich rosy purple and pendent. It is a native of Mexico.—W. H. G.

Fuchsia Improved Rose of Castile.—It is always a dangerous practice to give any new variety an old appellation with the prefix of Improved. Especially is it so in this case, as the old *Rose of Castile* is one of the freest and prettiest *Fuchsias* ever introduced. Yet the new one is an improvement, as anyone growing it will find, flowers larger, growth more robust, and wonderfully free to flower.—D.

ROSE GARDEN.

THE SELECTION OF ROSE BUDS.

PERHAPS it had been better to have incorporated these few notes in my article upon budding Roses given a week or two back, but as much progress will not have been made yet, I am in hopes it may still be of some little service. The selection of Rose buds is of far greater importance than many realise. The general plan is to cut off any wood which bears plump and ripe buds, irrespective of whether the plant be a good one of its type and variety, or whether the shoot used for budding be weakly or not. It stands to reason that a bud obtained from a strong and healthy plant will be more likely to produce its like than if a bud be selected from a plant of weak or indifferent growth. Taking *La France* as a type of medium growth, we find that buds obtained from a plant which produces stout wood make much better plants than those obtained from a weaker plant, even if the shoot used for budding be fairly strong. Roses like *Horace Vernet*, *Xavier Olibo*, &c., are improved or not year by year through a judicious selection of buds. We have many proofs of this. For instance, when a new Rose of sterling merit is brought out—take *A. K. Williams* and *The Bride* for examples—a great strain is put upon it by both professional and

amateur growers in endeavouring to procure a good stock of plants as soon as possible. In order to do this every available eye is worked, both by budding and grafting, and as a consequence we get a more or less number of plants that are far from strong and healthy in growth. These being used as parents of others, the variety gradually deteriorates. As time goes on and a sufficient stock is secured without working every available eye, and a selection of the most suitable buds is made, we find the variety improving and coming back to its proper standard. Both of the *Roses* I have cited as examples have proved this theory most conclusively, and instead of being looked upon as indifferent growers are now among the most generally useful varieties we have. But if it is necessary to select buds of these medium growers, it is even more so in the case of climbers and extra strong Hybrid Perpetuals. Take the latter first, *Mme. Gabriel Luizet* as an example. This variety makes some extra strong growths after flowering, and if buds be taken from these we shall find the resulting growth produce blooms early the first season; in fact, exactly the same as if the eyes were still upon the parent plant. In the ordinary course of things, such strong shoots would be pegged down and would produce blooms more or less from every eye. The germ of the bloom is stored in the eye or bud during the process of ripening, and it matters little whether it be transferred to a stock or left upon the original shoot. For this reason I would always choose buds of these strong growers from the longest shoots. We then get a flower early and plenty of time is left for the long rods to be made afterwards. If buds be chosen from beneath a bloom, in the majority of cases there will be no flowers the first year, but only vigorous growth for blooming next season.

Turning to the climbing *Teas* and *Noisettes*, we find that *Maréchal Niel* and *William Allen Richardson* will produce much better plants when the buds are selected from beneath a flower, it really being upon the same principle as the strong-growing Hybrid Perpetuals. My own observations have proved that it is much better to get a healthy young plant of these as soon as possible; therefore I select buds from below a flower. This is again noticed in the case of grafted plants. If wood from the long rods of the previous season be used as scions, almost always a weakly shoot is produced at first and sometimes a puny bud developed. Later on a strong rod may be pushed up, but I consider it best to use scions bearing what I will style growing instead of flowering eyes. Generally only one or at most two eyes are used on a scion, and if these are going to send out a puny shoot, we have to depend upon the minor eyes at the base of this for the production of strong rod-like growth, so valuable among the climbing *Teas* and *Noisettes*. The buds beneath a flower are also generally better matured than those upon a long rod still in full growth. Much depends upon having a strong and healthy start in the case of the two varieties last named, for if they once hang about, as it were, they seldom produce satisfactory plants. R.

Rose Triomphe de Rennes as an autumn bloomer.—"Ridgewood" names several well known and beautiful *Roses*, such as *l'Idéal*, *Celine Forestier*, and *Wm. Allen Richardson* as likely to bloom more freely than usual this autumn. Some of the finest examples of autumnal blooming I have ever had were produced from strong standard plants of *Triomphe de Rennes*. This *Rose* is one of the more tender, and is apt to get crippled or

killed back in a severe winter or harsh spring. Otherwise it is one of the most beautiful and useful soft golden *Roses* we have. *Celine Forestier* is a little the hardier of the two. But both may be relied upon for a good show of bloom right through the autumn months if of sufficient size and maturity. Even *Maréchal Niel* may be grown and pruned into late blooming in the open air, though this king of all golden *Roses* is more coy in the matter of autumn blooming than either of the others named.—D. T. F.

Rose Bouquet d'Or.—I quite agree with "A. H.'s" last note as to the more or less capricious divisions among *Roses*, such as *Teas*, *Noisettes*, &c., and rather than vindicate or define such, I will almost accept the *Bouquet d'Or* at his high estimate. I confess that I have less experience with it than with *Gloire de Dijon*, and for this good reason, that finding the latter so full of beauty and merit I could never get too much of it. With a slight qualification, however, I am pleased to agree with "A. H.'s" closing sentence, that few *Roses* are finer than *Bouquet d'Or* for forming huge bushes, which flower freely in soil that suits them.—D. T. F.

Tea Rose Narcisse.—I do not find this lovely little *Rose* at all weak in growth when established. It is not of course so vigorous as *Dr. Grill*, but the plant throws out sturdy, strong shoots, and it has a singular horizontal spreading habit. The immense trusses that terminate these shoots suggested to me *Lamarque* in miniature as truly describing the profusion of the kind. A group of small plants has lately been flowering freely.—A. H.

—Some four years ago when I first took charge of this garden I drew attention to this fine useful *Rose*, and I have noted many others have praised it since. It blooms with me more profusely than any other *Rose*, although I grow many kinds. It is growing on a sheltered corner of a south wall. I have cut blooms from this plant in April and high on till Christmas.—J. C., *Forde Abbey*.

ROSES AND WASPS.

TO THE EDITOR OF THE GARDEN.

SIR,—Numerous as the insect enemies of the *Rose* are, it seems we are yet to be troubled with an additional pest that has never before come under my notice. In my case it cannot be because the wasps have no other food close, for there are many gallons of *Plums* and *Apples* within a few yards. Although they are eating this fruit to an exasperating extent, they have also pitched upon my *Roses*. The buds seem to be most fancied, but even when partly open, the wasps have eaten portions out of several.

Two days ago they were first noticed, and my idea was that they were after some insect. Upon closer observation I found no trace of aphid or other insect, and was soon obliged to come to the unwelcome conclusion that wasps had commenced feeding upon *Roses*. At first there were but one or two wasps, but in the course of the day quite a number were engaged upon the same plant. I may remark here that probably these facts would not have come so closely under my notice had it not been that the plant was close to a greenhouse door very frequently used. Two days ago this plant of *Marie van Houtte* carried some four or five dozen healthy buds. Now it has been a hard matter to find half-a-dozen not entirely eaten away. Several of the buds have been closely watched in order to see if any of the gummy matter often noticed upon *Rose* buds when injured by insects existed. This, by the way, is sweet, and attracts ants among other pests, while several winged insects will return to it again and again upon being disturbed.

But I could discover absolutely nothing to attract the wasps except healthy Rose buds.

I enclose you some buds that you may be able to see the immense damage wasps are likely to do to our favourite flowers should they extend operations and become a recognised Rose pest. It would be very interesting if other rosarians would kindly notice whether wasps are upon their plants or not and report the result.

ARCHD. PIPER.

Uckfield.

THE HYBRID TEAS.

BEING now recognised as a distinct class by the National Rose Society and a descriptive list of them given in the official catalogue, a few comments upon this section may be welcome. In the first place we will define what is styled a Hybrid Tea. It is the result of a cross between a Tea-scented and a Hybrid Perpetual Rose. This section has been much increased of late, and the late Mr. Henry Bennett perhaps devoted more attention to this branch than to any other. He raised Her Majesty, Lady Henry Grosvenor, Lady Mary Fitzwilliam, Viscountess Folkestone and Grace Darling among others. All of these are first-class. Her Majesty is still classed as a Hybrid Perpetual, but this seems to me to be wrong, as it was the result of a cross between Mabel Morrison and Canari; therefore it is equally as much a Hybrid Tea as Lady Mary Fitzwilliam, a cross between Devoniensis and Vic'or Verdier. The foliage of Her Majesty has much of the high colouring found among the Teas. A list now in front of me enumerates between sixty and seventy varieties of Hybrid Teas, and although many of them are of little merit, there are some (notably those already named) which must rank as our very best Roses. La France and its many sports and seedlings also come under this heading, while not the least valuable variety is Captain Christy, a cross between Victor Verdier and Safrano.

In the National Rose Society's catalogue of 1884 we do not find many Hybrid Teas, and these were incorporated with the larger class of Hybrid Perpetuals. The new catalogue of 1893 contains no less than twenty varieties, exactly half of which are considered fit for exhibition. With one or two exceptions, the chief characteristics of this class are its freedom in flowering and midway position held by it between the two great classes. So closely do some of them resemble one or the other, that it is difficult to decide to which they belong. Old varieties like La France, whose pedigree is lost, are placed with the Hybrid Teas because its growth and habit point to the infusion of much Tea or China blood in its constitution. The shorter-growing varieties are grand when grown as pot plants, and all will do much better when cultivated upon the seedling or cutting Brier than upon the Manetti. Although the class is small at present, it contains both short and tall growers. Lady Mary Fitzwilliam and Kaiserin Friedrich may well represent the two extremes.

R.

Rose Princess of Wales.—I can fully confirm all that "D. T. F." says of this Rose. True, it is a very delicate and oftentimes disappointing grower, but when once the plant breaks away it will produce a fair quantity of most charming blooms. Comtesse de Nadaillac and Princess of Wales possess a charming combination of colours found in no other Rose.—R.

Dark Roses and the drought.—The unexpected has happened in regard to these during the year 1893. Dark Roses as a class have been at their best through the baking drought; hence, one of the greatest pleasures and surprises of rosarians. Dark Roses, new and old, but especially old, were very much in evidence alike at shows and in gardens. Seldom or never, perhaps, have such fine old brilliant Roses as General Jacqueminot, Marie Rady, Marie Blumann, Duke of Edinburgh,

Charles Lefebvre, Prince Camille de Rohan, Reynolds Hile, Maurice Bernardin, and John Bright been better and more perfect. Among other dark Roses the following have also been conspicuous through the brilliancy of their colour in spite of, or in consequence of, the heat and the drought: Beauty of Waltham, Duchess of Bedford, Alfred Colomb, Duke of Wellington, Fisher Holmes, Le Havre, Ferdinand de Lesseps, Senateur Vaisse, Harrison Weir, Star of Waltham, Horace Vernet, Jean Soupert, Mrs. Harry Turner, and Prince Arthur. Of this last brilliant Rose, almost the only one added to our list by one of the most successful growers, Mr. Benjamin Cant, of Colchester, it may truly be said that it has excelled itself amid the glitter and glare of the three months' drought.—D. T. F.

Rose Kaiserin Friedrich.—This grand climber is now in full beauty, it is equally as hardy and free flowering as the old Gloire de Dijon, and was, in fact, a seedling from that old favourite crossed with Perle des Jardins. Although it does not partake so much of the last-named variety as its raisers claimed for it, Kaiserin Friedrich is undoubtedly one of our more distinct and valuable climbers. Towards the autumn the flowers are very highly coloured, oftentimes tinged and flushed with the same sweet rosy shade found in Marie van Houtte; even the palest flowers, growing in shade, are like the very bright blooms of a Gloire de Dijon.—P. U.

Rose Duchesse de Caylus, a Rose bracketed as synonymous with Penelope Mayo, is one of the older varieties that have come particularly good with me this year. I do not remember it ever being so good before. Delicious in scent, bright, full and lasting, it is by no means to be despised, although it has been surpassed in size. Now and again one of the older and almost forgotten varieties crops up again in all its glory, and is very welcome.—R.

Wild Roses of Western America.—In the far West one of the most common and beautiful of the wild Roses is the Cinnamon Rose (*Rosa cinnamomea*), with its close ally, the *Rosa nutkanensis*. The peculiar light rosy tint is possessed by few other species. In the Rocky Mountain region, *Rosa blanda* and its close ally, *Rosa arkansana*, take its place.—*Meehan's Monthly*.

Rose Mme. Hoste has won a position in the first rank of Teas, and is generally acknowledged as one of the very best pale yellows; indeed I cannot think of one I could conscientiously place in front of it. As a proof of its great perfection, we find it figuring as the medal Rose for the best bloom both in the trade and the amateur divisions at the Workshop Rose show. In habit, size, and shape it much resembles Anna Ollivier, but I think it produces a greater proportion of large flowers, while the plant is equally as free blooming.—U. S.

GARDEN FLORA.

PLATE 923.

WATSONIAS.

(WITH A COLOURED PLATE OF W. ANGUSTA.*)

The genus *Watsonia* is very closely related to *Gladiolus*, the main differences between them being that the segments of the flowers of *Gladiolus* are irregular, whilst in *Watsonia* they are regular, and in the stamens of *Gladiolus* being attached to the base of the corolla tube, whereas in *Watsonia* they are attached to the middle of the tube; there is also a difference in the anthers and stigma. All these differences, however, are not of a character to count for much with cultivators. It is remarkable that

* Drawn for THE GARDEN by Champion Jones in the Royal Gardens, Kew, August 5, 1892. Lithographed and printed by Guillaume Severeys.

whilst the genus *Gladiolus* has for many years enjoyed great popularity with cultivators, who have crossed the different species with each other with most wonderful results, only very little attention has been paid to the *Watsonias*, and were it not that some of the species are still grown at Kew and a few similar establishments, it is probable that the genus would go out of cultivation altogether. There is no lack of either beauty or interest in *Watsonias* as compared with *Gladioli*, and so far as my experience goes the behaviour of both genera under cultivation is very similar. The genus *Watsonia* was named by Philip Miller in compliment to Dr. William Watson, F.R.S., an eminent electrician and botanist, who was knighted just previous to his death, which occurred about a century ago. The species, of which fifteen have been described, are all natives of South Africa, where they occur in great numbers in the open plains along with *Gladioli*, *Ixias*, and similar bulbous plants. They have corms exactly the same as *Gladioli*, and they spring into growth and flower at the same period. They are all about as hardy as *Gladioli*, requiring to be lifted and wintered in a shed in England, although in a sheltered border they may be left outside permanently if covered with litter or mats in very cold weather. We prefer to lift them annually, clean and dry them, and keep them in small boxes in a dry shed till March, when we replant them in the borders exactly as we do the Cape species of *Gladioli*. They flower in July, August, and September, and they are most decorative both in the flower-bed and when cut and arranged in vases. The small species, such as *W. aletroides*, *W. humilis*, *W. marginata*, and *W. punctata* we grow in pots in a frame, placing them in a cold greenhouse when in flower.

W. ANGUSTA.—Although the plant figured is grown at Kew under this name, it is not exactly that species as described by Mr. Baker in his "Handbook of Iridæ." It was sent to Kew by Mr. Butters, the curator of the Botanic Garden at Port Elizabeth, in 1891 as "a scarlet-flowered *Watsonia*, probably new." It flowered from June to November last year planted out in a sunny frame, and its peculiar colour won for it much attention from visitors. It is by far the brightest of all the *Watsonias* of the same section, the colour being a brilliant flame red. Its spikes were 3 feet or more high, the lower leaves 18 inches long by three-quarters of an inch broad, leathery and rigid. There were twenty-five flowers and buds on the longest spikes, and they developed in slow succession. There were about fifty plants in a group all flowering together, and they were most effective. According to Mr. Baker, *W. angusta* has been called *fulgida*, *atro-sanguinea*, and *iridifolia fulgens*, names which would appear to indicate that the bright colour of the flowers attracted the special notice of the sponsors. Gardeners will be disposed to wish the name *fulgida* had been retained for this plant. Mr. Baker said, when he saw it in flower, it was a scarlet-flowered variety of *W. Meriana*, but he did not give it a distinctive name. It might with equal propriety be called a form of *W. coccinea*.

W. MERIANA.—This is the commonest species in South Africa and the best known in gardens here. It has been called the scarlet Tuberose and various other names. In the *Botanical Magazine* it is called an *Antholyza*, and Jacquuin figured it as a *Gladiolus*. Except in the colour of the flowers and in the usually branching spikes of *W. Meriana*, I see no difference between this and the plant here figured as *W. angusta*. The flowers of the former are rose-red or scarlet, and if we accept Mr. Baker's classification, there are white varieties also. For garden purposes, however, I think we may venture to retain the name *iridifolia* for the white-flowered *Watsonia* introduced a year or two ago by Mr. O'Brien. *W. Meriana* was cultivated by Philip Miller, and it has never quite gone out



fine old brilliant roses as General Jacqueminot, the Royal Gardens, Kew, August 6, 1852. Litnographed by Philip Miller, and it has never quite gone out
Marie Rady, Marie Blummann, Duke of Edinburgh, and printed by Guillaume Severeys.

of cultivation since. I have collected quantities of it in South Africa, its tall scapes being a common feature of hillsides and even along railway cuttings. It is a good garden plant, with a sturdy constitution and a free-flowering disposition.

W. IRIDIFOLIA.—A figure of the white variety of this was published in *THE GARDEN* in March last, p. 229, where it is called *W. alba*, apparently on the authority of Mr. Arderne, of Cape Town, who claims to have first found the plant "in the Worcester Valley, about eighty miles from Cape Town, in a peaty boggy marsh amongst thousands of the common pink variety." Others have also claimed the credit of this discovery, and it is therefore probable that it has been found by more than one person. Mr. J. O'Brien introduced it and flowered it in 1889, when it was named and described by Mr. N. E. Brown as *W. iridifolia* var. *O'Brieni*. A short time after this bulbs of it were sent from South Africa to Kew under the name of *W. iridifolia alba*, and I have also seen it called *W. Meriana alba*. Whatever name we give it—a simple way out of the difficulty would be to call it the white *Watsonia* and let Latin specifications alone—there can be only one opinion as to its purity and beauty of flower. In the summer of 1891 a group of it in a bed on a lawn at Kew was a picture, the tallest spikes being 4 feet high with five or six branches and numerous long-tubed, broad mouthed flowers each fully 2 inches across and pure white. Each branch bore from twelve to twenty flowers on a spike, arranged distichously and close together. They were without spot or shade of any kind and fragrant.

W. COCCINEA.—This may be described as a dwarf form of *W. angusta*, the plant growing to about a foot in height, with six or eight loosely arranged tubular bright crimson flowers on a spike, the flowers resembling in size and form those shown in the plate. We were at first inclined to call the plant figured *W. coccinea*, but it does not agree at all with the figure of this species in the *Botanical Magazine*, t. 1194.

W. DENSIFLORA is an erect growing species with ensiform leaves 2 feet long and spikes of the same length bearing wheat-ear-like heads of rose-red flowers, as many as fifty blooms being borne in a single head. The closely imbricating spathe-valves or sheaths from which the flowers spring are remarkably like a large ear of wheat, especially when in bud. The type was introduced by Messrs. Veitch and Sons in 1878, and is figured in the *Botanical Magazine*, t. 6400. It has flowered several times since then at Kew. In 1889 Mr. Medley Wood, of Natal, sent to Kew seeds of a white-flowered variety of it, and the plants raised from them flowered in a bed outside in September

of 1891. The leaves of this variety were 2 feet long, an inch broad, very rigid, with a yellow margin and a stiff, almost spiny tip. The scape was over 2 feet in height, and it bore a dense head of tubular white flowers an inch long and broad. Mr. W. Wood writing about this plant in 1882 stated that it is always found in company with the type, but is more plentiful in some seasons than in others. It is noteworthy that all the Kew plants, which were raised from seed, were white-flowered.

W. ROSEA.—This is a large flowered handsome



Watsonia iridifolia alba.

species with spikes 3 feet or 4 feet high, branched near the top, and bearing numerous bright rose-red flowers in August. It flowered freely at Kew in 1887, and it may be seen in flower there now near the T range in company with *W. marginata*, the two occupying a bed on a lawn near the Orchid house. It is an old introduction, and is sometimes catalogued by the Continental bulb growers. The leaves are rigid, about 18 inches long, and dark green with a brown-yellow margin. The flowers are each 2 inches long and Crocus-like in shape.

W. MARGINATA is a tall species, with a branched

scape bearing numerous *Ixia*-like flowers an inch across and coloured mauve-pink. I first made the acquaintance of this plant in 1882, when it flowered in the Cape house at Kew in June. As already stated, it may be seen in flower at Kew now. Its resemblance to an *Ixia*—in flower only, the leaf being broad and *Gladiolus*-like—is seen in the fact that Aiton named it *Ixia marginata*.

W. ALETROIDES.—Several masses of this have been flowering freely this summer in the Cape house at Kew. In my opinion it is one of the prettiest of Cape bulbs, the leaves being ensiform, a foot long and dark green, the scapes from 1 foot to 2 feet long, sometimes branched, curved and clothed with nodding tubular flowers, not unlike those of *Lachenalia* in shape, but larger and coloured bright scarlet, with a tinge of orange about the mouth of the tube. The segments are small and scarcely reflexed. This species is worth a place in every greenhouse. It occurs sometimes in cultivation. It flowered freely in a border at Kew in 1886. A plant which used to be called

W. PLANTAGINEA, and is now placed in the genus *Micranthus* by Mr. Baker, has been in cultivation some years at Kew, where it flowers in July. Its spikes are a foot high, and it may be called a miniature *W. densiflora*, the flowers being arranged closely together in an erect spicate head. It has been called *W. triticea*, or the Wheat-like *Watsonia*. The flowers are small and purplish.

There are several named garden varieties of *Watsonia* about which I know little, except that they are probably only forms of *W. Meriana*. There is ample and sufficiently varied material in *Watsonias* to make it worth while for some grower and breeder of bulbs to systematically work at them with a view to evolving a race of first-class varieties, as has been done with *Gladiolus*.

W. W.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

SPRING SOWN ONIONS.—There will be little need to leave these long on the ground this season, as they promise to ripen off quickly. The bulbs, if not so large as usual, promise to be of very good shape, there being but few thick-necked ones amongst them. Before pulling the bulbs the whole bed should be gone over and the tops of the Onions laid all one way, so as to expose the bulbs to the full influence of the sun, this also assisting in that thorough ripening so essential for Onions to keep well. In the course of a few days the bulbs should be drawn, laying them in rows with the base facing the sun. If the weather should remain hot and dry, they may remain in the open until thoroughly ripened; but if not, lay them under cover, but where they may receive an abundance of air and also have the benefit of full sunshine. Pickling Onions, if not already drawn, should be attended to at once, as the silver-skinned varieties will start into growth again very quickly if a heavy rain should follow, when, of course, they would be spoilt, it being very needful that these be very sound for the purpose.

CABBAGE FOR SUCCESSION.—The past year or two has shown how needful it is to have a good plot of Cabbage for spring cutting. The varieties which prove suitable for this purpose are Enfield Market, Battersea and Nonpareil. These, if sown earlier, are in danger of bolting; therefore the present date is the most suitable. Do not crowd the plants into small beds, but allow plenty of space by sowing in drills in an open part of the garden. To assist germination, take care that the drills are well moistened before sowing, that is if the weather should be dry. This is also the most suitable date to sow seed of the pickling Cabbages.

PREPARING GROUND FOR PLANTING.—Generally in those gardens where very close cropping has to be practised the plot set apart for planting the main batch of Cabbage follows on after Onions. To secure Cabbage of good quality

the ground must be in good heart, and if more attention was paid to this there would not be complaints as to Cabbage being only a second-rate crop. The site having been well manured the soil should be dug with forks. By being dug thus early there will be time for the ground to become consolidated by the time the plants are fit for planting.

PARSLEY FOR WINTER.—A few weeks since I drew attention to the necessity of providing a good supply of Parsley for winter use either by sowing or transplanting, but up till now this has not been a good season for this latter operation, the weather having been much too dry. It is not yet too late to transplant, if a sufficient quantity is not growing freely, either into low frames prepared for the purpose, or anywhere where protection may be afforded when necessity arises. In either case a firm rooting medium must be afforded, and the roots having been fixed firmly at planting, watering must be followed up and also shading until the roots have taken to the soil. Where no such provision for affording winter supplies is being made, the better course will be to cut over a portion of the plants from the spring sowing, clearing away all rubbish, when the after growth will be of such a nature as will enable it to withstand frost. Where the Parsley is transplanted into deep frames it will be advisable to fill up with some open material before filling in the soil, so that the tops of the plants can be as near the glass as possible.

A. YOUNG.

HARDY FRUITS.

THE FRUIT ROOM.—If not already done, no time should be lost in putting the fruit rooms into thorough order for what is to be stored in them. Several varieties of Apples and Pears have already ripened, and a considerable quantity has been stored in the more forward localities. Unless the surroundings are quite clean and free of smells, the flavour of Apples is quickly tainted, and Pears, though not so susceptible, may yet be practically spoilt owing to contact with or confinement in something that is strong-smelling. Let the roofs and walls have a dressing of lime wash and the shelves a good scrub down, everything being done to make the fruit store fresh and sweet. On no account ought Apples to come into contact with either straw or hay. At first these substances may be perfectly sweet, but they soon become damp when fruit rests upon them, and a disagreeable, musty smell is given off, the Apples in particular soon tasting strongly of it. This warning about the use of hay and straw is frequently given, but, judging from the Apples that are tasted at the autumn shows, very few fruit growers profit by it. Pears keep best closely packed stalk uppermost in single layers, the latticed shelves in the orthodox fruit room answering well. Some prefer to line these shelves with clean kitchen paper, and it is very advisable to do this when there is much air passing through the room at times. Seeing that low temperatures are also undesirable, lining the shelves and covering the layers of fruit with more of the same paper whenever frosts are imminent will serve to protect considerably. Pears also keep well and ripen admirably in drawers, but somewhat cool, dry shelves are most to be desired this forward season. If Apples are abundant and storage room limited in extent, the floors of the fruit room as well as a spare or disused bed-room and other cool dry places may be utilised. Where there is a chance of cold air drawing up through crevices in the floor, cover with paper and then store none but sound fruit in great heaps. Apples will stand low temperatures well, but are not frost-proof. They ought therefore to be stored where it is possible to cover them with paper, mats, and such-like whenever severe frosts are expected. If either boxes or hampers are plentiful, these also could be filled with fruit and stored one above another if need be. Neither Pears nor Apples, however, will keep well if gathered and handled carelessly. All that are bruised or damaged in any way ought

to be separated from those which are sound and be the first used. Neglect this precaution, and the chances are a very few unsound fruit will early commence decaying and spoil a great many that come into contact with them.

OTHER METHODS OF STORING APPLES.—There is such an abundance of Apples this season, that many of them will very probably be spoilt or sacrificed for want of storage room. Supposing the small supplies of choicer varieties are given what are considered the best places, that is to say, all the spare shelves in the fruit-room, the floors also being utilised, other storage quarters ought also to be devised. Sometimes the fruit keeps better in these make-shift places than it does in the regular fruit rooms. A dark, cool, not very dry and well-sweetened shed, with either a thatched roof and walls, or ceiled roof and mat-lined walls, suits Apples admirably, nothing answering better than a disused Mushroom house. In this case shelves should be constructed so as to admit of storing not more than two or three layers deep, and the fruit can then be looked over, any that is decaying removed, without the necessity for any undue handling of or turning over that which is sound. With so many to select from, it need hardly be pointed out that there is no sense in saving and storing small or scrubby fruit. It sometimes happens that Apples are so very plentiful, that their owners fail to find sufficient room for all under cover of a shed or room of any kind, but that is no reason why a quantity of fairly long-keeping varieties should be left in the orchards to spoil. In all such instances the plan of storing Apples somewhat similarly to Potatoes should be tried. Select a well-drained sheltered spot, cover the ground either with boards or fresh wheat straw, and then form a long mound of sound, hand-gathered fruit. They should be left uncovered when it is dry during the next ten days or fortnight, and then be covered with clean wheat straw, or fresh leaves and mats over these, strips of timber being used to keep everything in its place. It is the varieties that ripen in November and December that ought principally to be thus stored, though it sometimes happens that they keep better in these open-air ridges than they do in rooms.

W. IGGULDEN.

ORCHIDS.

THE climatic differences of our seasons are very remarkable, and the effects of those conditions upon the plants are much greater than people would think. No one can complain of the lack of sunshine or of heat during the present season, and the probabilities are that although there is not much difference in the appearance of the plants, they are likely to flower better next season. Owing to the greater evaporation from sun-heat and an unusually dry state of the atmosphere about midsummer, the houses required more damping down than usual. This is one of the details of Orchid culture which gardeners fail to master; they either overdo it or underdo it, and most of them go through the performance of it without considering either the weather or the condition of the plants. I have seen the young growths of *Dendrobiums* damp off, owing to too much moisture in the atmosphere combined with insufficiency of fresh air. Some growers also syringe their *Dendrobiums* regularly when in growth, and this certainly adds greatly to the risk of the growths damping off. I think a thorough good syringing does some Orchids good occasionally, but the indiscriminate use of the syringe may produce disastrous results, or at least do harm instead of good. The state of the weather and the condition of the plants must always be studied. Watering, syringing, damping the house, and ventilating must be learned by practice to a large extent.

This is perhaps the worst time of the year to obtain a display of Orchid blooms; the houses present a very dull appearance for those who only care for Orchids when they are in flower, but the Orchid fancier takes a

delight in the plants at all seasons, and looks forward to the time when the flowers will repay him for many months of care. There are yet some species and varieties of great beauty which flower now and enliven the houses with their gay colours. One of the handsomest is *Vanda Sanderiana*, one of the most difficult of the genus to establish or to keep in good condition after it is established. Flowering at the same time are the finest of all the *Aerides*, viz., *A. Lawrenceae* and the distinct *Sander's* variety. They were both exhibited by various cultivators at the R.H.S. meeting in the Drill Hall the other day, and as so many good cultivators are growing them, each successful effort will add to our knowledge of the best cultural conditions to command success. Heat and moisture when growing and not too much dryness when at rest seem, as far as we know at present, to suit them best. They have both been found on the same tree with the lovely *Phalenopsis Sanderiana*, growing on the south-east coast of the island of Mindanao, and it has been stated that they grow so near the coast line, that "the long trailing roots of the *Vanda* are often within reach of the salt spray." A distinct and handsome Orchid now in flower is *Cattleya granulosa Schofieldiana*. The tawny yellow flowers spotted with reddish brown and borne on tall stems have a striking effect; varieties of *Laelia elegans* are even more chaste and beautiful. I noted the striking contrast the other day between two well flowered examples of *L. elegans* *Schilleriana* and *Turner's* variety, the sepals and petals of the former white, faintly tinged or flushed with pale rose, and the rich amethyst-purple and reddish maroon of the latter. Other varieties of *L. elegans* and *C. granulosa* may be found in collections at this season, and are justly prized. *Vanda suavis* and *V. tricolor* in variety also give occasional spikes of their handsomely marked and richly spotted flowers, and a contrast to all of them are the long-branched spikes of *Oncidium incurvum*. I was looking over a collection of *Cypripediums* this week and found about a score of very fine species and varieties in flower, but of the dwarfier growing type, *C. superbiens* was certainly the most beautiful, and of the taller *C. longifolium* type, the garden variety *C. Sedeni candidulum* was the most chaste and elegant in flower and growth. The pretty little *C. niveum* was amongst them, and has a delicate transparent beauty all its own. I remarked last week that this group of *Cypripediums* liked limestone in the soil. A good cultivator who tried to grow the *C. niveum* group in different kinds of soil and various composts advised abundance of water all the year round, and the compost in which they thrive best was two-thirds yellow loam, one-sixth nodules of chalk, and one-sixth of coarse leaf-mould, the plants being grown in the East India house near the glass roof. This group of *Cypripediums* may be re-potted now as well as at any other time, and many other species and varieties of them may be re-potted with advantage. The large vigorous specimens may have a good shift. It is a great mistake to allow such garden varieties as *C. grande*, *C. Dominianum*, *C. Sedeni*, and varieties of this type to become pot-bound; they are often injured thereby. One point I might allude to with advantage, and that is the cleaning of some varieties of *Cypripedium* with short brittle leaves like *C. concolor*. An inexperienced cultivator might snatch hold of a leaf and bend it up to get the sponge at the under side of it, but this must be done very carefully, else the leaves snap off and the plants suffer loss in consequence.

In alluding to the treatment of the deciduous section of *Dendrobiums* two weeks ago, those of the nigro-hirsute section which are not deciduous were not mentioned. They do not require the same system of resting, and might be injured by too much exposure to the sun. The queen of the section, *D. formosum giganteum* should now be showing its flowers, and must on that account be freely supplied with water to develop them to their fullest size. Where *D. formosum* grows there is rain during the greater part of the year, so that naturally it has no resting period, and ever-dryness

may be the cause of its not doing so well with us. It succeeds best with basket culture near the roof glass of the warmest house when growing. *D. formosum* is found near the sea-coast, and has been found in positions where the plants may sometimes be covered with the spray. *D. infundibulum*, *D. eburneum* and *D. Jamesianum* are found in the higher, more inland districts, and are probably geographical forms of the same species, but they require rather different treatment. *D. Jamesianum* is doing well in the cool house. *D. macrophyllum*, the pretty, strongly-scented *D. Bensonae* and *D. Dalhousianum* should now be in the warmest house; as they are yet in full growth, see that they do not suffer a check from want of water. All the three of them will flower well next year if they can be encouraged to make good growths now. The weather has been very sultry again, not much artificial heat being needed to keep up the temperature to the highest summer point.

J. DOUGLAS.

PLANT HOUSES.

FREESIAS.—No time should be lost in getting the main stock of these potted up, whilst none should be left out of the soil longer than the end of the month. Later than this will weaken the bulbs, causing them to shrivel. Large pots are undesirable, anything beyond 6 inches diameter being needless. A dozen good bulbs can be easily got into a pot of the size named. For early flowering there is no doubt that imported stock is far better than home-grown, having the advantage as regards thorough ripening. These bulbs are worth taking pains with; therefore, good soil should be chosen for them—fibrous loam and leaf-mould with some spent Mushroom bed manure and road scrapings being as good as can be chosen. When potted, one good watering should be given and the pots stood in a cold frame; a light surface covering not more than an inch in thickness should then be given. The object of this is to keep the moisture in the soil, it being thus retained in a more equable manner. When the growth is seen to be pushing through the fibre, this latter should be lightly shaken off, but from that time onwards the lights should be kept on to prevent too much draught about them. Watering for a time until there is plenty of roots must be done cautiously.

EARLY HYACINTHS, &c.—The earliest Roman Hyacinths should now be rooting, a fresh batch being put into soil every ten days or a fortnight. The earliest of the other kinds should also be ordered without delay; these may be advantageously confined to one of a colour. Grand Vedette as a single white, Norma as a pink, Robert Steiger as a red, and Grand Vedette, azure-blue, with William I. as a dark blue, are reliable kinds for first early work. To these should be added the early French straw-coloured, to which allusion has previously been made, but which bears repeating. Where this variety has thus far escaped notice, it should no longer do so as a succession to the earliest Roman Hyacinths, but associated with them when not extra early. In its colour alone it is essentially good and distinct. For flowering about Christmas-time without hard forcing it is excellent. In either of these sorts alluded to it is useless to expect the best results if forcing be attempted in the slightest degree before a good number of roots has been made. Pot early, therefore, and retard rather than force hard.

EARLY NARCISSI, &c.—The early double Roman and the Snowflake form of the Early Paper-white are the best. These should now be potted or boxed to suit the demand. If it be as plants, then pots are the best; if for a cut flower supply, then boxes will answer well. For first early work the Due van Thol Tulips are the best of the family. If these be in demand before or at Christmas, it will not be advisable to delay starting into growth much longer. To follow these there is nothing better than the double Tournesol and Vermilion Brilliant (single). These should be treated like the Roman Hyacinths. *Lilium Harrisii* or the so-

called Bermuda Lily for the first early work should be obtained and potted without any further delay. This Lily for the time and until a good stock of roots has been made should be treated like the *Freesias*. Note should be made particularly that large pots are undesirable; 6-inch pots are large enough in any case for the largest of bulbs, whilst oftentimes this size will hold two or even three comfortably.

LACHENALIAS.—These ought now to have attention for re-assorting and potting up, otherwise growth will take place, and if this be the case, a check is given that might have been avoided. I prefer for my own part to use a soil with rather more leaf-mould and manure in it than is usually chosen for *Hyacinths*, &c., whilst at the same time it may very suitably be worked through a rather coarse meshed sieve, the rougher parts being afterwards passed as drainage over the crocks. Where there is a large stock it is just as well to let a part stand over the second year. I have known them thus do remarkably well; all that is then needed is a fresh surface-dressing. The fact should not be lost sight of that *Lachenalias*, more particularly *L. tricolor* and *L. pendula*, are very suitable subjects for basket culture. This will be an excellent way of using up any spare stock, but it should be composed of the largest bulbs. What is needed is a supply of good Moss to line the baskets; the bulbs can then be worked all over the bottom and sides, so as to present an even appearance through the baskets when the growth is well developed. The tops of the baskets must have provision made for a plentiful supply of water. *L. Nelsoni* should have attention turned to it, also *L. aurea*; these yellow kinds are very distinct and handsome, but, unfortunately, rather dear as yet.

TUBEROSES.—The earliest of these, the African bulbs, will be ready early in September, and probably by the end of this month. With these no time should be lost if required for winter flowering. When potted, a good place will be a pit just emptied of Melons, or anywhere near the glass with warmth, but not too much of it until growth appears. At first the supply of water should be limited, a surface-dressing with cocoa fibre being a saving in this respect. By growing these early *Tuberoses* the need of extra early forcing of the *Gardenia* may be avoided; whilst as regards treatment, the two may be accommodated together very well indeed. For this early flowering, it is just as well to put three bulbs together, and for this mode of culture an 8-inch pot is ample, or even one of a less size; by this means room and labour are saved.

JAMES HUDSON.

ORCHARD AND FRUIT GARDEN.

GATHERING PEARS.

PEARS will, no doubt, be early this season, and, according to my observations, many of the varieties will require closely looking after, or the quality will be sadly wanting. Having this in view, I quite agree with Mr. Jggulden that much useful advice might be communicated if readers who are in the position to do so would only state their practice in gathering any variety or varieties so that they reach the greatest perfection. The quality that Pears will ultimately have depends so much upon the gathering, that too much care cannot be taken in this operation. That many varieties of Pears are left too long on the trees there cannot be any doubt, and frequently I have come across fruits at exhibitions that only too plainly showed that this had been the case. Sound to all outward appearance they may be, but the practised eye can tell at a glance that they are but poor apologies for the variety when in perfection. This state of things has been the result of not gathering early enough, and I am very

much of the opinion that if ordinary precautions are not taken, "mealy" Pears will be very much in evidence this season. Not that the season itself will affect the quality, but on account of this being early there may be a tendency to leave the fruits on the trees up to the usual time of gathering in ordinary seasons. It will also be interesting to watch the behaviour of those varieties of Pears which are termed "gritty," or which seldom come to perfection in this country, except in favourable soils and districts. The early season might certainly improve these, and my advice in the case of these would be to leave them on the trees as long as possible. I am also of the opinion that the majority of other good winter Pears should be allowed to remain on as long as possible, or until they part readily from the tree when lifted up in the hand.

Before commenting further upon the gathering of these late Pears I will refer to the varieties generally in season throughout September and October. Amongst these are Williams' Bon Chrétien, Beurré d'Amanlis, Beurré Superfin, Mme. Treve, Louise Bonne of Jersey, Fondante d'Automne, Doyenné Boussoch, and Beurré Hardy. To all appearance these are all much before their time, or quite fully three weeks earlier. Leaving these varieties on the trees until just on the point of dropping before gathering them will lessen their quality considerably. Keep they may do, but the flesh will not be nearly so melting as if they had been gathered earlier—in fact, decidedly rough, and they will go off at the core when to all outward appearance they appear sound. A limit might be allowed to Beurré Superfin and Beurré Hardy so as to prolong their season, but the earlier gathered will be of much the better quality. Gathered at the right period, Fondante d'Automne is really a delicious Pear, and to prolong the season of this variety it is sometimes recommended that gatherings should take place at intervals. From the first two gatherings where a week is allowed between, the quality is really first-rate, but after this the fruits seldom, if ever, come up to the standard of the earlier gathered. The flesh even now is remarkably sweet, and it would not be at all unsafe now to make the first gathering. It is certainly unfortunate if our October Pears should be in and over a month before their usual season of ripening, but unless I am very much mistaken this is what they will be, as it is certainly in the later season that Pears are the most appreciated.

Seeing that these Pears, which are usually in season throughout October, are much earlier, and that leaving them on the trees as long as they will hang depreciates their quality, we must consider the best means by which the later kinds can be retarded. Marie Louise, Thompson's, Doyenné du Comice, and also Pitmaston Duchess are amongst the best November Pears, which will ripen up thoroughly if allowed to hang as long as they can, and I should think this would be the best mode of retarding them, as if they were gathered earlier they would most surely ripen up. Conseiller de la Cour should also be allowed to hang, as then the quality comes up very well indeed. To think of retarding the main winter kinds by also gathering earlier will not, I think, assist this end. As a rule our climate is not sufficiently favourable for the thorough ripening of late Pears, except, of course, in favoured soils and districts, so altogether the lengthened season may be in their favour. It may certainly not be necessary to allow them to hang till frosts put the finishing touch to them, as this, although the best under

the circumstances in late seasons, is not the best mode of maturing. Such varieties as Glou Morceau, Ne Plus Meuris, Emile d'Heyst, Beurré d'Arenberg, Passe Colmar, Winter Nelis, Beurré de Jonghe, Josephine de Malines, Marie Benoist, Beurré Sterckmans, Passe Crassane, Bergamote d'Esperen, Olivier de Serres, and Doyenné d'Alen on should certainly be allowed to hang until they will part readily from the tree. No doubt in those gardens where a good water supply is laid on and this can be applied without much difficulty, good fruits should certainly be forthcoming, as was the case in the Jubilee year, some of those kinds enumerated above swelling up to an exceptional size, the quality also being superb. Y. A. H.

Two good pot Figs for forcing.—This season I had every opportunity of testing the merits of several varieties of Figs for early fruiting in pots. Of the newer kinds the heaviest croppers were St. John's and Pingo de Mel. These varieties do not shed their first crop like many other kinds and swell up quickly. Those who have not yet grown either of the above varieties for early forcing would do well to give them a trial. St. John's is a large white-fleshed fruit, sweet and juicy. This variety I gathered the end of March from plants in 12-inch pots. Pingo de Mel has a yellowish flesh and the tree is equally fruitful. St. John's is of erect habit, while the other is spreading. Both varieties have heavy first crops, but do not bear so freely a second time, like Brown Turkey and other older kinds. Out of twelve varieties the two varieties named were the best. They were grown in a low house started early in December, and came in far in advance of older kinds. I have now grown St. John's three seasons as a pot plant, and am more pleased with it this season than ever on account of its free-bearing and easy forcing qualities. It is wonderful the quantity of fruit these plants will produce even from trees in small pots if due attention is paid to feeding, stopping, and moisture.—G. WYTHES.

Size and flavour in fruit.—It is clear that a hot dry season like the present reveals some new features to fruit growers. In my garden all kinds of fruit are far better in flavour and larger in size this year than they have been during the last few years. Peaches are fine in flavour. Royal George is most delicious when taken off the tree just a day before it is sent to table. Noblesse is equally good. I doubt if these two kinds are surpassed from a flavour point of view. The flavour of Jargonelle Pears was also better than in any previous year; to have this at its best it must remain till almost ripe on the trees. Strawberries were very fine as regards size and flavour. A neighbour remarked to me recently that he never had Sir J. Paxton so highly flavoured and fine before. During the last few days I have been gathering many kinds of Plums from walls. Such kinds as Jefferson and the finer kinds of Gages are simply delicious.—J. C. F.

Grapes shanking (P. B.).—This may arise from more than one cause. The roots may be in a bad state through working in an unsuitable soil, or, as this season has been exceptionally dry, the border may be too dry for healthy root-action. In the latter case a good soaking with liquid manure will be beneficial. If the fault arises from the roots being in a cold, deep, undrained border, the only remedy will be root-lifting and a new border.

Preserving Grapes from wasps.—I am surprised that anyone should advise the use of muslin bags for the preservation of Grapes from wasps' attacks when by simply touching the partially eaten berries with a small drop of Scott's or Davis' wasp destroyer from a pointed stick their clearance from the house is speedily effected. Mr. A. Long (page 130) surely has not yet found the value of these frequently advertised remedies, or he would not recommend the use of the old-

fashioned muslin bag. If he has not done so, he should lose no time in proving their intrinsic value, and I am persuaded that their trial will have the effect of rendering the muslin bag no longer necessary in the vinery or any other house.—W. S.

Caterpillars destroying Grapes (W. M. S.).—Your Vine is attacked by the caterpillar of a small moth, one of the Tortricidæ, but I cannot say to what species it belongs. The use of any insecticide would injure the fruit and do more harm than good, so that there is little else to be done but examine the bunches and pick out the caterpillars. Some might be induced to fall by shaking or jarring the bunches. Any small moths found inside a vinery should be killed, as their presence can do no good and may do harm.—G. S. S.

MILDEW ON VINES.

I THINK that more mildew is caused in vineries by the admission of front air at the time when the Vines are in bloom than from all other causes put together. I see instances of this yearly. Mildew on Vines is very often found in the amateur's vinery and greenhouse combined, simply because the front ventilators are opened freely for the benefit of the plants growing along with the Vines. Hot sun, accompanied with cold easterly winds, is most productive of mildew in vineries where they are at all exposed to draught. Some writers attempt to account for the presence of mildew on not only Vines, but Peaches and other plants, by reason of the uncongenial state of the roots; but I hardly know what line of argument such persons would take up when badly infested vineries, Peach houses and Rose houses are thoroughly cleansed of this fungus without molesting the roots in the slightest. I am satisfied that draughts of cold air admitted through opening the ventilators in opposite directions, like those at the top and bottom of any house, will produce a full crop of mildew.

I have a good example illustrating the defective system of air-giving and its baneful results. I have two plants of Maréchal Niel Rose growing in a temporary border in a small span-roofed house very much exposed to the east wind. One plant is at the entrance and facing the opening door, where it, of necessity, is subject to cold draughts on opening the door. This plant is annually mildewed more or less, while the other at the opposite end of the house does not show the slightest trace of the fungus. The same treatment is accorded to both plants in other respects. In a rather lofty Peach house mildew was for a couple of years very troublesome on the trees growing over the front trellis. The ventilators being pivot-hung, they admitted a quantity of air when opened. No matter how hot the sun was, if the wind was blowing from the east mildew was certain to attack the trees when the front ventilators were opened. Now they are never opened in the spring, except for a short time during the hottest part of the day, and then but a little. Under this treatment mildew is not known in that particular house.

I had the misfortune some years since to have all the Vines in the late house badly attacked with mildew, the result of trying an experiment. The vineries here, three in number, are lofty, wide, lean-to in shape, with 4-feet high lights at the back. That devoted to late varieties is 30 feet long and 18 feet wide, and arranged at the east end, which is exposed to cutting winds. When the Vines were in bloom during the month of April we had very hot sun. One day I, being advised to admit front

air rather freely to the Vines, incautiously did so. When the berries were the size of peas the mildew was plainly visible. It spread very rapidly indeed not only to nearly all the bunches, but to the leaves and young wood also. In order to check it the border was kept perfectly dry on the surface—in fact it was covered with flowers of sulphur. The pipes were made hot, and afterwards coated with sulphur made into the consistency of paint. In addition to this the bunches as well as the affected leaves were dusted over with the sulphur. The main rods were likewise painted their whole length with the same sulphur mixture, this being repeated at the end of a month. The hot-water pipes were kept continually hot, air being admitted in moderate quantity through the top ventilators only. The following winter the rods were again coated with sulphur, with the result that mildew was present the following year in but small quantity. By early removing affected berries and dusting the leaves with sulphur where affected the fungus was stamped out entirely. Until the berries commence to colour the front ventilators are not opened, neither have the roots been interfered with beyond an annual top-dressing. E. MOLYNEUX.

Peaches dropping.—Two years ago I had a nice small Peach house erected, and planted four Peach trees, the roots of three of them being inside, but those of one outside. Three of them were young trees, the other a tree some eight or ten years old that I had growing against a wall, but removed to the house. They were all planted in fine new loam from a pasture field, but without any manure. They have all grown splendidly, and appear to be in good robust health and covered with leaves. They were all covered with blossom, and all appeared to set fruit freely, but since then it has all dropped from the finest looking tree. Three fruits only remain on the next finest tree. There is a fair crop on the tree that grew best, and the old tree has some two dozen fruit on it. Can you tell me how it is that the two finest trees have cast all their fruit, and how should I treat them for next season? The tree that has its roots outside is the one that has not a single fruit on it.—J. S.

* * * If "J. S." had mentioned the size of the fruit when it dropped off there would have been a better chance of arriving at a correct conclusion as to the cause of the failure to swell properly. Seeing that the trees are in good health, the wholesale falling off can scarcely be attributed to dryness at the roots, as it is very certain if watering had been neglected this season red spider would have been in the ascendant. The symptoms point to exuberance of growth being the cause of the fruit dropping prematurely. When the trees are first planted in a good, not necessarily rich border, and for two or three seasons after, they are liable to grow very vigorously, though bud-dropping is more often than not the outcome of this grossness. In this instance either the set was faulty or else the fruit was disturbed by the rapid expansion of the wood. The fact of the least vigorous tree being the most fruitful fully bears out this conclusion. All that I can suggest as to the treatment that is most likely to correct the unfortunate habit of dropping the fruit is a very light use of the knife, and in particular the retention of the smaller wood or spray when the winter pruning is done. It sometimes happens that the spray will carry fruit when the strong wood fails. Let the trees have the full benefit of all the sunshine going and as much air as possible. If the wood is still very green and comparatively soft, a little fire-heat during dull showery weather in addition to the free circulation of air will do good. Not till the trees promise to swell a good crop of fruit to its full size should any feeding at the roots be attempted.—W. I.

TREES AND SHRUBS.

ARALIA SIEBOLDI IN CORNWALL.

THE *Aralia*, part of which is here figured, is growing in the grounds here. Its height is 8 feet 6 inches, the greatest width of the plant being 15 feet 6 inches. From the collar there rise six main stems, the largest being at 1 foot from the ground 12 inches in circumference. It was planted out about fourteen years ago, being then a small plant in a 5-inch or 6-inch pot. It is growing about 15 feet from a wall facing north-east, partially under a beech tree, and is fairly sheltered from all winds. The soil is light and well drained, the subsoil being clay slate. It has never had any manure of any sort, and has never had any care taken of it be-



Aralia Sieboldi in the garden at Mount Charles, Truro. Engraved for THE GARDEN from a photograph sent by Mr. A. P. Nix.

yond removing other things to give it room. The engraving only gives less than half of the *Aralia*. A *Chamaerops Fortunei* has rather spoilt one side of it, but that has been moved this spring. What appears to be the stem of the *Aralia* is the *Chamaerops* mentioned above. The *Aralia* has suffered a good deal from the drought, many leaves having fallen, but it has much recovered since the rain, and the new growths are coming on well. The *Chamaerops* has not suffered much from the removal, and I have little doubt as to its survival, although it was moved in the middle of the drought. I have a Siberian Crab tree that is a perfect picture; the branches are bent nearly to the ground with the weight of the fruit. In ordinary times I can walk under them. *Rhododendrons*,

which should have bloomed in May, are now coming out, their vitality being renewed by the rain.

ARTHUR P. NIX.

Mount Charles, Truro.

***Stephandra flexuosa*.**—Apart from the small whitish flowers, which are not particularly showy, this is a very pretty shrub, which to be seen at its best must not be crowded up, as a great deal of its beauty consists in the graceful manner in which its branches are arranged. It is nearly related to the *Spireas*, and bears a certain amount of resemblance to some of them. As a shrub from 4 ft. to 6 ft. in height this *Stephandra* displays itself to the best advantage. The principal shoots are erect, the upper portion as well as the branches gracefully arching, while the entire bark is bright red. The leaves, which are disposed alternately in a very regular manner along the slender shoots, are trilobate, very deeply cut, and about a couple of inches in length. They are of rather a pale shade of green. This *Stephandra* is a native of

white or pink. They are very sweetly scented. Besides its value for its own sake as a beautiful flowering shrub, this *Azalea* will in all probability render the hybridist good service in the production of a race that will extend the flowering season of the *Azalea*, and at the same time combine the brighter colours of some of the earlier flowering hybrids with the late blooming qualities of *A. viscosa*.—T.

***Leycesteria formosa*.**—We are pleased to see that a group of this fine shrub has been planted in the Bamboo garden at Kew. It is a native of the Himalayas, from whence it was introduced in 1824, and is of charming grace, whilst no fear need be entertained as to its hardiness. When in suitable soil and position it will grow fully 6 feet in height, the branches gracefully bent and very leafy, the purplish white flowers and bracts in appropriate contrast. Then we get the rich purple berries in autumn, and in especially sheltered spots the branches retain their leafy character throughout the winter, but usually it is deciduous. Ordinary soil will suffice; in fact, it is in a sense everybody's shrub.

***Amorpha canescens*.**—Although this plant was first introduced, according to London, in 1812, it does not at any subsequent period appear to have been common; now, at any rate, it is very rarely seen. The name occurs in the sale lists of some Continental nurserymen, but we have not yet been able to get the true canescent species; the plant which figures under the name appears to be a form of *A. fruticosa*. It is, however, very different from and superior to that species, making slender shoots each year 1½ feet to 2 feet long, which (in the open, at any rate) are killed back annually. The most striking character peculiar to this species is the hoary appearance of the stems and leaves, imparted by a covering of short grey hairs. The flowers, borne on a compact raceme at the end of each shoot, are of a bright bluish purple. In most years it flowers during August, but is this year somewhat earlier than usual. It is a native of the Southern United States and is described as growing on the banks of the rivers Missouri and Mississippi.—B.

***Lespedeza Sieboldi*.**—This is the name applied at Kew to the plant commonly known as *Desmodium penduliflorum*, whose profusion of rosy purple pea-shaped blossoms form such a pleasing feature in early autumn. Between this plant and *Lespedeza bicolor* there has been for many years and in various publications, including the "Dictionary of Gardening," a good deal of confusion, for these two plants are regarded as synonymous with each other, though they are really perfectly distinct. The plant hitherto regarded as *Desmodium penduliflorum* is of a half-shrubby character, that after flowering dies nearly to the ground and pushes up the following season's shoots from a few large buds near the base of the plant. The shoots are long and slender, the tallest reaching a height of 6 feet or even more. They are rather thinly clothed, especially towards the base, with trifoliate leaves and terminated by crowded racemes of rosy purple pea-shaped blossoms. The flowering season is usually from the middle of September onwards, though this year the flowers will in all probability be earlier than that. *Lespedeza bicolor* commences to bloom early in August and is usually over before the *Desmodium* begins. It (the *Lespedeza*) is an upright-growing plant from 3 feet to 4 feet in height, with far rounder leaflets than the other and the flowers are not nearly so showy. It is pleasing to record the fact that the distinctness of these two plants is now recognised by our botanical authorities, and on this point it should be borne in mind that *Lespedeza Sieboldi* is as a garden plant much superior to *L. bicolor*, though in many gardens a place may well be found for both of them, especially when it is remembered that, in common with many of the Leguminosæ, they resist drought better than several other classes of plants.—T.

Japan, from whence it was introduced a little over twenty years ago, but Messrs. Veitch were, I believe, the first to put it into commerce about ten years later. As a graceful shrub of a pleasing and distinct appearance, and one at the same time that is not very particular as to soil or situation, this *Stephandra* has much to recommend it.—T.

***Azalea viscosa*.**—By the early part of August (especially during such a season as the present when many autumn-flowering subjects are already past their best) this *Azalea* with only a few of its blooms still in an unexpanded state is sure to be noticed, as this beautiful class of hardy flowering shrubs is chiefly identified with the spring months, and the fact that there are some species that bloom much later on is apt to be generally overlooked. After *A. rhombica* and *A. mollis* come the bulk of the hybrid varieties, known collectively as Ghent *Azaleas*, while the season is continued by the Californian *A. occidentalis*, and lastly, by the subject of this note—*A. viscosa*. The individual blooms of the last are rather small, and in colour

***Hypericums* in bloom.**—As the summer advances and but few flowering shrubs are left us, many of the *Hypericums* are very gay with their

wealth of golden blossoms, which colour is but little represented among shrubs at this season, though numerous enough in the case of herbaceous subjects, notably some of the larger Composite. The Hypericums are natives of a considerable tract of country in Europe, Asia and North America, and of them the Indian and Japanese species are remarkably showy, but not always of sufficient hardness to resist our more severe winters. Three of these eastern species have already been illustrated by means of coloured plates in THE GARDEN, viz., *H. patulum*, Vol. XII., *H. triflorum*, Vol. XXIII., and *H. oblongifolium*, Vol. XXX, while a hybrid form from one of these is now among the most popular of all Hypericums. This is *H. Moserianum*, which was obtained by intercrossing the Japanese *H. patulum* with the common Rose of Sharon (*H. calycinum*). This last is certainly one of the best of the dwarf St. John's Worts, but is far too common to need anything further said with regard to it. *Hypericum olympicum*, figured in THE GARDEN, April 2, 1887, is another low-growing species, but quite distinct from the preceding. The foliage of this is very glaucous, while the flowers are large, but more starry than in the eastern species. The first two kinds mentioned by London are *H. elatum*, which forms a somewhat erect, freely branching bush, that reaches a height of 3 feet or 4 feet. The flowers of this are small, but of a rich yellow, and borne in great profusion, while in the case of *H. hircinum* which grows about a yard high, they are of a paler yellow, while the stamens are so long that they project somewhat further than the petals. Of these two, *H. elatum* is a native of North America, and *H. hircinum* of Spain.—T.

THE FRUIT CROPS.

SOUTHERN.

Heckfield Place, Winchfield.—With such an exceptional season it is gratifying to be able to report the fruit crops as quite up to the average, and although on such gravelly soils as ours where the drought has been felt most severely, a falling off in size is the only noticeable feature to complain of. Apples, probably the most important crop of all, are quite up to the average, fruit on old orchard trees being decidedly smaller, whilst trees in the kitchen garden where water has been available are good. Cellini Pippin, Lord Burghley, King of the Pippins, Pott's Seedling, Blenheim, and Deux Ans are fairly well laden with good fruit. Pears are also good, those favoured with a goodly supply of water carrying good crops of fine fruit. Those worthy of note are Brockworth Park, Beurré Hardy, Durandau, Marie Louise, Glou Morceau, and Knight's Monarch, the last in my opinion being one of the very best of the winter Pears, although very apt to lose a great many of its fruit prematurely. Of the many varieties grown here I know of no more juicy and delicious Pear than Knight's Monarch after Christmas. Apricots set an enormous crop, heavy thinning having to be done at an early period and again at intervals to reduce the crop, which has been extra fine where water has been applied freely. Early Cherries were destroyed by a late frost, but Morellos are plentiful and good. Peaches are also good, and trees exceptionally clean and healthy, frequent washing down with the garden hose keeping spider and black-fly in subjection. Strawberries have been bad, the fruit small and poor in flavour, and the season very short. The same remarks apply to other bush fruits. Gooseberries were badly infested with red spider, many trees dying outright.

Kitchen garden crops have wonderfully improved since the rain, but I should hardly think a gardener's energy was ever more severely taxed than it has been this season in this department, especially where labour is short and the demand great. Peas have refused to grow. Carrots have in many places gone off altogether, and Onions

have fared but little better. A mild and genial autumn may, however, mend matters in this department.—A. MAXIM.

Nuneham Park, Abingdon.—The prospects generally, considering the exceptional season we have just passed through, are very cheering. Apples are a full crop and good; our best are Blenheim Orange, Cox's Orange, King, Kerry, and Gooseberry Pippins, Beauty of Kent, Kentish Filba-ket, Cellini, Cox's Pomona, Hawthornden, Hollandbury, Lord Suffield, Stirling Castle, and Wellington. Pears are an average crop, the best being Beurré Bachelier, Beurré Diel, Conseiller de la Cour, Duchesse d'Angoulême, Easter Beurré, and Marie Louise. Apricots have been a very heavy crop, fruit large, and, owing to the tropical weather, beautifully ripened, but fully a month in advance of their usual season. Cherries of sweet varieties were plentiful and good. Morellos abundant. Plums are a very heavy crop; indeed it would be hard to particularise any variety this season. Of Peaches and Nectarines I am not able to speak, as we grow none outside. Of small fruits, Black, Red, and White Currants, Raspberries, and Gooseberries are abundant. Strawberries with us (and I may say this neighbourhood generally) were about half a crop, owing to the long-continued drought, and fully three weeks earlier than usual. Fortunately, I mulched early in the season, otherwise the crop would have been light. Noble with us withstood the drought as well as any variety. Figs and Quinces are an average crop. Medlars light. Filberts plentiful. Walnuts scarcely any.

Potatoes are looking well, although the crop of early varieties has so far been light, but at the same time of excellent quality, and so far no trace of disease.—ARTHUR GEORGE NICHOLS.

Kingston-on-Thames.—Exceptional opportunities for seeing the general condition of the fruit crops in many parts of Surrey and West Middlesex enable me to say that in spite of the long drought the crops have been and are generally very good indeed, and in some places wonderfully so. On the whole, the Surrey sand and irregular ground formation seem to give some of the best imaginable products. Apples are not so abundant or so fine as usual on dwarf trees on the Paradise stock, except where kept well watered and mulched. Where left to take care of themselves, and especially thickly planted, the effect on the fruit crop has been harmful. Still there has been, if less wood growth, very much of stout bud-formation that should on dwarf trees produce a heavy crop next year. In the case of standard trees, especially on old ones, there are heavy crops, but these are chiefly of the old orchard varieties. Standard trees seem to have felt the effect of the drought but slightly, and where the fruit is small it is perhaps more due to heat or dryness of the atmosphere and excessive cropping than of drought at the roots. In many districts the Pear crop is a wonderful one; Williams' Bon Chrétien, Louise Bonne, Beurré d'Amansis, Marie Louise, &c., are often found crowded with fruit. At Hook, just beyond Surbiton, Williams Pear trees many years old are carrying wonderful crops, many trees having from ten to twelve bushels on each, perhaps even more, and a fine sample. Dwarf trees on the Quince have not done very well, but are making fruit-buds freely. Wall Pears are generally good everywhere, and now that such fine rains have fallen the samples should be excellent, as in all similar cases the fruits have materially swollen. Plums have been a partial crop, only here and there heavy. These and Damsons not only have suffered at the roots from the drought, but the hot, dry atmosphere generated aphids and spider to an unusual extent. Out of these troubles the trees are now growing. The best crops seem to be on Rivers' Early Prolific, Victoria and Czar, and in some cases Green Gages are abundant. All allowance being made, however, Plums will be plentiful in the markets. All descriptions of Cherries have been heavy crops, although the fruit may not have been so fine as usual. Still there has been no cracking. Morellos have fruited wonderfully on bush, standard, and wall trees. Still Cherries have been much troubled

with aphids; so, too, have been Black Currants, the crop having been but a moderate one, as the bloom, doubtless owing to sharp frosts in April, was then greatly thinned. Red and White Currants have been abundant and fairly good. Perhaps Gooseberries suffered most from the drought, as spider was so general. Rarely have the bushes been worse attacked. Still there has been plenty of Gooseberries. The effect of the spider attack on the bushes may be more apparent next year. Of the bush fruits, Raspberries suffered most, as in many cases the berries almost withered up instead of swelling. However, new canes are making good growth now. Strawberries, because shallow rooted, also very materially felt the drought, and whilst fruits were for a short time abundant and cheap, the season was soon over. Plants now are rapidly recovering. Walnuts and small Nuts are fine, clean, and very abundant. Wall stone fruits have been and still are wonderfully plentiful—indeed, it is a great Peach season.

VEGETABLE CROPS.—The most remarkable thing in relation to nearly all vegetables is the wonderful recovery shown all round since the rains have fallen. Early Potatoes were small, but good; later ones should give a splendid crop. Peas have been seriously affected both by root-dryness and flower-blindness, so that crops have been light and of short duration. Broad Beans poor and much blighted. Runner Beans are everywhere good, and will now give abundant crops. Dwarf Beans have been much affected with spider, but on good ground are cropping fairly well. Cauliflowers have been indifferent and much blighted; so also have been Cabbages. All kinds of winter greens and especially Brussels Sprouts will be good and plentiful. They are making remarkable progress since the rain. Onions are thin from spring sowings, but autumn sowings have capital results. Carrots are very good; so also are Parsnips. Beet has come very irregularly, but there will be plenty. White Turnips are now growing rapidly. Marrows are fruiting fast, and Tomatoes outdoors are excellent. The vegetable promise for the winter is of the best.—A. DEAN.

Wycombe Abbey, High Wycombe.—Notwithstanding a season of almost unparalleled dryness, the fruit crops, as a whole, are unquestionably very satisfactory, and with the exception of Pears, most other kinds will be above an ordinary average crop. As might naturally be expected under the conditions, the insect pests are numerous and troublesome, so much so that in some places the damage done by the green and black fly and by that terrible enemy, the red spider, will assuredly do the trees harm and in all probability affect the quality of the fruit this year. I never remember in my experience to have seen the Apple trees so badly affected by the red spider. Peaches, Nectarines and Plums are likewise smothered with these insects in many places. Apples are good and plentiful. Pears rather scarce. Plums and Gages abundant. Cherries of all kinds have been a splendid crop, and the conditions most suitable for finishing them in fine order. Peaches and Nectarines full crops of fruit, which apparently will be below the usual size. Apricots a full crop, but smaller in size than usual. Bush fruits, as Currants, Gooseberries and Raspberries, very good. Strawberries, if anything, under the average and not so large as usual. This fruit has doubtless suffered more through the prolonged drought than any other, and where a good supply of water could not be obtained the crop was quickly over.

VEGETABLES.—The effect of the prolonged drought this season is plainly visible in this department, and never in the course of my experience have I seen the kitchen garden crops altogether in such an unsatisfactory state as they were at midsummer this year. The crops of early Potatoes had made but little growth and the tubers were fit for lifting to be stored away. This we did and found them to yield only a light crop of medium-sized tubers. The later crops showed unmistakable signs of the need of water by a restricted growth in the haulm, which under the sun's powerful influence flagged freely, and doubtless this crop will not turn out to be very good as regards quan-

tity. The root crops, as Onions, Carrots, Turnips, Beet, &c., which were not watered show unmistakable signs of having a struggling existence. The Brassica tribe likewise in some measure shared the same fate—Cabbages in particular; instead of being fresh and green, the leaves in some places were almost as blue as a whetstone, but since rain came all the subjects have improved, and with more of it we shall find our autumn crops will turn out to be as good as they are generally. In this locality hills and valleys abound, and Potatoes, of course, are considerably grown in both situations, and I may here observe from the present appearance of the crops, combined with the almost unprecedented character of the season, a lesson may be drawn, which evidently shows the advantage the early-planted crops possess over those which are later, and is conclusive that early planting is to be recommended for such hilly positions where the air generally is dry and the plants are less liable to injury from late frosts. And why? Because at the time of early planting the soil naturally is moist and growth at the roots will proceed and the plants become established firmly in the soil before our usual dry period commences. In the valleys, where rich soil abounds and moisture likewise, the planting should be done later because under these conditions growth is rapid and vigorous; consequently the haulm is tender and therefore much more liable to be injured by late frosts.

—GEO. THOS. MILES.

Warren House Gardens, Kingston, Surrey.—Considering the exceptionally dry weather, I do not think that the various crops have suffered quite so much as one might have anticipated. Bush fruits have been heavy. Currants small. Raspberries very small and poor. Apples good crops on most trees, but on a few trees the fruit will be small. Pears a medium crop, Williams' Bon Chrétien excepted. Standard Plums medium, but on walls a good crop. Peaches, Nectarines and Apricots good crops, but small. Cherries good, both on standards and walls. Strawberries have been a failure generally in this district. The earlier varieties, such as Noble, Keens' Seedling and Captain, had very fair crops. Of the midseason varieties, President, Sir C. Napier, James Veitch, British Queen and Sir J. Paxton were poor; Waterloo very poor; but of Laxton's Latest of All a good crop of large, cockscomb-shaped fruit, rather pale in colour and of a capital flavour, was picked.

Vegetable crops have no doubt suffered very much this season on account of the exceptional dryness of the season. The first batch of Peas was ready to pick fully a fortnight earlier than usual, the second sowing being ready at the end of May. All other varieties have been poor except Huntingdonian, growing only to about half the height which they attain in ordinary seasons, thereby producing less than half of the usual crop. Huntingdonian, although an old friend, I still find one of the best midseason varieties, especially on this poor, light gravelly soil. It has given a good crop of well-filled pods and of good flavour this year, which has been very acceptable, considering the partial failure of the other varieties. Broad Beans have suffered very much this season from the black fly; the early sorts escaped it fairly well, but the late sowings were completely smothered by the fly as soon as they were out of the ground. The Onion crop in some gardens has been entirely destroyed by the Onion maggot; in other gardens adjoining no trace of it has been seen. This is the first season that I have known the maggot to attack Leeks, although it did not attack them until it had cleared the Onion bed. Potatoes are turning out well, although small, and free at present from disease. Parsnips, I think, will turn out a fair crop. Carrots and Beet will be small; the seed of the two last lay in the ground for fully a month before germinating.—G. WOODGATE.

Maiden Erleigh, Reading.—For fruit of all kinds the present is the best season we have had for many years. Apples are an average crop, and since the welcome rains we had in the second week in the month, viz., nearly $1\frac{3}{4}$ inches, they are now growing apace. Pears also are an average crop and the fruit very clean. This applies to such

kinds as Glou Morceau, Bergamote d'Esperen, Winter Nelis, Jean de Witte, Josephine de Malines, and other late kinds which seldom come free from cracks and spots, thus proving that in an ordinary season we do not get sun enough for Pears. Plums also are plentiful both on walls and in the open, and we have not had the trees so free from aphids for many years. By the way, I may add that all our fruit trees have received copious supplies of water. Apricots, which we have been gathering in quantity since the end of June, are an enormous crop. The following are the kinds already gathered and which ripened in the order named: Sardinian, New Large Early, Oullin's Early, New Early (very fine), Frogmore Early, Royal and Roman; and the following are yet to ripen: D'Alsace, Kaisha, Moorpark, Turkey and Shipley's. Peaches and Nectarines are good crops, and the trees, which were much infested with black aphids early in the season, are now clean and healthy. Cherries, both sweet and Morello, have been heavy crops; the former, owing to the dry weather and heat, were smaller than usual, but the Morellos on north walls and bushes are very fine. Of bush fruits, Gooseberries were a very heavy crop, and although the bushes have not made so much growth as usual, there has been little difference in the size of the fruit. Warrington does not promise to keep so long as usual. Both Red and Black Currants have been good. Raspberries also a full crop. Strawberries grown on south, east and north borders, as well as on open quarters, gave us a long season considering the great heat, and it is some years since we were able to gather so many for preserving. President and Sir Joseph Paxton on north borders were the most satisfactory, but Sir Joseph was also splendid on open quarters, thus proving it to be a really dry-weather kind. Walnuts, Cobs, and Filberts are enormous crops and very fine.

POTATOES.—On good or deeply trenched ground the Potato crop is all that can be desired and the quality superb. On shallow soils the crop is very light indeed, the tubers being exceedingly small. This, I regret to say, is the general condition of the crop in cottage and allotment gardens, and the outlook for the winter is gloomy indeed. Disease has also appeared within the last few days. After the spring Cabbage was cut, vegetables were exceedingly scarce till French Beans came in. On shallow as also on light soils, Peas were only kept going by much labour spent in watering them, whilst on good holding ground they have been fairly satisfactory without water. Roots, viz., Carrots and Beet, where sown before the month of May, are very uneven; but where sown after then and not thinned till July they are looking well. Partial loss of the Onion crop by maggot is general in the district.—T. TURTON.

Dropmore.—Throughout this district the fruit crops generally are up to the average. Of course, everything has been more or less affected by the exceptionally dry season, and our district being also a dry one we have probably suffered more than other favoured localities. Nevertheless, we have a good supply of fruit, although Apples and Pears are not a full crop. All trees of the former both in orchard and garden cropped very heavily last year; consequently a crop rather under the average quite answers to our expectations this year. Of pyramids on the Paradise stock, Pott's Seedling, Ecklinville Seedling, Lane's Prince Albert, Lord Grosvenor, Bismarck, Winter Hawthornden, Grenadier, Cox's Orange Pippin, and Worcester Pearmain are bearing good crops; as also of orchard trees are Devonshire Quarrenden, Cox's Orange Pippin, King of the Pippins, and Blenheim Orange. Pears suffered somewhat from frosts while in bloom, and are mostly thin crops, the best being on trees of Seckel, Williams' Bon Chrétien, Louise Bonne of Jersey, Pitmaston Duchess, Beurré Diel, Mme. Treve, Glou Morceau, and Doyenné du Comice. Peaches, Nectarines, and Apricots on walls are full crops, all having to be considerably thinned. Apricots are the heaviest crop we have had for some years, and notwithstanding the dry weather have attained a fair size and ripened well. Peaches and Nectarines also

promise to be equally good; the trees are healthy and fairly free from insect pests. Waterloo Peach ripened in June, and now (July 24) Grosse Mignonne is ripe outdoors. Our orchard Plum trees had all fruit-buds destroyed by bullfinches, but generally the Plum crop is unusually heavy, and all wall trees are heavily cropped. Cherries were plentiful, but rather small. Bush fruits very abundant, especially Gooseberries. Strawberries fairly good, smaller than usual. We gathered the first outside on May 9, and have just finished off with Elton Pine and Oxonian.

Vegetables have suffered from the continued drought, but the supply has been fairly good. Peas are rather more than half their usual height, but we have as yet since the commencement of the season gathered a daily supply, our standard kinds now being Autocrat and Ne Plus Ultra. Cabbage and other green stuff are badly infested with fly and a kind of white aphids. Potatoes are good in quality and no disease yet; the tubers are smaller than usual.—CHAS. HERRIN.

Digswell, Welwyn.—Peaches medium. Nectarines very poor, especially the clingstone varieties, such as Pine-apple and Sir C. Napier. Apricots very good. Plums extra good all round here. Cherries below the average with the exception of Morellos. Pears vary; in some gardens they are abundant, while in others there are very few. Apples a good crop all round. The trees, especially Plum trees, have suffered very much owing to the long drought. Bush fruit plentiful, but very inferior in size and flavour. Strawberries very poor. With reference to inside fruits they have been exceptionally fine, especially early houses, considering the long drought we have passed through. The principal gardens around here are looking surprisingly well, as I find my neighbours have done the same as myself—devoted a greater part of the labour to watering.

With vegetables the long drought has made sad havoc, more especially in gardens where there is lack of water. Peas very good, also dwarf Beans. Runners are now doing well. Broad Beans very poor. Cauliflowers fairly good, but, speaking generally, the Brassica tribe has suffered very much. Root crops are below the average, taking Digswell gardens as an average; we have had to sow two or three times to get a medium crop of Parsnips, Beets, Carrots, Turnips, &c. Onions medium crop. Potatoes (early) very small; Main-crops are now showing a tendency to grow again. Celery since rain is looking very promising (generally).—W. L. BASTIN.

Eridge Castle.—The fruit crops in the county of Sussex have been, and are most abundant, but owing to the great heat and absence of rain, they were but very short lived, and did not swell out to half the size. Orchard fruits are very fine. Pears, Apples and Plums have been much benefited by the recent rains, and will now swell out to their full size; the only difference is that they will all be ripe a month before their time owing to the great heat, for nearly three months in some cases it was 92° in the shade. I cannot let the opportunity pass without strongly urging all interested in fruit culture to keep bees in their gardens; they set the blossoms in the spring and are the means of us growing our own honey.

Vegetables have suffered severely from the want of rain, the Peas most of all. Potatoes have been so far excellent, and in many cases were planted and grew without a single shower, the moisture in the earth being sufficient to bring the crops to maturity. Wasps are a great plague, the northern wasps, which build their nests suspended in trees and bushes, being very numerous. Taking the year as a whole the weather has been the most remarkable during the memory of man, for we had 100 days with only an inch of rainfall.—J. RUST.

Ottershaw Park, Chertsey.—Apples are under average with the exception of a few sorts. Keswick Codlin, Irish Peach, Stirling Castle, and Fletcher's Seedling have a good crop. A good few fruit dropped before we had the much-needed rain, but since then the fruit is swelling fast. Pears are under average, but Marie Louise, Wil-

liams' Bon Chrétien, and Beurré Clairgeau on walls have a good crop. Damsons are a good average crop; the trees looked very bad and blighted early in the season, but since the rain they are looking well. Plums a good average; trees are now looking well. Cherries considerably under average (except the Morello); the trees and blooms alike were much damaged with frost. Nuts are a very good average. Peaches and Nectarines are a good crop, and where the trees have been attended to are now looking well. Apricots average. Small fruits are very good. Strawberries good average, but the late sorts were soon over on account of the dry weather.

All the early Potatoes have turned out well, but small; the best are Ashleaf and Sutton's Ring-leader. The late ones on good ground are looking well. Early Peas and Beans turned out well, and the late ones are looking well. The mid-season Turnips and Cauliflowers are a failure.—THOMAS OSMAN.

The Durdans, Epsom.—Apples, Pears, and Plums are an average crop in this locality. Cherries under average. Apricots a heavy crop. Raspberries, Currants, and Gooseberries good. Strawberries we commenced gathering on May 15 from John Ruskin and Noble both on the same date (a good crop); all the other sorts were a short crop and soon over.—J. BARCLAY.

Brambletye, Sussex.—The fruit crops in this neighbourhood are very good, notwithstanding the four months of hot, dry weather that we have passed through; but the welcome deluge of rain that we had on July 12 seems to have reached the roots of all sorts of vegetation and given everything (from the Grass on the lawns to Apple trees) new life. The Apple crop is a very heavy one, but on some trees the fruit will be smaller than usual. The following varieties are all heavily laden with fruit: Alfriston, Bismarck, Blenheim Orange, Bramley's Seedling and Wiltshire Defiance (both very fine), D. T. Fish, Flower of Kent, Hawthornden, The Queen, Hanwell Souring, Lord Suffield, Oslin, Worcester Pearmain, Cox's Orange Pippin, Warner's King, Lord Grosvenor, Lady Henniker, Hoary Morning, King of the Pippins, Rosemary Russet, Pott's Seedling, Mannington's Pearmain, Cellini, Dumelow's Seedling, Ecklinville, Golden Noble, Tower of Glamis, and many others. Pears on most trees are but a thin crop. Plums of all kinds (excepting Damsons) are a splendid crop, the standards requiring the branches to be propped up all round the trees. Peaches and Nectarines are a good crop. Dessert Cherries were fairly plentiful, but the trees suffered very much from black fly. Morellos are a good average crop, as they always are here. Black, Red and White Currants were an exceptionally heavy crop. The Gooseberry crop is all that could be desired, but the bushes have been very much infested with the caterpillar, which has given us much trouble. Raspberries were plentiful, but small, and had a very short season owing to the hot weather that we have had. Strawberries were a good crop, but the fruit was rather smaller than usual. Cobs, Filberts and Walnuts are most abundant.

Early Potatoes have been good in quantity and quality, but the tubers are smaller than they have been in former years. The later varieties are looking well. I have seen no signs of disease as yet. The vegetable crops are all looking well now, but we have passed through a most trying season, the Pea and Bean crop having been all but a failure.—GEORGE F. GLEN.

Harrow Weald Park, Stanmore, N.—Apples with us are a good crop, also Pears and Plums. Peaches and Nectarines outside are a good crop. Gooseberries were plentiful, but very small on account of the drought. Currants, Black and Red, a good crop, and not affected by the drought. Raspberries a light crop. Strawberries were plentiful, but dried up and flavour bad.

With regard to vegetables, Peas were a failure after the early sowings were gathered, four long rows of Main-crop Peas yielding only half a peck. Onions, which generally do well, are almost a failure, yet in the neighbourhood they have done

well in some cases. Carrots have come up very thin. Beet has not suffered so much, coming up very well. I see in looking over the crops since the recent rains that some of the seed is just coming through. The rains have come too late for the Potatoes, as I see the tubers are all growing out. Except in the case of early varieties, they seem to be a good crop.—J. MARTIN.

Condover House, Alresford, Hants.—Ours is a particularly dry and sandy soil with a subsoil of chalk, at an average depth of 15 inches to 18 inches. We have had less rain in the district than in adjoining neighbourhoods, as measured by the rain gauge; consequently all small seeds have required constant and plentiful waterings to obtain a medium crop. Peas and Beans have, although watered well, grown only to a medium height, and have borne much under the average crop. The early growth of all the crops was very good. The wireworm and white maggot have been very destructive to the green crops. Potatoes of the early kinds grew well at first, but have now ripened off. Late varieties have sprouts several inches long. Disease has not shown itself as yet.

Strawberries suffered through the drought, although they blossomed remarkably well. The great heat shrivelled up the late blossoms. Raspberries are a magnificent crop and much above the average. Currants, Red and Black, are over the average in quantity and quality, with a good flavour. Gooseberries are a heavy crop and decidedly above the average. Plums and Damsons have only a sprinkling of fruit, although they blossomed well. Late frosts were injurious to them. Cherries, too, bore remarkably well considering the season. The best crop of the garden, however, is the Apples. The fruit is fine without exception, and trees both young and old are bearing heavy crops, which in many cases require support. In fourteen years' residence here I have not known the Apple crop better. All kinds are bearing equally well. Gooseberry, Currant and Apple trees that have not borne for some years have done so this year. Pears are much under the average in quantity; the frost damaged the blossom.—ANDREW OLIVER.

Wray Park, Reigate.—The fruit crop in this district I think very good. Here with me Strawberries have been a good crop, but the season short owing to the drought. Gooseberries, Currants, and Raspberries abundant. Apples and Pears abundant. Plums not quite the average.

Vegetables have been very good considering the season.—J. HOAD.

Bassett Wood, Southampton.—Strawberries a fair crop, but small in size. Small fruits, such as Raspberries, &c., very good. Plum trees heavily laden, but fruit small. Cherries not so good as usual. Peaches and Nectarines good. Apples plentiful. Pears a good crop and fruit fine. In fact, the only fruit that really seemed to suffer from the dry season was Strawberries.—F. BONEY.

Bookham Lodge, Cobham.—Apples, Pears, and Plums under average, very small in places. Cherries average. Peaches and Nectarines good. Apricots good. Small fruits full crop. Strawberries very poor. Nuts good. The long-continued drought experienced in this part of Surrey will not soon be forgotten by those gardeners who have had to battle against it, especially those who like myself found their water supply fail just when most wanted. Small seeds lay dormant for weeks till sufficient moisture fell to cause germination to take place; consequently several successive sowings came up at the same time, making a regular supply quite an impossibility. I found it so at least after having worked the same garden for eighteen years. The effects of good deep cultivation with plenty of good farmyard manure trenched in in autumn and early winter never in my experience showed to more advantage than this summer. We have been favoured with sufficient showers to make the meadows become green and the crops in the garden to start, but where crops have been growing and the ground become firm it is as dry as ever 2 inches below the

surface. In my case water is still scarce and must be used with care. Insects have been very numerous, causing much labour to be spent on wall trees. Red and White Currants are very dirty from the same cause; in many instances very little growth has been made.—A. J. SANDERS.

Bearwood, Wokingham.—The fruit crops here and in this district are not so good as last year. Apples and Pears are under average. Plums the same. Wall fruits, Peaches, Nectarines, Apricots and Cherries are a good average crop. Bush fruits the same, only badly infested with insects. Strawberries promised well, but suffered very severely from the great drought. In many places the plants were completely burnt up. This season will be long remembered as the most trying one to gardeners ever known. All kinds of fruits are small owing to want of moisture, and a great many Apples and Pears have fallen through the great drought.

Potatoes are promising. Our early crops have turned out well, later ones the same, and free from disease.—JAMES TEGG.

Broomfield Hall, Sunningdale.—The fruit crops are very good on the whole. Apples are a good crop both on standard and pyramidal trees, but in all cases the fruit is small on those trees we have not found time to water. Of Pears, a few kinds are carrying good crops both on the walls and on the trees in the open. The following kinds have good crops: Marie Louise, Louise Bonne, Easter Beurré, Doyenné d'Élé, Doyenné du Comice, and Williams' Bon Chrétien. On others the crop is thin. Apricots are continually dying with us, trees of all ages going off in the same mysterious way, sometimes a branch, sometimes half a tree, and occasionally a whole tree dying in one season. Those trees we have left are carrying good crops of fair fruit, but they were protected when in bloom. Having a large unbeated orchard house, we have only three Peach trees on the open wall. They were protected in the spring and bore good crops. Fruit of Alexander was ripe the first week in July; they were small, but the flavour was very good. Early Beatrice was ten days later; the fruit was much larger than that of the former, and although the flavour did not equal that of Alexander, I think we never had it quite so good. Plum trees on walls, where protected when in bloom, are bearing good crops, but those not covered, both on south and west walls, have no fruit. The pyramids, although not protected in any way, are laden with fruit. Morello Cherries and the Florence on the walls have good crops, though not protected in the spring, while the bloom of May Duke and Ashton was all destroyed by the frost. Pyramidal trees gave us good crops, both May Duke and the Bigarreau tribe, and as we had no damp weather to cause the fruit to crack, we had a supply from them for a longer time than in any previous year. We gave them copious waterings at the roots at intervals. This seems to prove that it is moisture in the atmosphere and not in the soil which is the cause of cracking in this useful fruit. Strawberries bore a very good crop, and, thanks to a good supply of water in their near vicinity, the size and flavour were good, but after Noble and Pioneer, all the other kinds both late and early were ripe at the same time, so that the season was very short. Gooseberries and Red Currants have borne good crops. Raspberries suffered very much from the want of rain, and the Black Currants were almost a failure from the same cause.—G. BURT.

Old Warden Park, Biggleswade.—Apples are a good average crop; the fruit of many kinds is rather smaller than usual, but now the rain has come they are swelling fast. The Codlin type, such as Lord Suffield, is better than I have ever seen it. Pears are about half a crop, but rather small on bush trees, better results on walls. Beurré Clairgeau, Louise Bonne of Jersey, Marie Louise, and Williams' Bon Chrétien are the best. Plums are a good average crop. Apricots half a crop. Peaches and Nectarines on unprotected walls are carrying full crops, and are ripening a month or five weeks earlier this season. The trees

generally are healthier and better than they have been for some years; the fruit is of good size, quality, and colour. We began to gather the first week in July, but they have been assisted with liberal waterings. Strawberries showed abundance of bloom, but owing to the late spring frosts, the long drought, and excessive heat we have only had about half a crop, and this was only secured by heavy watering. Laxton's Scarlet Queen was the pioneer this season, beating John Ruskin and Noble by a few days. Laxton's Latest of All has proved itself a good variety of the British Queen type, of excellent flavour, doing well on light sandy soils where British Queen will not succeed. Oxonian was the latest, with finely coloured fruit. Gooseberries full crop. Other kinds of small fruits about half a crop, but very small and ripening irregularly. Owing to the long drought it has cost a good deal in labour and nets to protect the fruit from the ravages of the birds, which are very numerous here. As soon as the fruit shows signs of colouring it is attacked and devoured. The little blue-tits are very troublesome; they set nets of ordinary sized mesh at defiance.

Most kinds of vegetables have suffered from the drought; it has only been from highly cultivated and deeply dug soil that the best results have been had. Under these conditions Peas, Cauliflowers, and other spring crops were excellent up to mid-summer. Insects have been troublesome more or less, but the foliage on most kinds of fruit and forest trees is of a fine dark green colour. Owing to the welcome rain we had during July (over 3½ inches) vegetation is making rapid strides.—G. R. ALLIS.

BOOKS.

LES ORCHIDEES RUSTIQUES.*

This is a neatly-printed, paper-covered volume of 242 pages and thirty-nine engravings, and is devoted to the description and culture of Orchids that are hardy at Paris and Geneva. It treats of their botanical characteristics, fertilisation, classification and culture in a popular manner, and is a desirable book for all who are fond of growing the numerous hardy members of this enormous family. We have very often felt the want of a handy little work of this kind, one which can be referred to in a few minutes as to anything connected with these "gems of earth" and their culture in the garden. So far as our native British Orchids are concerned, Mr. A. D. Webster long ago gave us a reliable book full of notes and suggestions, but M. Correvoon takes us further afield, and tells us what the hardy Orchids of Europe really are and how we are to successfully treat them.

The chapters on the fecundation and classification appeal, it may possibly be, only to the more educated of amateur cultivators. As a handbook for continental growers of terrestrial Orchids it is as perfect as such a book can be expected to be, and the price places it well within the reach of all who care for its subject-matter.

It is high time we had a revival of hardy Orchid culture. Since H.R.H. the Comte de Paris left Twickenham some years ago these plants have been but rarely seen at our London flower shows. I shall never forget the delight I felt at seeing some of Mr. Needle's exhibits at S. Kensington, which contained the most luxuriant pots of Orchis and Ophrys, Cypripedes, Bletia, Listera, Platanthera and Nigritella, all in full flower as the seasons sped round. Some pots of Ophrys speculum in yellow loam and nodules of limestone will never fade from my

memory. So also in another garden have I seen luxuriant pots of Calopogon pulchellus, Cypripedes of many kinds, and pans of the exquisite Ophrys dedicated respectfully, let us hope, to the bee, and the spider, and the silly little fly! Then we remember the great masses of the purple Orchis of Madeira and the Canary Islands, *O. foliosa*, as it luxuriates at Edge Hall, in the rich soil of Cheshire. Even here in the old University garden at Dublin one of the first things I noted when I first saw the place, now some fifteen years ago, was pots of the great Orchis latifolia of Algeria with spikes 9 inches in length on scapes 2 feet in height. The bulbs had been collected by Dr. E. P. Wright, M.D., and had been thus splendidly grown in sound Wicklow loam by my friend and predecessor, Mr. F. W. Moore. Even the Japanese Bletia hyacinthina is hardy here in sandy peaty earth near to water, and the stock came from a fair garden in Devon, from which a friend dug me a patch with a spade, as he told me, because it was smothering up some choice alpine in the same rich peaty border. Happy alpine, happy Bletia! it could not have been more healthy nor more vigorous had it been dug up in its native Eastern woods and jungles. Those who succeed with Kiepmper's Iris in peat near to water levels should try this Bletia, Orchis foliosa, *O. latifolia*, Cypripedium spectabile, *C. macranthum*, *C. parviflorum*, and *C. acule* under the same conditions, for if they do so I feel sure they will never regret the experiment, bold as it may appear to some to be. It is not at all easy, even from the neat little black and white figures of M. Correvoon, to realise a tithe of the beauty and grace of form and colouring as really shown by this insect-loving race of flowers.

In order to get a glimpse of the beauty and variety of these flowers, one must glance over the exquisite coloured plates as published by Barla in his "Flore Illustrée de Nice et des Alpes-Maritimes" (Iconographie des Orchidées), also at Moggridge's "Contribution to the Flora of Mentone," at the hardy Orchids figured in Reichenbach's great "Flora Germanica," and lastly, but by no means least, at those illustrated by Sowerby in our own noble "English Botany" (second edition by J. Syme Boswell). Even if you do this much in any good library, you will not have seen half the portraits of the hardy Orchids now known, and if we have a fault to find with our talented author, it is that he has kept to the high road and the shady lanes, so to speak, of his subject, and has not ventured out of the beaten track to tell us of the hardy Orchids known to exist on the cold mountains of both hemispheres. Even the "Flower of the Gods" (*Disa grandiflora*) is hardy and has flowered in the open air in Ireland at least twice within recent memory, viz., once at Glasnevin in the late respected Dr. David Moore's time, and more recently Mr. H. Hart has flowered it in his open-air garden in Co. Donegal. My friend Mr. C. L. Mann, of Milwaukee, U.S.A., quite lately sent me splendid plants per post (from Florida, I believe) of *Epidendrum conopseum*, one of the, even if not the most northern of all true epiphytal or tree-growing Orchids, and in all seriousness he advised me to try it on the Magnolia trees in our college garden. I did not like to venture this much, but it has thriven apace on a log in a cool and airy porch, and I really do intend to try a plant or two on the large-leaved evergreen Magnolias by the walls next May or June. Another good notion of Mr. Mann's was that by hybridising this *E. conopseum* with other species of *Epidendrum* in our cool houses, we might add size and colour to its undoubted

hardiness and perfume, and so inaugurate a new race of hardy or half-hardy epiphytal Orchids in our gardens. On glancing over the Orchid figures in our "English Botany," the wonder is that we have done so little to cultivate the best forms of the Orchids that grow so splendidly in our fields and on our limestone clays in Kent, in Sussex, in Hampshire, and elsewhere. What can be finer in April or May than the great crimson-purple spikes of the Kilmarnock Orchis as seen at Glasnevin, where Dr. D. Moore introduced it a wilding years ago, or as it can be seen at Straffan in a border amongst other choice native flowers discovered by the Hon. Mrs. Burton, to whom we are all indebted for first bringing us bulbs of Bernard's Narcissus from the Pyrenees? With this elegant little book in their hands, we sincerely hope that all tourists who are fond of their gardens will keep a sharp outlook not only on the European and North African continents, but also at home here in England, Ireland and Scotland, for any well-marked varieties of these exquisite flowers. In gathering roots for ourselves so much is learned or gained in addition to the flower itself. We gain a hundred cultural hints unknown to those who simply order or purchase their flowers at the nearest or most convenient nursery. We not only collect our flowers beautiful, but we reap also a rich harvest of cultural experience, and the flowers become to us the happiest and most lovely of mementoes of meadow or mountain, or of sedgy mere. Even had we no other beautiful hardy plant than Cypripedium spectabile, Orchis foliosa, *O. latifolia* and Bletia hyacinthina, M. Correvoon's book would be amply justified. Of course all of us cannot well scour Europe, North Africa, and Madeira, or the Canary Islands to collect our own flowers, yet those who are debarred from travel can be supplied by both English and Continental nurserymen.

In conclusion, I may be allowed to allude to that rarest perhaps of all the European Orchids, viz., *Spiranthes Romanzoffiana*, which has quite recently been discovered in two new Irish localities, viz., in the Co. Armagh, and happily in considerable quantity, and in Londonderry, so that there is now no fear of its vanishing from Irish soil. The figure of this rare plant given by our author at p. 191 of his book was from a sketch supplied to Dr. M. T. Masters, F.R.S., of the *Gardeners' Chronicle* ten or twelve years ago. M. Correvoon may be right in saying his figure is "après Webster," but Mr. Webster obtained the block or electrotype from the *Chronicle*. This is only one of the few little slips and errors observable in this volume, but as a foreigner M. Correvoon has been singularly fortunate in escaping pitfalls of this kind.

M. Correvoon rightly laments that Cypripedium Calceolus has been ruthlessly uprooted in Switzerland, but we are glad to know on pretty good authority that it exists to-day in at least three of our northern counties in England, viz., Lancashire, Yorkshire, and Durham, and I got three fine plants from a wild habitat in Northumberland only a year or two ago, and have reason to believe it is still luxuriant in a wood in that country. In Siberia this plant abounds along with the great purple *C. macranthum*, and in America it is abundantly represented by *C. parviflorum* and *C. pubescens*, both merely geographical forms of our European species.

I can conscientiously recommend M. Correvoon's neat little work to all interested, and regret that pressing business prevented my alluding to its appearance some few months ago.

F. W. BURBIDGE.

* "Les Orchidées Rustiques," par Henri Correvoon. Geneva and Paris, 1893, pp. 242, with engravings, &c.

NOTES OF THE WEEK.

Dahlia Pearl.—There are so many good Dahlias, that the trouble is to select the best for making distinct beds. This variety is planted in a single bed at Kew, and justifies a note. It is dwarf, compact, and the large pure white flowers appear above the wealth of leafage.

Apricots in London.—Herewith specimen of Apricots mentioned in your paper August 5. There were upwards of 600 on the tree.—B. G. JENKINS, *Dulwich, S.E.*

*** Flavour excellent; far better than that of the ordinary imported market fruit.—ED.

Gourds at Kew.—The Gourds in the herbaraceous ground at Kew are again an interesting feature this year. They have a quaint aspect climbing up rustic poles, and the collection is representative. It can be seen how greatly the fruits vary in shape, size, and colour. Of course, this kind of planting may be overdone, but a little of it is welcome as a change.

Tufted Pansies at Wemyss Castle.—Mr. J. Clark, gardener at Wemyss Castle, sends us several photographs, showing masses of these as grown there. They include such varieties as Bessie Clark, Blue Bell, and Wemyss Gold. They are used there as bedding plants with fine effect, but we think they are more precious as carpet plants to taller flowers, such as Tea Roses, and also as border plants, edgings, &c.

Begonia Octavie, which is well represented in Messrs. Cannell and Sons' nursery at Swanley, is one of the most beautiful double-flowered Begonias ever raised. This is high praise, but the flowers are exquisite, quite double, and pure white, showing a tinge of green when first expanded. This fades off with age. The plant is compact, free and almost hidden with the wealth of bloom.

Crocoemia aurea imperialis is a splendid flower. A mass of it is in bloom at Kew in the warm border skirting the economic house. The flowers are borne freely on the stems, and individually are very large, rich orange-yellow on the outside, but within more of a self apricot tint. It is a fine thing to form a group of if the position is warm and the soil light. It was raised by Max Leichtlin from seed sown in 1883.

Citrus trifoliata in fruit.—This species is fruiting in the nursery of Mr. Morse at Epsom. This, we believe, is unusual. Some time since a note appeared in THE GARDEN stating a plant of it fruited freely quite in the south of England. *C. trifoliata* is an interesting shrub, the flowers very fragrant and the branches armed with formidable spines. The fruit is small, crinkled, and like that of the common Orange in miniature.

Polygonum cuspidatum compactum.—The common Japanese Knotweed (*P. cuspidatum*) is one of the most familiar plants in our gardens. It is very beautiful, but, unfortunately, a thorough weed. The variety *compactum*, however, is not so rampant and the growth is remarkably compact, hence its name, yet not so much so as to deprive the plant of elegance. One sees very little of it in gardens, but it is well worth growing, the wrinkled leaves being of the deepest green colour. An isolated specimen on the turf is handsome.

Clematis Stanleyi is flowering in a warm, sunny border in the Royal Gardens, Kew. This species is disappointing, the flowers being too pale in colour, whilst the plants are not hardy enough to stand an English winter. A coloured plate was given of it in THE GARDEN, Jan. 24, 1891. This species is a native of South Africa, and was first discovered by the collector Burke about fifty years ago. It is interesting to note that it was introduced through Kew in April, 1889, Mr. E. Galpin, of Barberton, having sent seeds. With the protection of a cool greenhouse it is more satisfactory, but, unfortunately, the plant loses in value when a greenhouse temperature is necessary for its cul-

tivation. There is a marked difference in both leaves and flowers, the latter varying greatly in colour. Some are pure white, whilst others are shaded with rose.

Aristolochia gigas Sturtevanti.—Mr. R. Willis, Cluny Gardens, Edinburgh, in sending us two photographs of a flower of this which has just opened in the Botanic Gardens, Edinburgh, says: "A flower of this has just opened in the Edinburgh Botanic Gardens. It is said to be one of the largest known, measuring 1 foot 3 inches, by 1 foot, and having a tail of 3 feet. Its colour is a pale yellow, with a throat of deep purple, while the long tail exhibits a delicate purple veining. Its odour is, however, unpleasant. It is commonly called the Duck or Pelican Flower on account of the shape of the blossom presenting a certain resemblance to those birds."

Gladiolus brenchleyensis, which has played a large part in the history of many fine hybrids, is one of the principal flowers of the week. Even against the numberless hybrids in cultivation at the present day this *Gladiolus* has held its own, and when boldly grouped there is no more brilliant August flower. Its bright scarlet colour, noble spike, easy culture, and lateness entitle it to consideration. We have lately seen it used to advantage, especially in one case, in which the groundwork of the bed was *Gypsophila paniculata*. *G. brenchleyensis* is not so expensive as some *Gladioli*, and may therefore be used with greater freedom in the garden.

Annuals in masses.—The finest annuals that we have seen in this notoriously poor year for them are immediately in front of the Palm house at Kew. The beds are made upon what was once a stretch of gravel without anything to relieve its monotony. We are pleased to see that every available opportunity is taken at Kew to cover the ground with flowers. The annuals are in large masses of one distinct kind, and comprise *Verbenas*, *Brachycome iberidiflora*, *Zinnias*, *Chrysanthemum bicolor*, dwarf French Marigolds, *Asters*, *Linum grandiflorum coccineum*, *Dianthus Hedderwigi*, *Convolvulus minor*, *Viscaria oculata*, and the lilac flowered *Leptosiphon densiflorus*.

Seedling Verbenas.—We are pleased to see that seedling *Verbenas* are grown in many gardens. We have made note recently of several fine beds, and the plants are healthier than named kinds, although amongst these are many splendid colours, as may be seen in the Swanley nursery. The seed is, however, sold in distinct colours, and there is no trouble with the plants during the winter, when those of named kinds have to be protected from mildew and other ailments. A bed of seedlings is full of interest, and many very beautiful colours occur—rich sapphire-blue, rose, crimson and pure white. Beds of both *Verbenas* and varieties of *Phlox Drummondii* should be in every garden.

Amaryllis belladonna blanda.—This is sometimes labelled *Coburgia blanda*. It is a pale rose variety of the *Belladonna Lily*, and large clumps of it are in full beauty in the narrow border skirting the Orchid house at Kew. It was introduced from Cape Colony in 1754, and a figure is given of it in the *Botanical Magazine*, t. 1450. The type was introduced earlier. Although the *Belladonna Lily* is well known by name, one does not often see large masses of it in gardens, although such a position as that at Kew will suit the bulbs to perfection. There is much beauty in the bold flowers, which gain in contrast with the chocolate coloured scapes. The position must be sheltered, sunny, and the soil light. A border skirting a plant house will suit the *Belladonna Lily* well.

Crinum Moorei album is flowering in the Epsom nursery. We should like to see both this and the type more grown in English gardens. They may be planted out of doors in mild districts and sheltered positions without fear of injury from frost if the crowns are protected with a covering of leaf-mould or coal ashes, but preferably the former. A group of them in the greenhouse is

also very beautiful. We may mention that a coloured plate of *C. Moorei* was given in THE GARDEN for March 5, 1881. Seeds of this species were sent to the late Mr. Moore, of Glasnevin, from South Africa by Mr. Webb. The plants were grown at first, like so many other things, in the stove, but were afterwards tried in the open with success. A good clump of this *Crinum* in a suitable spot is a charming picture.

Carnation blooms from Kelso.—We have much pleasure in sending you a box of Carnation blooms cut from the open from layers planted outside last autumn. Carnations are with us the leading feature, and we grow all the sections extensively, in which appear not only the older standard favourites, but also the newer introductions. One of the finest things yet brought out, and admitted so by the best authorities, is one we are distributing this autumn for the first time, named *Lady Nina Balfour*.—LAING AND MATHER.

*** *Duchess of Fife*, a rose, seems a very promising flower, but it is impossible to tell the true value unless new varieties are tried side by side with others of the same colour. *Lady Nina Balfour* looks very distinct and good, and is very sweetly scented.—ED.

Gentiana asclepiadea.—This is a remarkably handsome *Gentian*, popularly known as the Willow *Gentian*. Two very fine clumps of it are at present in full bloom on the Kew rockery. They are a mass of foliage, the branches almost covered with deep blue flowers—the typical colour—but those of the variety *alba*, with which it is associated, are, as suggested by the name, pure white. This species is the more valuable because it blooms at this season, when the rock garden begins to lose in freshness and beauty. The position for this species should be sheltered and moist, whilst the plant is deciduous, so is not unsightly during winter. It will grow when well placed fully 2 feet high, flowering the whole length of the stem. Seed is not difficult to raise, and seedlings bloom better than divided pieces.

PUBLIC GARDENS.

NOTES FROM THE PARKS.

ONE of the prettiest open spaces in London is Battersea Park, and we are pleased to see that the arrangements this season are tasteful, and many plants used that were formerly considered fit only for a herbaceous border. Near the Albert Bridge entrance are fine borders of hardy flowers, embracing *Hollyhocks*, perennial *Sundflowers*, and similar things, well grouped together, whilst on the turf *Statice latifolia* is planted in clumps. This bold style of using hardy plants is to be commended, and their beauty in mid-August is a rebuke to those who say that with the departure of July they have lost their beauty. It is simply a matter of careful selection. One sees with pleasure the great use that is now made of perennials in the parks of England. *Dulwich*, *Brockwell*, *Regent's*, *Victoria*, *Hyde*, and other parks are beautified by them, and there is a gay show from quite late spring until the *Chrysanthemums* bloom in November.

It is interesting to know that the French varieties of *Canna* are liberally planted, and we recently noticed that old kind named *Premices de Nice*, which is dwarf, and bears an abundance of rich yellow flowers, fully equal in effectiveness to those of any of the more modern acquisitions. We often think that modern things are inferior to old varieties, but the craze for novelties so-called is responsible for the introduction of much rubbish which would have been despised twenty years ago. Opposite this border of perennials in Battersea Park are seven

raised rectangular beds, which, unlike previous years, are not planted so freely with zonal Pelargoniums. A charming use is made of pretty things. Thus two of the beds are filled with tufted Pansies—a mass of bloom—in one case being associated with variegated zonal Pelargoniums. Two of the other beds were composed respectively of crimson and white Antirrhinums. We are pleased to see such a free use made of this flower. It blooms over a long season, and if planted sufficiently close together makes a fine mass of colour. Another year a change would be made by keeping the colours apart, the white or crimson by itself making a brave show. Another perennial planted largely in this park is the herbaceous Phlox, and the two principal varieties are the crimson and white. Close to the Battersea Park Station entrance is a very large bed of Phloxes of these two colours mixed with Gladioli. The Phloxes are very fine, loading the air with their rich fragrance, and the white kind in particular is beautiful. The plants are compact in habit, sturdy, and bear large heads of pure white bloom. Amongst the Phloxes are many colours, but none are richer than crimson and pure white. Reject the purplish and magenta shades, which are not pleasing when perfectly fresh, and far less so when dried or faded by the sun. They soon lose their beauty. One bed in the sub-tropical garden was composed simply of the white-flowered Phlox associated with variegated Abutilon, the margin Funkia. The white flowers are thrown into relief by a background of dark-leaved shrubs. One of the boldest arrangements is that of the Coral Plant (*Erythrina crista-galli*) and the Thorn Apple (*Brugmansia Knighti*). The *Brugmansia* is bearing a free display of its large pendent fragrant white flowers. We have seldom seen finer specimens, and the contrast with the scarlet flowers of the *Erythrina* is distinct and effective. Even the more common things may be, and are planted in a way to create bright colour. A bed of double crimson and purple Stocks is very handsome, the flowers of *Lilium longiflorum* in contrast. Not many years ago such a bold arrangement would scarcely have been thought of. As in most places this year, the tuberous *Begonia* is scarcely happy. It is not blooming with its usual freedom by reason of the long-continued and excessive drought. The season has proved far too hot for it, and it is getting too late to expect great things. We may point out that the plants are used with great taste. In one bed the surface of the soil is covered with *Stonecrop*, the *Begonias* breaking this flat groundwork; whilst in another arrangement they are planted with the variegated *Dactylis*. *Begonias* go with the *Dactylis* as well as any plant, and in many gardens pretty pictures have resulted from this happy association. A great point is to cover the bare ground with flowers at every opportunity. Margins of the Virginian Stock to borders filled with shrubs give a desirable break of colour. At a point of vantage is boldly grouped the herbaceous *Lobelia*, a mass of rich and striking colour. It is a glorious flower in late summer for its richness and striking aspect. An effective arrangement is composed chiefly of *Eucalyptus globulus*, always well planted in this park; whilst the groundwork is made up of *Petunias*, *Lilium longiflorum* and variegated *Abutilon*. At various places one sees *Plumbago capensis* in bloom, a dark-leaved shrub usually throwing into bold relief the delicate blue flowers. Every available spot is utilised either with flowering or foliage plants. The Palms in cool and shady positions afford grate-

ful relief to the masses of flowers, and succulents are planted largely, sometimes as single specimens on the turf or in beds. A good bed of succulents only is not without beauty, but they must not be overdone.

Much is made of the Lily, but it is not a first-class town flower. *L. croceum* is perhaps the best, but praiseworthy attempts are made to grow Lilies in the shrubby borders as a relief to the heavy and monotonous green leafage. Such borders are, however, riddled with roots. *L. lancifolium* is blooming well.

Battersea Park is interesting for its trees, and a few days ago *Hibiscus syriacus* in many varieties was blooming with great freedom. There are several good specimens of it in this park, although it is a tree neglected in the majority of English gardens. We care little for the purplish tinted flowers, as they have a very dead effect, so to speak, quickly losing their fresh colouring, nor is the double kind very handsome. The single varieties are far more effective. This *Hibiscus* is a good town tree, and the finest growth is seen where the position is moderately shady with the soil both deep and moist. A wet, boggy soil is not suitable, nor, on the other hand, is a dry one. Usually one sees a dearth of the best edging plants in parks, excepting Regent's Park, in which many pretty things are used to advantage. A very fine border or margin at Battersea is composed of the yellow-flowered *Gazania splendens*, which is strikingly handsome, its flowers large and rich orange in colour. A great danger, happily not pronounced at Battersea, is relying too much on one flower for effect, say the *Fuchsia*. But there is ample choice without producing weariness through constant repetition of the same subject.

All the parks are now in beauty. Hyde Park is conspicuous for *Fuchsias* and *Plumbagos*, besides other things on the Grass by Park Lane, and Regent's Park is worth visiting for its charming variety of flowers disposed with great taste.

MR. T. LAXTON.

A FRIEND of the late Mr. Laxton, to whose death we referred in our last issue, sends us the following:—

Mr. Laxton had a great taste for horticulture from his birth, and commenced his experiments in hybridisation as an amusement about the year 1865. In 1868 (July 7) he obtained a first-class certificate from the R.H.S. for *Pea Supreme*, raised by crossing the old *Sugar Pea* with *Ne Plus Ultra*, *Alba* being his next certificated *Pea*, R.H.S., Aug. 2, 1869. He also took up zonal *Pelargoniums* at this time, raising *Jewel*, August 2, 1871. Then followed *Emily Laxton*, one of the first semi-double scarlets, and the first double white, named after the late Jean Sisley, with whom he had a good deal of correspondence about this time. Then followed in quick succession *Peas William I.*, Dr. Hogg, *Omega*, *Fillbasket*, and G. F. Wilson. He also turned his attention to *Roses*, his first being *Chas. Darwin*, followed by *Annie Laxton*, *Emily Laxton*, Dr. Hogg, *Mrs. Laxton*, *Princess Louise*, *Duchess of Bedford*, and *Mrs. Harry Turner*. Apples also claimed attention, and it was through him *Peasgood's Nonsuch* was introduced. This was raised from a pip sown by a cottager in an old flower-pot at Stamford. He still continued his experiments with *Peas*, and corresponded with the late *Chas. Darwin* as to the cross-fertilisation of this genus. *Strawberries* were also taken in hand, the old and still well-known *Traveller* being one of his first, followed by Dr. Roden. Owing to serious reverses at Stamford, he moved to Bedford in Jan., 1878, and took trial and experimental grounds at Girtford, Sandy, devoting now his whole life and strength

to the work he always had so much at heart. The first certificate he gained was for *Pea Minimum*, a dwarf, only 6 inches high; then followed *John Bull*, *William Hurst*, *Evolution*, *Charmers*. He also at this time gave his attention to *Potatoes*, raising by cross-fertilisation *Reward*, *Bouncer*, *Beds Here*, and selected the valuable white variety from the original pink *Beauty of Hebron*, and which is now so extensively, and in fact almost exclusively, grown by market gardeners as well as many others. He did not forget *Sweet Peas*, *Invincible Carmine* (still the brightest scarlet) being his first. This was followed by *Invincible Blue*, the nearest approach then and probably now to a blue *Sweet Pea*. Time, however, would not allow of his continuing this work, which he relinquished in favour of *Strawberries*. He first raised at Girtford, *King of the Earlies*, still much grown for its high flavour and earliness, followed by *Captain* and *Noble*, which, unlike all his other seedlings, was not an artificial hybrid, but a natural one—*Forman's Excelsior* probably crossed with the strong-growing American variety *Kerr's Prolific*, which was in the next row. *Tomatoes* also were treated by him, *Laxton's Open Air*, a dwarf selection from the old *Conqueror*, being still considered one of the best. *Apple Schoolmaster* he raised from a chance pip sown at random. Then followed *Strawberries Latest of All*, A. F. Barron, *Commander*, *Jubilee*, *White Knight*. *Potatoes* still had a share of his labours—the *Early Laxton* (*Sharpe's Victor* × *Ashleaf*), earlier and an improvement on both, and likely to be very largely grown for market. *Peas* still were cared for. *Walton Hero*, *Earliest of All*, *Early William* (the early selection from *William I.*), *Alderman*, *Oracle*, then the fine *Gradus*, which he considered his greatest achievement (*Earliest of All* × *Duke of Albany*), producing a pod as early as *Earliest of All*, with the size of *Duke of Albany*. This *Pea*, he believed, had a great future before it. The *Brassica* tribe did not claim much attention, owing to their liability to natural cross-fertilisation, and therefore deterioration of stock; but *Chou de Bedford* was raised from the old *Couve Tronchuda* × *Chou de Burghley*.

Unfortunately, he died when his work was gaining for him some pecuniary recompense for the years of ceaseless toil almost at an actual loss, for the time and money expended to produce his novelties were astonishing. His great aim was to produce something better than, distinct from and in every way superior to existing varieties, and not to flood the market with useless products. Nearly everything raised was the result of careful selection and trial after artificial cross-fertilisation; not, as in so many instances, the new selection from some well-known variety. He always believed that careful selection and seeding from the best and strongest must produce better results than from immature and impoverished blooms, and in all his work this point he kept steadily in view, never hybridising two weakly growing varieties. He also firmly believed in seed-saving from the earliest seed to produce an earlier strain, and in this he was particularly successful, as, for instance, in the selection from *Pea William I.*, which gave him a strain nearly a fortnight in advance of the type. *Runner Beans The Czar* (still the largest white-flowered runner), *Girtford Giant* (a cross between the *Czar* and the old scarlet), and the new *Titan* (*Czar* × *Girtford Giant*), and *Cucumber Laxton's Open Air* (the outdoor *Ridge* × *Telegraph*), producing in a good season very handsome smooth fruit in the open, are evidences of his labours. Unfortunately, he left much work unfinished, and, as he often remarked, a man in his position ought to have three lifetimes to see his work thoroughly finished. He has left many seedlings still untried, his last new *Strawberry*, *Royal Sovereign* (*King of Earlies* × *Noble*), and which he considered the best he had yet introduced, being only distributed this season, 1893.

He was for many years a Fellow of the R.H.S., and for several years served on the fruit committee of the R.H.S. He was also formerly a Fellow of the Linnean Society. He corresponded and wrote articles for many horticultural journals

both at home and America, but of latter years time and strength would not admit of much in this respect. Thirty years of incessant work at his life hobby left him enfeebled both in body and pocket, and he leaves a widow, three daughters (none too well provided for), and four sons, by two of whom (William and Edward) the business will be continued.

NOTES FROM DIDCOT.

TO THE EDITOR OF THE GARDEN.

SIR,—As you like to have notes from various gardens, I send you one or two which may be interesting. Many years ago I planted a *Maréchal Niel* Rose on the south-west wall of my house. After some years the grafted scion had become so much greater than the stock upon which it was grafted, that it died out. I then determined to grow the *Maréchal Niel* on its own roots. This may be some twelve years ago. It flourished marvellously. About 6 inches from the soil there sprang two great branches which reached some 16 feet or 18 feet in height. It blooms abundantly, but it is evident that the aspect does not thoroughly suit the colour of the flower, as it only attains its great beauty when cut for the table. About the end of April last one of the two limbs (if I may so call them) died out, and I cut it down to the part from whence it sprang. This seemed to throw the vigour into the other limb, and immediately two shoots appeared, which have now reached 15 feet in height. The limb from which they spring is at 1 foot from the ground, $6\frac{1}{2}$ inches in circumference, and 6 inches in circumference at 6 feet from the ground. I think for vigour of growth this exceeds any plant I have seen. The leaves are from the young shoots of *Maréchal Niel*, not four months old and yet 15 feet in length. Many years ago an old nurseryman gave me a plant of *Salvia argentea*. The leaves are broad, like those of *Saxifraga crassifolia*, only covered with a silvery down. My poor old friend called it (as nurserymen do) "a good thing," but I do not know much about that. It is too straggling in its flowering habit. His son and successor tells me he has long lost it. I wish you could see my scarlet Siberian Crab in front of my library windows. It is a picture, and was grand when it was in flower. Why do not people plant this tree more upon their lawns? The season has been short with us for flowers. *Gladiolus Colvillei* The Bride was a failure from the excessive drought. I am afraid the later sorts will suffer from the same cause. Our fruit crops have been fine, Green Gages beating the record. Apples a heavy crop, but small in size. A Quince tree which I had from Normandy thirty years ago, and which always flowers abundantly, making a pretty show, has for the first time this year produced fruit.

I was fishing a few weeks ago in the Kennet, near Newbury, and was delighted to find in an old-fashioned garden *Monarda didyma*, not the scarlet, but the purplish (puce) flower. One does not often meet with this *Bergamot*, though probably you may find it on the outside stalls at Covent Garden in the spring. I was delighted to re-introduce it into my garden. I have quite discarded bedding plants, and only grow old-fashioned things. My *Antirrhinums* are quite a sight. The late Mr. Woodbridge, of Syon Gardens, struck for me a cutting of the old Mulberry tree at Syon. This, as you know, is said to be the oldest in England. My tree was struck in 1876, and is now so large that it covers a great space; but, like the parent tree, it splits terribly, and has to be supported by iron bands, &c.

RICHARD HOOPER.

Upton Rectory.

* * The foliage sent is very large and fine.—T.D.

The weather in West Herts.—Throughout the week the weather has remained remarkably hot even for a summer month. On Monday the temperature in shade rose to 84°, on Tuesday to 85½°, and on Wednesday to 88½°. Not only is the latter the highest reading in shade as yet recorded here

this year, but it is also higher than on any day during the eight years over which my records at Berkhamsted extend. On no night did the exposed thermometer fall below 50°, and on two nights in last week (Wednesday and Friday) it fell only to 57°. The temperature of the soil at 1 foot deep now stands at 71°, and at 2 feet deep at 67°, or respectively 9° and 6° warmer than on the same day last year. During a thunderstorm early on Thursday morning, the 10th inst., over half an inch of rain fell, and for twenty minutes was falling at the rate of 1½ inches an hour. On Wednesday the air proved exceptionally dry, the difference between the readings of an ordinary thermometer and one with its bulb kept constantly moist amounting to as much as 19° at 3 p.m.—E. M., *Berkhamsted*.

THE WASP PLAGUE.

THE following letters on this subject recently appeared in the *Times*:—

Two kinds of wasps are equally abundant this year—the large one, with deep golden colour (*Vespa germanica*), which enters our rooms and attacks the wall fruit, and the small "anchor-faced" or English wasp (*Vespa vulgaris*), which is very vicious if the nest be approached, and, in a less degree, injurious to fruit. Many nests of both species are above ground in old walls, thatched buildings, stables, and even in tree stumps, and not always easy to destroy. Whatever method of destruction is employed, it is imperative that, if possible, the nest should be taken out, as otherwise in about ten days' time newly-hatched wasps will again appear. The grubs make excellent food for poultry and good bait for roach and other fish. The German wasp is a month earlier than the other, and the queens leave the colony the first week in September for winter quarters.—W. H. TUCK.

Cyanide of potassium for destroying wasps' nests should be discontinued. It is a very deadly poison, and although persons mixing the same may not be induced or inclined to take the solution internally, it may still cause great injury, and has, indeed, before now caused death by coming into contact with cuts, wounds, and sore places on the hands and elsewhere of persons not in a healthy state. My brother-in-law, Mr. Edward Maunsell, has already since the middle of June destroyed 153 nests within a radius of one mile from his residence; others in the immediate district have destroyed 94 nests. They have frequently taken twelve or fifteen a night. I enclose the recipe for the cartridges which have been used. Nests and their holes may be so placed that it is by no means easy to pour the solution of cyanide into the opening. Paraffin oil and setting light to same is a better remedy than the cyanide of potassium, in my humble opinion, where the nest is advantageously placed.—SLINGSBY BETHELL, *Symondsbury Rectory, Bridport*.

Contents of cartridges: Powdered sulphur, 16 oz.; saltpetre (powdered), 10 oz.; ordinary black gunpowder, 3 oz. Mix well with wooden spatula and make into about forty squibs. These will be sufficient to destroy 25 to 30 nests.

National Rose Society.—Allow me to make a few remarks on the communication from Mr. Grahame, which appeared in your last issue. As Mr. Grahame resigned his membership of the committee after the last meeting of that committee, few even of his late fellow committeemen were aware of his resignation, and there was not a word in his circular to show that he was not still officially connected with the society; hence the appearance of the explanatory note issued by the secretaries. After referring to this circular, Mr. Grahame goes on to give his reasons for retiring from the committee in the following words: "I found it worse than useless to belong in any way officially to a society in which stolid opposition is offered at committees to all suggestions and propositions made in the society's best future interests by the younger members of it." Since reading the above I have looked carefully through the minutes of all the committee meetings held by the society during the past year, and fail to find the slightest foundation

for such a statement. For my own part I can only say that I have never seived on any committee where the opinions and suggestions of the members present have received such impartial and careful consideration as at our committee meetings of the National Rose Society—a committee numbering among its members nearly all the leading rosarians throughout the country. Referring to his resolution carried at the annual meeting of the society in 1891, that exhibitors should be required to show according to the number of Rose plants grown by them, Mr. Grahame states that "the most strenuous opposition was offered to my proposals, notably by the secretaries, who have now addressed you." To this remark it is only necessary to reply that at the annual meeting in question I for one spoke in favour of the resolution, and both before and after the meeting assisted Mr. Grahame in putting the new scheme into practical shape.—E. MAWLEY, *Hon. Secretary, National Rose Society*.

Zauschneria californica is generally supposed to require a warm, or at all events a sheltered position, but large clumps of it have done admirably for years (and were unhurt by the severe cold of 1890) in the garden of Mrs. Onslow Parson, of Lynchmere, near Haslemere. This garden stands very high, and is very much exposed to winds. There were fine large patches in brilliant bloom this July.—M. A. R.

Mr. W. Goldring has returned from India after a very interesting tour through Ceylon, Japan, the Sandwich Islands, and California. He does not intend to return to India for a year or more, and will, we hope, in the meantime be busy in England.

Peat Moss litter as manure.—Could I trouble you to give me your opinion in your next issue of THE GARDEN as to the value of Peat Moss litter as a manure for vegetables and fruits? Our soil is very light and stony, and very poor.—W. B.

Planting Cupressus Lawsoniana in a bog.—I want to plant an avenue of *C. Lawsoniana* in a bog on each side of a newly-made road. Will it grow? It would be very expensive to make the soil for it. An avenue of the same tree in cut away reclaimed bog with a subsoil of marl in the immediate neighbourhood has done extremely well, and has now been planted for more than twenty years.—HIBERNIA.

Names of fruit.—C. J. W.—Small Keswick Codlin.—F. J. P.—4, Pitmaston Duchess; 5, Louise Bonne of Jersey; 6, Bergamote Esperen.

Names of plants.—W. B. S.—Not equal to others in cultivation.—W. A. G.—1, *Saccolabium Blumei*.—C. Short.—Flower entirely shrivelled.—D. M.—*Taccaea mollissima*.—Mrs. Blankwell.—1, *Hypericum patulum*; 2, *Funkia lancifolia*; 3, *Rudbeckia orientalis*; 4, *Chrysanthemum maximum*.

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No. 136. SATURDAY, August 26, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

ORCHIDS.

ONCIDIUMS OF THE CRISPUM GROUP.

I HAVE had a quantity of flowers of this section of the genus *Oncidium* during the past week from various readers of THE GARDEN, all asking for a name, and a few wishing information as to treatment. One thing surprises me somewhat, and that is so many flowers of this opening together, some of the forms which I had thought were later bloomers flowering at this season. *Oncidium crispum* appears to have been introduced by the Messrs. Loddiges, of Hackney, over sixty years ago, and I recollect this Orchid I always dreaded coming into the garden, because there were no means of keeping it alive for very long. In the year 1856 a cool house for Orchids was built in the garden in which I was, and *Oncidium crispum* was removed with others to this. Here it grew well, and I saw some plants that I had in this house flowering grandly some ten years afterwards. These had been grown cool. I have frequently advised friends to put plants of this section into the cool house when I have seen them stewing in the hot steaming houses, but have been told that as the plants come from Rio Janeiro, there was little chance of their succeeding in such a low temperature. I think there is a great error made in the heat of Rio, which is after all only the port of shipment, for I am told that the mean temperature of the year is about 72°, and the Organ Mountains rise in the neighbourhood to nearly 5000 feet altitude, clothed more or less with virgin forests. As these plants grow on the trees in the mountains and not in Rio, it does not to me appear strange that they revel in cool treatment, whilst they sicken and die when grown in the hotter houses. One point I would particularly draw the attention of those sending me flowers is not to allow the newly-imported plants to exhaust themselves in supporting flower-spikes the first year after receiving them, for these stout branching spikes rob them of an immense amount of vigour, which they can never pick up again. If these are cut away, saving just a flower or two which may be left to show the variety, the second year they will flower beautifully, but even then and at no time would I allow the spikes to remain on the plants longer than a fortnight or three weeks. After the flowers are cut they may be placed in water and arranged about through the plants. *Oncidium crispum*, I find, likes to have its roots in the air, and therefore the block system of culture is the best. On account of these blocks becoming so soon decayed, I have adopted a shallow earthenware hanging pan as the best substitute. The plants will do best with very little soil about their roots. This must be one part of good fibrous brown peat, from which all the fine particles have been shaken, and some fresh Sphagnum Moss. Hang the plants up at the warm end of the Odontoglossum house and in the sun, shading when the heat is too strong. Plenty of air should also be admitted, for I do not know an Orchid which suffers more through being pent up in a close, stuffy atmosphere. Let the plants have

a good supply of water when growing, and the atmosphere must be kept well saturated. During the winter season, or when at rest, much less will be requisite, but I should not advise that the plants be subjected to a long period of drought at any time. Treated as above recommended, *Oncidium crispum* and its allies can be kept for many years, increasing in size and vigour and producing large branching spikes annually. The following are the chief forms of the *O. crispum* set of plants, and my correspondents will see answers to their questions in connection with each species or variety:—

O. CRISPUM.—Flowers of this species come from "D. M." and also from T. Clarke. All are well coloured and excellent varieties, the flowers each measuring nearly 3 inches across, the sepals and petals large, crisp at the edges, and of a rich brown, the lip round the front portion of the same colour as the petals, the centre being deep yellow, with some reddish brown dots. The last-named tells me that his flowers are from a fine spike bearing thirty-five blooms. I would remind him of my advice anent cutting the spike and placing it in water. Flowers of this species also come from "F. W. G.," but beside the others it may be called a very poor form.

O. CURTUM.—When a good variety of this plant is obtained it is singularly beautiful. It is much like *O. crispum*, but the flowers are smaller and the colours are brighter. The sepals and petals are chestnut-brown, having a yellow margin, and the fan-shaped lip is bright yellow with a row of dots round the border.

O. FORBESII.—I have flowers of this species from J. Bonner and Charles Collins. Those from the latter are very fine, being round and full. The sepals and petals are rich bright chestnut-brown and the lip of the same colour. Those from "T. B." are less deep in colour. I have usually seen this plant flowering some two or three months later.

O. GARDNERI.—Flowers of a beautiful form of this come from J. N. Fraser, but the sepals and petals are smaller and the lip is rounder, having a ground colour of rich golden yellow, lined and blotched with rich brown. The lip is golden yellow, having a broad margin of irregular blotches.

WM. HUGH GOWER.

Lælia xanthina (*J. Inwards*).—This is the correct name of the flower you send under the name of *L. grandis*. It is a very large-flowered variety, and it is also very brightly coloured. The lip, however, is shorter and the whole flower is smaller than in the nearly allied *L. grandis*. It is a very pretty form, and if the plant is strong it should produce from four to six flowers on the scape. Many growers discard this plant, but if everyone could ensure such a fine variety as that you send, it would be more frequently seen.—W. H. G.

Lælia callistoglossa (*T. M.*).—This was raised by Mr. Seden. It is one of the most superb plants which I know, and the last time I saw it was in Mr. Tautz's grand collection at Shepherd's Bush. It is a cross between *Lælia purpurata* and *Cattleya gigas*, and takes most after the former parent. The sepals and petals are white, suffused with rosy pink; lip large, beautifully undulated at the margin, of a very deep shade of purple; throat yellow, streaked with deep purple. This Orchid must rank with the very best of the *Lælias* of the *purpurata* section, and, flowering at a later date, it becomes more valuable.—W. H. G.

Cypripediums grown cool for winter bloom.—At this season those who cannot grow their plants in a cool north house will find much difficulty in retarding the flowers of the winter bloomers of which Boxall is the type. There is no better plan to adopt than to place the hardier kinds of *Cypripediums* in low frames. I have found low movable frames of great advantage,

placing these on a hard bed of coal ashes under a north wall or house. The lights are drawn down at night, thus allowing the plants to get the benefit of night dews. This prevents the spread of insect pests, keeps the plants sturdy, and gives a much larger percentage of flower-spikes than would be the case if grown in greater heat. For years I have adopted this plan, and in hot weather it answers admirably; of course only small plants can be treated in this way. It is not so suitable for large specimens, but these latter are not so useful for cutting or for decoration, as when plants in pots from 6 inches to 9 inches are used, they give a larger quantity of bloom if well grown. When damping down during the day it is necessary not to use too much moisture overhead, as if the ashes and bare places are syringed there will be no need to apply the moisture too freely.—G. WYTHES.

Masdevallias (*G. Sim*).—No. 1 is the beautiful plant introduced by Mr. Sander, of St. Albans. It was dedicated by Reichenbach to Hermann Wagner some forty years ago, but it is only about ten years ago since it was introduced to us in a living state. It is very handsome, having the sepals of a deep rich purple and the tails yellow. No. 2 is a form of *M. ignea*, but it is much finer than the typical plant, and the flower is of a rich crimson-scarlet. No. 3 is *M. nycterina*, which was introduced by M. Linden about twenty years ago. It is a profuse bloomer.—G.

Dendrobium Dearei.—Flowers of this beautiful white-flowered species come to hand from J. M. Drewett, who says that they have been open two months. It is because the flowers of this variety keep so well that I have before recommended it to the market grower. The flowers are of medium size and pure white, saving a faint tinge of light green in the lip. This plant is a native of the Philippines; consequently it requires strong heat and moisture. I have seen it growing and flowering, too, with the old *D. nobile*, but I do not think it would withstand so severe a rest as we are accustomed to give that plant. During the summer months a strong heat is usually maintained in the stove, which is just the treatment this plant would revel in.—G.

ROSE GARDEN.

THE PREPARATION OF ROSE STOCKS.

As most amateurs delight in propagating and growing their own Roses from the initial stage, and as the season for striking stocks is so near, a few practical notes may be of service. Owing to the forwardness of the season, the latter end of this month is about equivalent to the middle or end of September, and although the majority of large growers do not commence the propagation of Rose stocks until October and November, it is quite as well to begin earlier where only a few are wanted. The Manetti, Brier, De la Grefferaie and any strong-growing varieties of the *Polyantha* section can be treated as I will describe in this article. The great advantage in doing this early lies in the fact that cuttings will thus be able to callus and make roots before winter. Under these conditions they will stand the winter and its drying winds much better, while the few roots made will also hold the young stock in its place and prevent the injurious lifting of it by frost. Choose wood that is about three parts ripened. It is not necessary that the whole of the shoot be in this condition; indeed, it will be difficult to find it so and still retain the amount of activity in the sap that is so essential to early autumn rooting. Fairly strong wood, without coarseness or pithiness, should be selected. By all means avoid choosing the short side growths so much recommended when

propagating Roses upon their own roots. In the latter case the numerous suckers that are certain to emanate from the base or heel of such shoots are particularly valuable, because suckers of Rose growth are most essential to the vigour and longevity of dwarf Roses; not so, however, in the case of stocks. Here we must try all we know to keep down suckers. For this reason it is better to select a fairly long rod of growth and cut up the riper portions into suitable lengths. These will generally contain from four to six eyes only, and which will be sufficiently prominent and developed to be cut out clean before the cutting is inserted. Remove all but the two top eyes, and make the cuttings from 9 inches to 12 inches long. In striking Roses a shorter cutting is preferable, but when it comes to stocks a longer one facilitates the process of budding later on.

When writing upon budding Roses a few weeks back I advised that the stocks should not be cut or mutilated in any way just previous to or after the operation of budding. But after the bud is set, no harm will be done by removing some of the wood for stocks. The shady side of a wall or hedge is an excellent site for propagating Rose stocks. If you can afford them a sandy compost, so much the better. Insert the cuttings fully three-fourths of their length. The following is a good method of operation: Turn over a portion of the ground deeply with a spade or spud, and having got say a breadth of a foot or so from the edge of your plot, set a short line across it about 3 inches from the edge of the newly-dug soil. Now cut this down with a spade, pulling the loose soil forward into the slight trench. This will leave you a firm bank against which to stand the cuttings. It is a great advantage to have a little prepared soil, such as worn-out potting material, and to place a small quantity of this in the bottom of the trench, so that the base of the cutting may be certain to rest upon a suitable compost. Slightly press the cuttings into this, placing them from 2½ inches to 3 inches apart. When the row is full, turn over some more soil and tread the cuttings up firmly. When about 18 inches of more soil has been turned over set your line again, allowing a distance of 15 inches from where it was before. This will give a suitable distance from row to row, and at the same time allow of a little soil being cut down in the preparation of the second trench similar to the first, and so on until you have inserted enough cuttings.

Cuttings rooted thus early are very serviceable to pot up for grafting upon during the following winter. They root freely, and may be lifted by the end of November, when they will be ready for grafting by the time the sun has turned—a much better period for the amateur to graft Roses than during November and December. A twelvemonth's saving of time is also another advantage of early striking, although where one roots a few Rose stocks annually it is better to leave them in the bed all through the following summer. However, where no stocks were prepared last year, those rooted now may be lifted and transplanted early in the spring, but in the case of such an exceptionally dry time as we experienced last March it will be necessary to give them one or two thorough waterings at the time of planting.

PLANTING THE STOCKS.

This is of great importance, because if done too deeply it is impossible to insert the Rose bud near enough to the base of your stock, and in this case a much larger percentage of suckers would naturally result. We must also bear in

mind whether our Roses are to remain where the stocks are planted or not. The preparation of the soil, the distance apart, and the variety to be cultivated must be considered if the Roses are to remain in the same spot after their maiden stage. This is very evident when we consider the immense difference between the size and strength of many varieties. But if they are all to be transplanted, the stocks may be placed about 9 inches apart in the rows, and the rows be 3 feet from one to the other. When transplanting is contemplated, it is only necessary to plant the stocks in ordinary garden soil, as a coarse, or what some style a rich growth is not wanted. On the other hand, should it be proposed to keep the plants where they are budded, we must provide a much better subsoil than exists in the majority of cases, as this can never be improved upon when once the stocks or Roses are permanently planted. We do not want the stocks to grow strong, only just sufficiently so to ensure healthy growth. But the Rose itself may grow as much as possible provided coarse wood is avoided, and this is best secured by transplanting after the maiden stage.

R.

Rose Duchesse d'Auerstadt.—Fresh experience with this Rose growing in cold heavy ground shows that it loves a warm soil best and can hardly be relied upon in cold districts, at any rate away from a wall. The great heat of the past ten days, however, has opened out some of the finest flowers I ever saw of the kind, full of substance, of a rich deep yellow hue surpassing *Maréchal Niel*, and deliciously scented. In vigour it is all that can be desired, but, of course, one wants flowers in succession, and to have them the plants must be on a wall or in a hot place.—A. H.

A fine Rose bush.—A few evenings since I was passing through a rather new portion of a very old town, and suddenly came upon a huge Rose tree from 5 feet to 10 feet high. It had a clear stem of the common Brier or Dog Rose from 3 feet to 4 feet high, as thick as the arm of a strong man, and several of its subdivisions were as thick as walking-sticks. But nothing of this was observed at first, for the long framework of boughs, branchlets and leaves was crowned with Roses of abnormal size and unusual brilliancy. Each fully-expanded bloom seemed like a flat vase crowded to overflowing with petals of the richest shades of salmon, fawn, orange, purple; while buds in singles, twos, and even clusters almost covered the ample foliage, such a beautiful feature in many Tea Roses, with their rich harvest of flowers in succession up to Christmas or afterwards. At first sight I felt sure I had found a novelty of rare excellence, but a closer inspection only raised my admiration of my old favourite, *Gloire de Dijon*.—D. T. F.

Rose Marie d'Orleans.—One of the many lovely Tea Roses now full of bloom is this. It is a most distinct and striking kind, and quite one of the best of those that incline towards shades of red. It has much the same tint as *Mme. Lambard*, but in other respects differs greatly. It is very vigorous and hardy, making a large stout bush. It flowers profusely. The blooms, whether singly or in the cluster, are borne on long stalks, and are of a soft rosy pink colour, large and full in the bud. When expanded the flower has a delightful starry look owing to the petals reflexing, the tips being quite pointed. *M. Nabonnand's* Roses are mostly unpopular, but this is quite one of his best. It was sent out about 1884.

The finest red Tea Rose.—Liable to correction, I shall select *W. F. Bennett*. On first seeing it, I longed to christen it the red *Niphetos*. It would probably have sold faster and been more grown under the latter name. As it is, this finest of red Teas is but seldom seen compared with other Teas. Even the colour has something to do with the scarcity. Had it been yet another cream,

golden, white, or even light pink Tea, it might have become more suddenly popular. But red Teas have not yet become fashionable; when they do, no doubt they will be largely grown. *W. Bennett* will match well with such chaste forms and colours as are found in *Lady Mary Fitzwilliam*, *Princess of Wales* and the two Countesses *Falmouth* and *Folkestone*, the last, however, having a dash of cream and salmon in it, and fully filled with the most exquisite fragrance.—D. T. F.

CLIMBING TEA AND NOISETTE ROSES.

The climbing varieties are now much grown for early forcing. It has become quite a new feature within the last few years, and some of the leading growers devote large houses exclusively to the culture of the climbing varieties. They are treated much in the same manner as young Vines are grown. *Maréchal Niel* takes the lead, and it is perhaps owing to this variety requiring exceptional treatment. When started early in the season and grown trained to the roof of a house, *Maréchal Niel* makes very long growths, which, if not checked or stopped, do not make lateral shoots. The wood gets well ripened, and when started in the forcing house if trained horizontally, nearly every eye will produce a flower-bud. Among the more recent additions to this class is the climbing variety of *Perle des Jardins*, which seems likely to become a general favourite. *Mr. G. Paul*, of Cheshunt, first brought this variety under my notice. It has a remarkably vigorous habit, and the flowers are even finer than those of the ordinary bush form. I have seen it growing in several nurseries, and in each case it seems to fully maintain the climbing habit, though I believe that stunted or cut-back plants revert to the normal bush habit. This is also the case with *Climbing Niphetos*, which, under fair conditions, is certainly as much a climber as any Rose grown, but once get it stunted, it will not start and make the long vigorous growths again. I refer more particularly to this variety, as I have often heard it questioned whether it was really distinct in habit from the old variety, and my experience fully confirms the claim it has to being a climber. *Reine Marie Henriette* is another which deserves note. It is only when treated as above that it will flower well, and I may here mention that I have seen shoots which have flowered from nearly every joint, and after these have been cut, taking them off nearly back to the old wood, a second crop of bloom has been produced, though, of course, the flowers have not been quite so large or good in colour as the first blooms. *W. A. Richardson* is grown extensively. Though the flowers are small, the peculiarly rich amber shade secures for it many admirers. Among other sorts, *Rêve d'Or*, *l'Idéal*, *Mme. Berard* and the old favourite *Gloire de Dijon* must be included.

A. HEMSLEY.

Perennial Sunflowers in the Chiswick Gardens.—The collection of *Helianthus* at Chiswick is in full bloom, and those interested in the plants will find that they are classified, *Mr. Dewar*, of Glasgow Botanic Gardens, having given careful attention to this point. His notes published in the journal of the society are of value, and will be found in vol. xv., p. 26. This class of perennials comprises the gayest flowers of the garden, and the taller kinds, such as *H. occidentalis*, *H. orgyalis*, and *H. giganteus*, are delightful to plant amongst shrubs, over which they throw their flower-laden stems. They might be more used thus in gardens, and colour would be got in positions where it is often sadly needed. But guard against getting too much yellow, which frequently happens at this season, as all the *Helianthus* bear flowers of strong yellow colour. At Chiswick the showiest and most useful plants are *H. multiflorus* and its forms. *H. m. Soleil d'Or* is a very fine kind, the plant very vigorous in habit, and bearing a mass of rich yellow flowers, deeper in colour through association with dark green leafage. Worthy of

note also is *H. m. Peter Barr*, a tall, strong growing variety with a large yellow flower. This would make an excellent variety to form a large mass of in the garden, although we think the best for this purpose is the great perennial Sunflower (*H. m. maximus*), which attains considerable height, fully 6 feet or 7 feet. The flowers are very large, rich golden yellow and single. If only one kind is grown, this should be selected for its tall, robust growth and bold strikingly handsome flowers.

STOVE AND GREENHOUSE.

NERINES.

This family of bulbous plants is closely allied to the *Amaryllis*. They are Cape, or at least South African plants, but, like many other beautiful bulbs from the same region, they are not nearly enough grown. Now and again one meets with them in a thriving condition, and when they are well managed there is hardly anything to surpass them in their way. The brilliant colours and sparkling appearance of such as *N. Fothergilli* and *N. sarniensis* will at once commend them to the notice of all true plant lovers. Where, however, the chief cause of non-success in their culture has arisen is in the fact of their requirements not being properly understood. It is fairly easy to get them to grow well, but to flower them equally as well is oftentimes another matter. Before going further, let us for a moment consider the conditions as nearly as we can under which they naturally thrive best. Being bulbous plants of a deciduous character, they naturally have a resting period; this occurs during the hottest weather, when the ground is parched up, oftentimes almost to a cinder. Hence the bulbs become thoroughly matured, and are thereby well fitted for future flowering. When the cool and rainy season comes on, then the plants are excited into growth, first throwing up their flowering spikes and afterwards their foliage. This should be the mode of procedure adopted in this country by those who grow them, or at any rate as nearly as possible. Methinks, however, that this is not the case to that extent which is necessary to ensure freedom in flowering. The plan that is in some instances adopted is this: to look after them fairly well during growth, when probably they will get a favourable position, but as soon as the foliage dies down any place is considered good enough for them—under a stage, perhaps, or in some other out-of-the-way place. This is totally wrong, for as the growth dies down they should be well exposed to the light and air, with warmth also, for instance, such as would be afforded by a vinery shelf, where they could remain undisturbed with the sun shining upon them for at least a part of the day, no water being given them until the growing season again comes round.

I am inclined to think that it is the unnatural treatment that they receive which causes them to be less popular than they are. Instead of being kept cool whilst resting, that is actually the time when they should be the warmer of the two; being almost roasted, in fact, will not hurt them. Some years ago I used to grow *N. sarniensis*, and flower it every year without any trouble. The plan adopted was to leave the plants all the year in the vineries. The flower-spikes used to appear towards the end of August, being followed soon afterwards by the leaves. The vineries in question not containing specially late Grapes were not kept warm from that time until again closed

for starting; by that time the foliage would be dying off, the plants going to rest when the houses were the warmest, as they stood immediately over the hot-water pipes and upon a slate shelf. I give this explanation so that others who have not succeeded in flowering this variety may adopt the same methods as nearly as they can. It is an easier matter as a rule to flower *N. Fothergilli*, but the same treatment if accorded to it will give very satisfactory results. Another, and also a common mistake in some instances, is that of disturbing them too frequently at the roots. This they do not in any sense require, for, as in either of the species already quoted, they flower more freely when left for years in the same pots. I have seen the best results with *N. Fothergilli* when the bulbs have been almost on top of each other, so much crowded, in fact, that hardly any of the soil could be seen. When left thus in pots of about 9 inches or 10 inches in diameter, and a dozen or more spikes at the time, they are a grand sight. Too frequent potting and disturbing of the bulbs only result in an increased leaf growth and more offsets, which is not what is most desired when a good and sufficient stock has been obtained. The *Guernsey Lily* (*N. sarniensis*) is annually imported from the Channel Islands in September (early); this is the best time to obtain a stock of this variety. The flower-spikes are usually showing when received, or very soon after. *N. Fothergilli* is easily increased by offsets when further increase is needed, but only a part of the stock should if possible be operated on at one time for reasons already given. The soil best suited to their requirements is good loam with nothing added to it other than sand or road scrapings. Anything in the way of manure should be avoided. Insects are rarely any trouble. I have in one or two cases seen *N. rines* attacked with what was apparently the *Eucharis* mite, or something of the same kind. In such a case a few applications of soot water would be a good remedy.

The best kinds to grow are:—

N. FOTHERGILLI, brilliant vermilion-scarlet; *N. Fothergilli* major is an improved form with more vigour. This species is also grown under the name of *N. curvifolia*.

N. SARNIENSIS in colour is more of a salmon tint; this does not, however, quite describe it correctly, as it is darker. This species is not of so strong a growth as the preceding.

N. CORUSCANS is considered to be only a form of the preceding; in colour it is much brighter, being more of an orange-scarlet.

N. FLEXUOSA is a very bright coloured species and somewhat scarcer than some kinds; in colour its flowers are intensely bright.

N. CRISPA is not such a showy variety. When grown in large masses it is very effective; in colour it is a dark rose.

N. MANSELLI.—This ought to find many admirers, not only for its late flowering character, but for its large umbel of brightly coloured flowers. The flowers are more of a rich carmine than those of *N. Fothergilli*. The scape is sturdy, of considerable length, the leaves long and strap-shaped. It was raised by Mr. J. L. Mansell, Somerset Terrace, Guernsey, and received a first-class certificate from the R.H.S. on December 13, 1887.

GROWER.

Agapanthus Mooreanus.—I note your remarks on this (p. 131). It may be hoped that a little more variety in the family may secure rather better culture for the old favourite *A. umbellatus*. One so often meets with it in pots, baskets, beds and borders in a half-starved condition. The most effective masses I have ever seen of the old *Agapanthus* were grown in 18-inch pots—huge masses of leaves and flowers of abnormal length

and size. The soil was rich loam with a fourth part of well-rotted cow manure. These plants were grown on a long, broad terrace wall alternated with the old scarlet *Tom Thumb* *Pelargonium* grown and treated in a similar manner, and the effect was rich and pleasing, the delicate graceful seapes of the *Agapanthus* toning down the scarlet of the *Pelargoniums*. How is it that the white and the variegated-leaved *Agapanthus* are so rarely seen? The latter, well managed, is a charming variegated plant out of doors or under glass.—D. T. F.

Crinum Moorei as a window plant.—This, though by no means the grandest, is assuredly one of the most delicate and graceful of all the *Crinums*. *Crinum amabile* well done furnishes a feast of beauty and fragrance not likely to be forgotten. But then it needs a semi-tropical temperature to develop its huge spathes of bloom; whereas, as you point out (p. 115), *Crinum Moorei* is as hardy as *Agapanthus umbellatus*—that is, it will endure the winter under a few inches of coal ashes or a foot or more of Bracken at the foot of a south or west wall, or it may be wintered safely with the *Onion* plant in a cottage window, or in garrets or cellars free from frost. A little more protection and warmth are by no means lost on this fine *Crinum*, as becomes obvious to those who have seen such masses as you have described. The very day after reading your account of the groups of this plant now in bloom at Kew I ran against it in window gardens in several directions, and I know from experience that there are few plants more easily managed or more beautiful in window gardens. This *Crinum* not only bears much rough treatment with impunity, but with positive advantage so far as blossoming freely is concerned. Hence it may even be potted up from the open bed or border after the spathes show without injury to the beauty and size of the flowers. Strong plants need rather tall windows to do them justice, as the fine leaves require space to develop to the full the gracefulness of their curves. The flower-stems, too, are tall and the individual blooms long. Plants grown partially in the open air have a sturdier habit and shorter spathes.—D. T. F.

GLOXINIAS FROM SEED.

NAMED varieties have almost become a thing of the past, and it is hardly worth while to propagate and preserve stock from year to year when such splendid varieties can be raised from seed. Seedlings are generally more vigorous and give far less trouble to the cultivator. They will flower within six months from the time the seed is sown, and will produce from six to ten or perhaps more blooms on each plant. The second year they will flower more profusely, that is if the corms are properly preserved during the winter. Any extra fine or distinct varieties appearing among the seedlings may be propagated from the leaves. If well matured leaves are taken off, a cut made through all the main ribs of the leaf, and laid on moist cocoanut fibre refuse with a little sand on the surface of the leaf where the cuts have been made, they will form a corm at each cut. If the leaves show signs of premature decay the affected part should be cut away; but if successfully treated the leaves will gradually ripen off and dry up; the corms may then be taken out of the fibre and placed in sand with just sufficient moisture to keep them from shrivelling. If only just covered with sand they may remain until they begin to start into growth, which will be early in the year. If required to flower early in the spring they may be started in the stove, but for later flowering an intermediate temperature will suit them better.

In the culture of *Gloxinias* a great mistake is often made in giving them too much shade and a high temperature; the two combined induce weakly growth and thin, flimsy flowers. *Gloxinia* seed should be sown early in February, and care should be taken that the compost used is quite free from worms or other insects. If the pots are filled and the surface left rather loose, no extra

covering will be required when the seed is sown. The seed pots should be placed in a light position, but not exposed to the full rays of the sun. I always recommend pricking off the seedlings as early as possible. The plants should be potted off singly as soon as large enough. If potted in a good loamy compost, which may be mixed with some leaf-mould and well-rotted manure, they will make much better growth than when potted in peat and leaf-mould, which is sometimes recommended. Gloxinias are by no means such delicate subjects as are often supposed. Potted in a good rich compost with careful attention to watering, and grown in an intermediate temperature with just sufficient shading to prevent the sun from burning them during the hottest part of the day, vigorous growth and flowers of good substance will be ensured.

By raising a batch of seedlings every year and selecting the best to grow on, a grand display may be kept up from May until September, and during the summer they will last well in the cool conservatory. To preserve the corms during the winter the tops should be cleared off as soon as they are well ripened in the autumn and the pots be laid on their sides under a stage in the stove, but not so near to the hot-water pipes as to dry up the corms. A very small species of thrips is sometimes troublesome. It is hardly visible to the naked eye, but its presence may soon be known by the brownish appearance of the midrib of the leaves. If only a plant or so should be affected, it is best to throw it away, and then use less heat and more moisture to prevent any further attacks of this insidious enemy.—F. H.

These do not require the amount of heat that is by many considered necessary for their well-doing, that is if their blossoms are not needed till late in the season. I recently saw a good batch of pretty flowering plants, the result of last year's seedlings, which formed plump, well-ripened tubers. They were wintered in boxes of dry sand under exactly similar conditions to the tuberous Begonias, that is in a cool greenhouse from which frost was just excluded. When potted they continued to be treated in the same way, and were removed to an ordinary garden frame without any heat whatever. They were shifted into pots 5 in. and 6 in. in diameter, and are now flowering well. Of course, during a cold, damp season such favourable results could scarcely be anticipated, but even then I have seen some very nice examples grown in this way. The plants alluded to were without any heat whatever, but a slight hotbed will, of course, hasten growth considerably earlier in the year. Where the flowers are required for cutting only, or the plants needed for the production of tubers, the best results are obtained by planting them out on a gentle hotbed in a frame. So treated young seedlings will make good roots and flower well. As Gloxinias have increased a good deal in popularity within the last few years for cutting from, this system of planting them out will often save a good deal of trouble. Treated in this way the soil does not dry so quickly as when in pots, and consequently the water-pot should be used very sparingly when the season is nearly at an end.—H. P.

Cyrtanthus angustifolius.—This pretty little red-flowered species of *Cyrtanthus* will bloom out of doors under similar conditions to *C. Mackenii* and *C. lutescens*, noted in THE GARDEN (p. 132). It is, however it may be situated, not so continuous blooming as they are, as it usually flowers but once in the year, while the other two keep up a succession for some time. Some pots of it here that in previous years had flowered under glass were plunged in the open ground about the end of May, and very soon afterwards they flowered beautifully. One result of this treatment was that the blooms were of a much brighter colour than when they expanded under glass. Another species that succeeded well with the same treatment was *C. Macowani*, the showiest of all the smaller species of *Cyrtanthus*, as the flowers are so brightly coloured. All of these small-growing kinds of *Cyrtanthus* can be recommended as very

satisfactory subjects if placed under anything like favourable conditions. All they need is to have the pots well drained, and the soil, principally consisting of good loam, lightened by an admixture of leaf-mould and silver sand. Such compost will remain fresh for years, which is a great advantage, as all the species are very impatient of being disturbed at the roots. Treatment such as is given to *Pelargoniums* will suit them well—that is a greenhouse temperature and careful watering during the winter months; but at no time, not even during the winter, must they be allowed to become too dry. They flower best when thoroughly established and the bulbs are tightly packed together in the pots.—H. P.

Roechea falcata.—This bright-flowered succulent is blooming this year with great freedom, probably to a certain extent owing to the weather we have experienced. It is a plant of easy culture, needing simple greenhouse treatment, with exposure to full sunshine except when in flower. The large closely-packed heads of scarlet-crimson coloured blossoms, which, though individually small, are very numerous, make a goodly show at this season of the year. It is quite an old-fashioned plant, and though generally known under the above name, it is by the latest authorities included in the genus *Crassula*, which has also swallowed up the once popular *Kalosanthes coccinea*, from which, however, in general appearance the *Roechea* differs widely. The principal care in its cultivation is to guard against an excess of moisture, especially during the winter months.—T.

NOTES ON FUCHSIAS.

THE Fuchsia has become within recent years one of the most popular plants for bedding and the greenhouse. It is well represented in all the principal parks, and a collection is at present in bloom in the Royal Horticultural Society's gardens at Chiswick. A separate house is devoted to them, and amongst the several kinds are many that we should like to see more grown in gardens. The majority are medium-sized plants, but a few are sturdy specimens that show the beauty of the Fuchsia when it gets a good age.

We looked carefully through this collection a few days ago and made note of several kinds that deserve mention. It is a pity that the rage for double flowers has resulted in some quite monstrous forms that are more curious than beautiful. One variety is named *Phenomenal*, the flowers of a huge size, perfectly double, but exceedingly coarse, the colour purple, and the segments crimson. Such types should be rejected as not in the least beautiful nor desirable to get. Charming is well named. It is a very free kind both in growth and bloom, dwarf, and the flowers, of dark colour, if not very large, are bright and attractive. A dark variety of great merit is *President*, which has large flowers, deep violet, the tube vermilion. It is well represented in the Chiswick collection. We admire that well-known and pretty variety named *Guiding Star*, quite a gem, the corolla violet-purple, and the sepals white. It is free, graceful, and in every way worthy of culture. *Mons. Thibaut* is conspicuous for its fine dark leaves and purple-violet flowers, a rich contrast of colour, whilst *Minerva* has crimson sepals and purplish corolla. *Aurora superba* is one of the most distinct Fuchsias ever raised. It is very free, of excellent habit, and the flowers are distinct in colour, the sepals salmon, whilst the corolla is light orange-scarlet—a pleasing shade. Spitting we made note of as a very handsome variety. The sepals are of a bright red tone, whilst the corolla is rich magenta-purple. *Desideratum* belongs to the double-flowered section. It is a variety well worth growing, the flowers very double, but not so coarse as in some kinds, the whole purple-violet and the segments crimson. There is in this collection a fine plant of *James Welch*, a vigorous grower, with flowers of rich colour, the petals reddish rose and the corolla maroon. Surprise is a distinct and pleasing kind. The sepals are white, set off with a rich purple corolla.

It is a pity that the Fuchsia is not more grown for greenhouses. We see it in the flower garden, but not so much as one might in pots. The plant is remarkably graceful and very free-flowering when a good selection is made. In addition to those already noted, also worthy of remark are *President Thiers*, purple corolla and crimson sepals, the old *Rose of Castile*, still one of the best in cultivation, and *De Mirbek*, which has crimson sepals and purple corolla. It is a very useful kind.

Cyrtanthus sanguineus we recently noticed in bloom in the Cape house at Kew. It is a beautiful species, introduced in 1845 from Caffraria by Messrs. Backhouse and Sons, of York. A coloured plate of it is given in THE GARDEN, April 12, 1890. It is a pity that we do not see more of these fine kinds in gardens, as even now *C. sanguineus* is practically unknown. One might go into many gardens without seeing a specimen. The leaves are about 1 foot long, and the scape, which is 9 inches in height, bears about three flowers, which are rich scarlet in colour, large, and not unlike in general expression those of *Vallota purpurea*. As it may be grown under similar conditions to this plant, only requiring a little more heat, there is no reason why it should be scarce.

Babingtonia Camphorosma.—This little New Holland shrub, which has recently been shown in good condition by Messrs. Laing, is both pretty and interesting, while it also attracts attention from the fact that the flowering season of most hard-wooded plants is past before this. It is a somewhat Heath-like shrub with small linear leaves, while the flowers, which are closely packed on long slender shoots, remind one to a great extent of some of the *Leptospermums*. They are pink in the bud state, but become paler—in fact, almost white—after expansion. In its native country it is said to reach a height of 7 feet, but the plants shown were about 18 inches high and flowering profusely. It belongs to the order Myrtaceae, which is so largely represented among Australian flowering shrubs. The *Babingtonia* in question was introduced into this country in 1841, but it is now-a-days a very uncommon plant.—H. P.

SHORT NOTES.—STOVE AND GREENHOUSE!

Cobæa scandens.—C. Findlay asks if the fruits of this plant are eatable. The plant belongs to the Phloxworts. There is nothing hurtful in the fruits, but whether they are tasteful enough to be eaten is a matter of opinion.—W. H. G.

Tacsonia fruits (C. Findlay).—These are splendid ornamental climbing plants, which are too much neglected. *T. van Volkemi*, *T. speciosa* and *T. exoniensis* are very fine kinds. The fruits are about as palatable as those of the *Passiflora* or *Guanadilla*.—W. H. G.

Vallisneria spiralis (J. Elms).—This is the name of the grass-like green leaves you enclose, and the long spiral growth is the stem of the female flower which floats upon the top of the water. It requires to be planted in stiff yellow loam and to have a quantity of large pieces of stone put on the top; this assists in binding the soil and making it firm and hard, which suits the plant well.—W. H. G.

The Elephant Apple Tree (J. Ridley).—This plant is called *Eleronia elephantum*, and there are no trees in this country simply from the fact of their not being sufficiently hardy to withstand the climate. It belongs to the same family as the Orange. The fruit contains a soft pulpy flesh, surrounded by a hard rind; it is beneficial in cases of dysentery. It is a native of Burmah and other parts of India.—W. H. G.

Wax-flower (Hoya carnosa).—This plant, if trained round a balloon-shaped or any other kind of trellis, can be well grown in a pot. A mixture of turfy loam and peat, with a dash of leaf-mould and enough sharp sand and bit of charcoal to ensure porosity, will grow it to perfection. The pot must have free drainage. Very little water will be required in winter.

TREES AND SHRUBS.

DEUTZIAS.

ALL the Deutzias are deciduous moderately-sized shrubs, and remarkable for their showy flowers, which, under favourable conditions, they produce in great abundance. From the facility with which Deutzias may be forced into bloom, they are extensively used, and form an important feature in the winter and early spring decoration of greenhouses and conservatories.

D. SCABRA (the Rough-leaved Deutzia).—This species is indigenous to mountainous districts in Japan, and was first introduced in 1832. In that country it is a favourite ornamental shrub, and is frequently seen not only in gardens but as a hedge plant. In our shrubberies it forms a strong-growing broad bush of about 6 feet in height. The

son, the supply being gradually diminished as the shoots begin to ripen and the leaves show signs of decay. On the approach of winter the plants are stored under glass, to protect them from frost, and transferred into the forcing house from time to time, thus securing a succession of bloom, if desired, from January till May. As they are easily excited into growth, a gentle heat is all that is either necessary or desirable, unless, indeed, they are required very early, in which case it is best to put them into a warm temperature as soon as possible after the leaves fall. While growing freely, and immediately before the blooms expand, a dose of weak liquid manure will be found very beneficial in assisting the free development of both foliage and flowers. For pot culture a compost of three parts fresh light loam and one part well-rotted leaf-mould, with a liberal allowance of sharp sand, is found to suit admirably. A well-managed specimen of this lovely plant, with its fresh, warm, green leaves and graceful blossoms, has a charming

fibrous roots stands them in good stead when potted up for forcing.

Mons. V. Lemoine, who sent us the photograph from which the annexed engraving was made, thus writes concerning *Deutzia parviflora* here figured :—

Anyone who visited the quinquennial exhibition at Ghent last April might have seen some flowering branches of *Deutzia parviflora* side by side with an exhibit of cut flowers of double Lilac. These *Deutzia* flowers were produced by a plant which, after passing the winter in the open ground, had been taken up and potted and then forced in a temperate house. This forcing proved a complete success, all the buds shown by the plant having grown well and produced flowers of the usual size—a result which leads us to expect that, when flower fanciers and growers for market treat *Deutzia parviflora* in the same way as they do *D. gracilis*, they will be rewarded with results equally satisfactory. The hardiness of *Deutzia parviflora* is beyond question. We had some young plants of it put out in the open ground last year, and these did not suffer in the least from the very severe winter which followed, while *Deutzia crenata*, *D. crenata flore-pleno*, &c., were badly hit, their stems being frost-bitten to the extent of one half.

The two photographs which we herewith send you represent a plant grown in the open air and were taken from two points of view. This plant passed the last two winters in the open air, and a glance at the profusion of flowers which it now bears will enable anyone to form a good estimate of its hardiness. *Deutzia parviflora* grows in clumps or tufts seldom more than 5 feet high, the rather thick, rigid stems standing bolt upright and bearing lanceolate-elliptical dark green leaves, which are toothed at the margin and strongly veined and wrinkled on both sides. The flowers are disposed along the stems in erect corymbose panicles, presenting an aspect quite characteristic of the plant. The petals are five in number, round, narrowed towards the claw, as in the Rosaceae. The well-opened-out blooms standing stiffly on their stalks and having a horizontal direction remind one of the effect of Hawthorn flowers. They are of a creamy white colour without any tinge of pink or purple on the exterior of the petals. It is the earliest to flower of the genus, and in the open ground comes into bloom some days before *D. gracilis* and about a month earlier than any of the other species. It is a native of the northern parts of China and of the region of the Amoor River. It was first of all introduced to the Imperial Botanic Garden at St. Petersburg; thence it was sent to the Arnold Arboretum, Cambridge, Massachusetts, from which it was distributed amongst some American nurserymen. The Museum of Natural History at Paris also possesses specimens of it. It was for the first time put into commerce in Europe by our own firm in the beginning of the year 1891.

The late Alphonse Lavallée grew in his Arboretum Segregranum five species of *Deutzia*, viz. :—

DEUTZIA SCABRA (Thunb., Japan) and its variety with variegated leaves.

D. CRENATA (Siebold and Zucc., Japan) and varieties, flore-puniceo, flore-purpureo pleno, flore-albo pleno=candidissima plena, foliis variegatis, Fortunei, Sieboldi.

D. GRACILIS (Sieb. and Zucc., Japan) and its variety with variegated leaves.

D. DENTATA (Hort.).

D. STAMINEA (R. Br., East Indies).

M. Lavallée did not possess a specimen of *D. parviflora*.



Deutzia parviflora. Engraved for THE GARDEN from a photograph sent by Mons. V. Lemoine, Nancy.

starry snow-white flowers are produced in compound panicles, in May or June, and when in perfection have a splendid effect. It requires a light, well-drained soil, and a sheltered situation—open, however, to the full sunshine, that it may be enabled to ripen its growths thoroughly before the winter sets in.

D. GRACILIS (the Slender Deutzia).—This superb little shrub is also a native of Japan, and was introduced about 1835. It is of a dwarf bushy habit of growth, rarely seen higher than about 3 feet. The pure white flowers are produced in axillary panicles, and in ordinary seasons are in perfection in May. Though quite hardy if planted in a light dry soil and in a sheltered situation, and though naturally the most profuse-flowering of the genus, it is only in exceptionally favourable seasons that its full beauty is developed in the open air in this country. It is, therefore, chiefly as a greenhouse plant or for forcing that it is now so extensively grown; and it is one of the best known and most popular of winter and early spring conservatory flowering shrubs. For this purpose it is usually kept in pots, plunged in a sunny border out of doors during the summer months, and freely watered during the growing sea-

effect in winter, and is not only invaluable for decoration, but supplies very beautiful sprigs for hand-bouquets.

THE DOUBLE FLOWERED DEUTZIA (*D. crenata* fl.-pl.).—This *Deutzia* flowers naturally so much later in the season than *D. gracilis*, that as a matter of course it cannot be induced to bloom even when forced as early as *D. gracilis*. Still, for all that, it is very valuable for greenhouse decoration, as good-sized bushes full of bloom are very pretty, and they retain their beauty a considerable time. There are a couple of distinct forms of this *Deutzia*, one in which the flowers are pure white, and the other with the outside of the blooms tinged with pink. A good white form is candidissima, between which and the variety known as Pride of Rochester there appears to be little, if any, difference. As outdoor shrubs, too, these *Deutzias* are wonderfully pretty, and the fact that they do not bloom till the majority of spring-flowering shrubs are past their best is an additional point in their favour. They are thoroughly hardy and by no means particular in their requirements, though the finest display is, of course, obtained from plants favourably situated. These *Deutzias* strike readily enough from cuttings, and their dense mass of

To the *crenata* group may also be referred *Deutzia Watereri* (single-flowered) and *D. Wellsi* (double-flowered), which have been erroneously represented as having been obtained by intercrossing *D. gracilis* and *D. crenata*; also *Deutzia Pride of Rochester* (double-flowered), raised by Ellwanger and Barry, of Rochester, N.Y., United States of America. In the tenth volume of the "Mémoires de l'Académie des Sciences de St. Petersburg," seventh series, Maximowicz has published a "Revision of the genus *Deutzia*," in which he describes nine species, all of Asiatic origin. Of these, three species belong to the region of the Himalayas, two species to Northern China (of these, a species named *D. grandiflora*, which has not yet been introduced into cultivation, is said to be one of the finest kinds) and four species to Japan.

Bambusa Ragamowski.—Among the dwarf Bamboos this stands out as a fine and distinct species. The leaves are very much larger than those of any other dwarf kind; indeed, so massive is the foliage that an inspection of it alone would suggest that it belonged to one of the largest-growing forms. A notable feature of this Bamboo is the habit of pushing up especially vigorous shoots at some distance from the parent plant. It is, as a rule, on these shoots that the finest leaves are produced. In grouping hardy Bamboos, such a species as this, with large massive leaves, yet dwarf in habit, is especially valuable. *B. Ragamowski* is a native of China and Japan, and besides the above name is also known as *B. tessellata*.—T.

Barberries in flower.—Two of the evergreen Barberries—*B. Darwini* and *B. stenophylla*—that bloom naturally in the spring are in some cases flowering again with great freedom, and very welcome their bright-coloured blossoms are at this season. Some individuals seem a good deal more prolific than others in the production of a second crop of bloom; indeed, so great is the difference between them in this respect as to suggest the possibility, by a course of continuous selection, of obtaining an autumn-flowering group of Barberries. In some seasons blossoms of *Barberis Darwini* may be found till the near approach of winter. The present hot season may have had something to do with the second display of blossoms, that is, in districts where the plants have not suffered from the drought. Among plants influenced by the unusual season must, I think, be included the hardy *Hibiscus* (*H. syriacus*), which, where the soil is moist, is flowering in great profusion, while on dry soils it has scarcely a leaf left.—T.

Wistaria sinensis.—A note appeared at page 93 as to this plant producing a second crop of bloom in the same year. I have a tree of immense size some seventy years old, that blooms profusely the second time if the first bloom is poor, and *vice versa*. If it fails to flower freely in May, I get a heavy bloom in July from the young wood. What a lot of drought the *Wistaria* will stand! I consider it one of the best of creepers for a dry exposed position, especially if allowed to grow naturally. I do not advise training during the growing season, I never touch it with a knife, and in such tropical weather as we are now experiencing the ample foliage forms a delightful shade to the dwelling. The plant I refer to is planted under the wide projecting eaves of the dwelling-house, and is a lovely object at all seasons, as even when devoid of foliage its ample growth presents a pleasing appearance.—W. S. H.

Bambusa pygmaea.—One of the most interesting of the numerous Bamboos introduced of recent years from Japan is this pigmy *Bambusa*. Its stems are only from 3 inches to 6 inches high, and it is therefore the smallest of any in cultivation. It has narrow linear leaves, tapering

to a fine point and of a vivid green on the upper surface. Underneath they have a slightly glaucous tinge and are covered with small hairs. As this little plant may be rapidly increased by dividing the tufts into pieces consisting of two or three stems—especially if taken indoors and given a little bottom-heat—a large patch may soon be obtained. It suggests itself for use in a variety of ways, especially to form a green carpeting in moist situations. It is perfectly hardy at Kew, and retains its leaves throughout the winter. It is accepted as a good species by Munro in his "Monograph of the Bambusaceae," the standard work of reference on this order. The only other Bamboo near this in diminutiveness is a form of the variegated *B. Fortunei*; it is called *compacta*, but has to be grown in small pots. If planted out it gradually reverts to the ordinary form, which is 2 feet high.—B.

FERNS.

VARIEGATION IN FERNS.

THE natural green colour of Ferns, although very beautiful, presents a rather sombre appearance unless associated with a little colour; therefore, the variegated and tinted varieties should be cultivated as much as possible. The variegated varieties are not numerous, and any new additions are welcome. *Pteris Victorie*, introduced a year or two ago, was a distinct acquisition, and from it other varieties have been raised, notably a good crested form, also *P. tremula variegata* and another which has all the characteristics of *Pteris serrulata*, except that it has a distinct linear marking of white. I am at present unable to say if these come true from spores, but hope to be able to say more about them a little later on. The following are among the best variegated kinds:—

PTERIS VICTORIE.—Some months ago I referred to this distinctly variegated Fern, and mentioned that many of the seedlings produced imperfect fronds. I now find that as the plants grow older this deformity is not seen. The plant is altogether of a more robust habit than I imagined when first I saw it, and grown on freely it makes a splendid plant for decoration. I should not recommend potting into larger than 5-inch pots, but where a larger mass is required, several plants may be put together into a large pan. The clear white linear markings through the pinnae are much more distinct than in any other variegated Fern, and I think eventually it will become one of the most popular market Ferns. Spores are produced in great profusion and they germinate as freely as any of the *Pteris serrulata* type. Young plants are a little slow, perhaps, but when they once get a good start they soon make nice plants. This Fern succeeds best where potted in a light loamy compost; plenty of drainage should be used and care should be taken not to over-water the plants, especially when first potted on. An intermediate temperature, with sufficient ventilation to prevent damp settling on the fronds, will ensure the fronds keeping a bright, fresh appearance. I should mention that seedlings vary somewhat in character, and where a large number of seedlings is raised, the most distinct should be selected for growing on.

PTERIS TRICOLOR.—This is the most beautiful of all the variegated Ferns, yet we rarely meet with it in a condition to recommend it. It is undoubtedly more difficult to manage than most of the *Pterises*, yet with a little care plants may be grown on to a good size and kept in character. Change of temperature and damp on the fronds are great drawbacks. A little moisture on the fronds will do no harm unless the temperature falls low or the sun strikes them before they are dry; either will cause the fronds to become discoloured. The fronds not being produced so freely

as in most of the *Pterises*, it is of the greatest importance to preserve every one until natural decay takes place. The best way to treat this beautiful Fern is to pot it in a good porous compost, consisting of rough fibrous loam, leaf mould and peat, with a good sprinkling of sharp sand. Plenty of drainage should be used and care taken not to over-pot. In repotting, only one size larger pot should be used. Repotting from time to time is beneficial, but in case of plants not being healthy, it will be better to reduce the balls and pot back into the same size again, taking care to keep the crowns of the plants well down. I find this Fern succeeds best when kept well up to the light in a moderate stove temperature. A regular temperature is more desirable than excessive heat.

PTERIS CRETICA ALBO LINEATA.—This old favourite has come to the front again lately. It has been grown extensively for market this season and has been much appreciated. When grown on freely the basal fronds entirely cover the pots, and by the time the first fertile fronds (which are thrown up well above the barren ones) are well developed, fine plants are formed. The first plants I remember of this useful Fern were grown from spores, and as at that time it was considered a very choice variety, great care was bestowed on the plants. They were grown in a cool lean-to house with a northern aspect, potted on as they required it until they were in 7-inch pots, the barren fronds entirely covering the surface, and when the fertile fronds, which grew from 18 inches to 2 feet high, were well developed they made very handsome plants. It is one of the best Ferns for house decoration. The fronds, being of good substance, will stand a dry atmosphere even better than those of the ordinary green form of *cretica*, which is now such a general favourite. It must be remembered that for Ferns to stand well they must be well exposed to the light while they are making their growth and not kept too close. Plenty of room, light, and air will ensure good growth and symmetrical plants.

PTERIS ARGYREA.—This well-known favourite, though a little tender, is a grand Fern for decoration. It requires a little more warmth than some during the winter, but during the summer the cooler it can be kept the better. Some of the best plants I have seen of this useful *Pteris* have been grown in cold pits, and have made shorter and more stocky growths than those grown in heat. Although it will do well until late in the autumn without warmth, it must not be exposed to very much cold or the fronds will be discoloured. As a decorative plant the above-named *Pteris* may be grown together with other sorts. *P. straminea* is one of the best to associate with it. If one of each is potted in the same pot they grow up together, and the two distinct shades of colour form a nice contrast. *P. serrulata*, *P. tremula*, and *P. cretica* may also be grown in association with *argyrea*, but *P. straminea* is certainly the prettiest combination I have seen, the one filling up just the naked part which the spreading habit of the other leaves bare.

PTERIS NEMORALIS VARIEGATA.—This is a very distinct Fern. The linear variegation is somewhat after that of *P. argyrea*, but the young fronds have a distinct rosy tint, which is quite absent in the better-known *P. argyrea*; the plant is also of a more compact habit, and the marginal or green portion of the fronds has a glaucous shade. Like *P. tricolor*, it requires some care to establish good plants. It may be treated as recommended for the last-named, but will make a good specimen more quickly.

ADIANTUM CUNEATUM VARIEGATUM.—While writing of variegated Ferns I may say a word about *Adiantum cuneatum variegatum*, which is certainly a novelty. Although Ferns with the striped or irregular variegation are generally inconstant, yet, judging from plants I have received, this is an exception. Three plants which had the appearance of being seedlings were all regularly marked with white through all the pinnales. It is doubtful, however, if it will ever rank very high

as a plant for decoration. The variegated form of *Adiantum macrophyllum* is another attractive Fern which seems likely to retain its character. Those who have seen *macrophyllum* in its best condition can imagine the striped variegation through the broad tinted pinnales as forming an additional charm.

LASTRIA ARISTATA VARIEGATA.—This should be included among the best variegated Ferns. Seedlings are a little slow at first. The bright fresh green with a distinct linear marking of yellowish white through the fronds makes them very effective. It is also one of the best to stand, the fronds being of a peculiarly hard texture. This is a cool house Fern, but while plants are making growth they will develop larger fronds if grown in a warm and rather moist atmosphere. I find it succeeds best in a good loamy compost, and will stand more hardship than most Ferns.

Among hardy Ferns the only distinct variegated form which I am acquainted with is

ATHYRIUM GORRINGIANUM PICTUM.—In this the variegation is almost as distinct as in *Pteris tricolor*. Grown under glass it makes a very pretty plant, and should be found in all collections of hardy Ferns. It may also be recommended for decoration during the early part of the summer, for when the new fronds are first developed their colour is very bright. Being deciduous it is only during the summer that its beauty is seen, and when grown in pots it must be kept quite free from heat and not too dry during the winter.

A. HEMSLEY.

KITCHEN GARDEN.

SPINACH FOR WINTER AND SPRING.

GARDENERS, where Spinach is in demand throughout the winter and spring months, know the value of a good breadth of it. In very many instances the crop of winter Spinach is not very satisfactory. The grub of the Spinach moth is for the most part answerable for these failures, which are more prevalent in some seasons than others. The best preventive is to have the ground fallow at least a month before sowing, during this time well forking it over, thus exposing it to birds and the pulverising influence of the atmosphere. With soil nicely firmed down the seeds germinate much more kindly. With winter Spinach there is generally a difference of opinion as to the date of sowing for the main winter crop. The danger is, that if sown too early and the autumn should turn out warm and dry, it may run to seed, and if sown too late there is not sufficient time for it to become large enough to be of use for gathering during the winter. A week or two often makes all the difference one way or the other. For late districts the first week in August is none too early, but for earlier and warmer parts the end of the second week or throughout the third week is the most suitable. It is a good plan to make two sowings, the first during the early part of the month and the other at the time stated. In this case the earlier sowing may be gathered from in the autumn, the other not being gathered from upon any account until the winter season. The chances are if the winter crop should be gathered from in the autumn the growth will be checked. This may appear a simple matter, but it is best to be prepared if Spinach is expected to be forthcoming at all seasons, or at any rate when the weather will allow of its being gathered. Another sowing should be made at the latter part of September. This commences to turn in just as the winter crop is going over. It is well known how quickly the winter crop runs to

flower upon the return to sunny and more genial weather. With the sowing under notice, the seedlings grow but very little before hard weather sets in, but at the turn of the day they commence to start nicely into growth and bear long before any sown in the new year. The commencement of the present year was a notable exception, as on account of the weather being abnormally mild, the early sowings grew freely. For the main breadth of winter Spinach there is nothing like having the plot in an open position, as here the plants are not likely to be attacked by grubs. Spinach follows well after Potatoes or even Peas, and as these latter, with the second early Potatoes, have been cleared off earlier than usual this year, there should be suitable space at command. The soil having been well forked over, should, previous to having the surface broken down, receive a fair dressing of soot and also burnt refuse. This, besides stimulating growth, also has a deterrent effect upon grubs.

For providing the supply for the winter season the Prickly-seeded is the variety generally grown, but *Victoria* is now having many advocates, it being considered much superior on account of the larger leaves and not running to flower-stem so quickly in the spring. But whatever merits this latter may have, the older Prickly-seeded will continue to be largely grown, as on suitable soils the leaves of this even will grow surprisingly large. The drills should be drawn quite 18 inches apart, as crowded rows are not very desirable, the seeds also being sown thinly, as if at all crowded the young plants become unduly disturbed in the thinning. Thinning should be gradual, or an attack of grub may lessen the number of plants considerably. Although winter Spinach likes a moderately firm soil, yet surface hoeing is very essential, this promoting a healthy and free growth, and, besides, if grubs should be present this will disturb them; in fact, hoeing should be practised as long as possible. In gathering, a leaf or so should be taken off each plant, as then the plants are more likely to keep on giving a supply, weather permitting.

A. YOUNG.

HARDY CABBAGE LETTUCE.

AT this date the seed should be sown for the next spring supply. In the matter of hardy kinds I do not consider we have made much progress. We certainly have plenty of new kinds, but none so hardy as the old Hammersmith Hardy Green and Lee's Hardy Green. These varieties have been grown for many years, but the beginner need not fear any evil consequences by selecting the above kinds, as they are the most reliable and are the hardiest of all. I have of late years when sowing my last lot of Lettuce always given a trial to some new kind, but none succeed like the old kinds. I admit in early spring varieties we have made considerable advance, as there are some valuable additions. In the *Cos* section the same remarks apply. If a good *Cos* Lettuce is wanted to follow the Cabbage variety I prefer the Brown *Cos* on account of its hardness. During the past two severe winters the Hardy Hammersmith was the best, followed by Lee's Immense, a larger form of the former and much like it, but scarcely so hardy with me. Sowing should not be deferred after the first week in September in cold districts. I prefer a south sloping border, as this allows of excessive moisture draining away, as it will be found too much damp is more injurious than cold. After a prolonged frost a slight shelter from cold winds will do good. Of course, frame protection is of great service, but all cannot afford it, and much may be accomplished by drawing the largest plants and planting rather thickly at the foot of a south wall.

I have in cold districts sown a row thinly at the base of a wall, and by this means secured good material for early spring use. The great drawback is slugs, but by close watching and applying soot they can be kept away. Another simple way is to protect by boards and thatched hurdles, only using the latter in severe weather. Large weak plants are the first to suffer in severe weather, so that too rich land for winter Lettuce is not required. I plant on ground from which another crop has been cleared without digging or forking it. When sowing the seed on dry soil, it is necessary to water and afterwards to cover the seed-bed with mats to get a quick germination, taking care to sow thinly to allow of a robust growth.

S. H.

FRENCH BEANS FOR AUTUMN AND EARLY WINTER.

WHEN the choicer summer vegetables are scarce, anything which may be grown to form a variety in the usual run of autumn vegetables will be highly appreciated. To fill this void, French Beans are most useful, for although a little extra time will be taken up in the preparation of the pots, yet at the season when the Beans are in full growth the weather is more often than not very dull and wet, consequently watering is not a laborious operation. Useful crops may also be grown in heated pits. Of the two methods, growing the plants in pots is the better of the two, as then the pots may be removed to suitable quarters in which to finish off the crop. If the weather should remain for a time longer in its present fine and dry state, the Beans will succeed best in a cold frame. The fault I find with French Beans when the pots are stood in the open—a course sometimes recommended—is that upon being placed in warmer quarters upon the approach of colder weather, the sudden change causes the leaves to fall. I have also noted that this evil is sometimes apparent if the weather should be dull and wet when the pots are in cold frames, therefore, if possible, I like to place them in a pit where a little warmth can be turned on in case such a period should ensue. This season is likely to be an exception, therefore I should not hesitate to place as many pots as possible in cold frames, these being removed into a warmer structure when the time comes for housing.

After giving some of the most approved varieties for pot culture a fair trial, I have fallen back upon the old Osborn's Dwarf Forcing. *Syon House* and *Ne Plus Ultra* are also good, but for early winter work the variety named above is valuable. It is dwarf, sets freely, and moreover, is very prolific. It may also be necessary to add that new seed is the best. Large pots are not needed for this season of the year. Moreover with the pots well filled with roots they are in a condition to take feeding more plentifully. Half-filling the pots with soil is no gain whatever, in fact, it entails a deal of extra labour. Some good loamy compost should be used, the seeds being covered to the depth of $1\frac{1}{2}$ inches. Six or seven seeds should be sown in each pot, as I find with Osborn's Bean that it may be sown thickly with advantage. Being placed in the frame the soil should be syringed over-head daily if the weather should be bright and sunny, when the plants will soon appear. No coddling must be allowed or the plants will not prove at all satisfactory, being drawn and spindly. Ventilation must also be freely applied on fine days, and the daily sprinklings must not be neglected, that is, unless the weather should be dull, when the drier foliage is kept the better. If the soil be kept fairly moist, good plants will be provided suitable for producing a good crop of late Beans.—A. Y. A.

—To get a supply of late French Beans is not often attempted, but they are valuable at the end of the year, as at that period choice vegetables are none too plentiful. To get a supply through September and October or even later is an easy matter provided frames can be spared for protection, sowing on a warm

border from the 15th to the end of August. Syon House, Mohawk, or Ne Plus Ultra are good kinds. A sowing should be made on a south border, and in proportion to the space that can be covered with frames or sashes. These will be required at night in September if frost is likely to set in, but in all cases the plants should be exposed as much as possible during the day. In mild autumns I have gathered Beans from this late sowing well into November, and as the pods keep good for some time when gathered, they are valuable. Of course it is essential to get a good growth and the first set before frost appears. I allow 2 feet between the rows, and mould up before the frames are placed over the plants. Beans of all kinds being gross feeders, I do not let them want for either food or moisture. Care should also be taken not to have the lights or sashes too close or touching the tops, as this latter prevents a free circulation of air, and often causes damping in wet weather. It is also important to keep the pods gathered, as if allowed to get old they prevent the younger ones growing. I have tried the larger Canadian Wonder, but it requires more room, and must be stopped if required to come in at a certain time; besides it takes longer to come into bearing and is not so useful as the smaller kinds. By sowing in the way described a much larger crop will be secured than if sown later in pots, as often we get a sharp frost or two early in the autumn and a spell of fine weather afterwards, during which time the late-sown Beans will set freely, and with protection at night a good supply for a considerable period will be had.—G. WYTHES.

Mildewed Peas.—How is it that with all the information with respect to the mould-destroying properties of the Bordeaux mixture, these whose Peas suffer from mildew have not utilised this mixture? If here and there some Peas or some special varieties escape, it is perhaps more due to accident than to any other cause. However, it is evident that even if the sulphate of copper be poisonous, at least it cannot at all injure the pod products of the Pea plant. But it is not of much use to apply the dressing after the mildew has got a footing. It is far wiser to apply the mixture at an early stage of growth in almost vapour form, and at intervals of from ten to fourteen days. The application costs a mere trifle, for it may be used with the aid of a very fine syringe, and a small quantity would suffice to dress a good length of staked Peas.—D.

The Potato disease.—This fungus is reported to have made its appearance in Ireland, but even there, whilst the weather keeps so hot and dry, it can do very little harm. The early varieties at home are now all ripe, and the sooner they are lifted the better. They seem everywhere to be absolutely sound, and as nearly all our later sorts are of the accepted disease-resisting section, even did the heat and drought change to rain and cloud, it is very doubtful whether any material injury would result. For that reason it seems doubtful whether much, if anything, is to be gained this season by dressing Potatoes with the Bordeaux mixture, for the crops are rapidly ripening, and there is every reason to believe that we shall have an abundant produce of tubers.—A. D.

MARKET GARDEN NOTES.

RASPBERRIES are this year a short crop, and have been making 6d. per lb. Where the land is of a holding nature they have done fairly well, but on light soil the yield has been very poor and in many places the foliage shrivelled from the intense heat and drought. Where this occurred the growth of new canes has, of course, been very weak, so that next year's crop will necessarily be much below the average. Carter's Prolific seems to be the favourite variety, but a kind called Norwich Wonder appears likely to come into favour. The Strawberry season cannot be said to have been satisfactory. Prices ran higher than has been the

case for some years, but the yield of fruit was much below the average, in some localities not being more than one-fourth of what it is in ordinarily favourable years. In spite of its earliness, Neble is by no means a favourite with growers in this locality. It has obtained a bad reputation for quality, and is the worst eating Strawberry in cultivation now grown for market. A large grower here, who has many acres of Strawberries, has already reduced the area occupied by this kind to a quarter of an acre. It is not only in the London markets that Neble is disliked—it is equally unpopular in the great northern towns. Sir J. Paxton and Stirling Castle are the favourite kinds here. The latter does remarkably well on our light sandy loam, with gravel at about 2 feet from the surface. It holds out to the third year better than any other kind, and the fruit being so firm travels well in the peck baskets in which a great bulk of it is sent away. Beetroot is dear, making about 5s. per dozen bunches, and is not likely to be much cheaper. On heavy lands there was much difficulty in getting the seed in, and owing to the drought much of it failed to germinate. Turnips and Carrots are making about the same price, which is more than double the ordinary rates either at this time of year or in the winter. Good succulent Turnips are indeed rare. One may go through 20 acres of them and not find an acre fit for market. The dust-dry condition of the soil causes the roots to turn yellow and become tough and rank before they are one-third of their proper size, and the fly in many places takes off the young plants as soon as they come through the ground. Here and there one may come across a breadth of Carrots that have got well held of the soil and are doing well, but most of the crops of this vegetable are thin and the plants very small. Parsley in good condition is not too plentiful, making ninepence the peck—a rather long price for this time of year. J. C.

Byfleet.

THE ROCK GARDEN.

ACCESS TO ROCKS AND PLANTS.—III.

(3) BRIDGES.

ROCK GARDENS containing water will generally require one or several bridges in order to make them as easy of access as would be



No. 1.—Stepping-stone bridge, with Water Lilies and other aquatic plants.

desirable. Especially is this the case when a streamlet traverses the grounds and is used to advantage. Where such a streamlet crosses a path of any kind, no matter whether it be a gravel walk, a grass path, or a mere rocky passage, a bridge of some kind would certainly be desirable, and might be made so as to be not only useful by providing a safe and convenient means of crossing the water or other parts of the work, which otherwise would be inaccessible, but it might also be made decidedly ornamental by being constructed in such a way as to enhance the picturesque beauty of the scene. On the other hand, bridges are repul-

sive when introduced where not really wanted, and when several bridges of the same kind occur in the same work. I recently saw a garden where no less than five rustic bridges, all of the same pattern and all within the space of 50 yards, had been introduced. When abused in this way bridges appear ridiculous, reminding one more of the eccentricities of a toy-shop than the delights of a rock garden. Bridges must always appear out of place when their usefulness is not plainly evident—for instance, when they occur in a position where they would constitute not a short cut, but a detour; or when they are placed near a point where the water vanishes from view, and a bridge therefore would be quite unnecessary.

BRIDGES OF STONE.

In the rock garden itself a stone bridge, besides being the most substantial and lasting, would, perhaps, be also the most effective and practical. The size and shape must, of course, depend on circumstances. When speaking of a bridge of stones, I do not mean a bridge formed by masonry, in the shape of a stone or brick arch. The latter kind may be desirable and practical enough in a park or pleasure ground, and, if the stonework is decorated with suitable plants, might be made quite a picturesque object. But in the rock garden such a bridge is not desirable unless a natural stream of considerable width runs through the rocks and the bridge is connected with a more or less regular path. Bridges in the rock garden would, as a rule, have to be of smaller proportions.

THE NATURAL ARCH.—In the boldest part of the rocks a very effective bridge can often be formed with the rocks themselves, in the shape of a natural arch on either a large or small scale. Especially desirable is such a bridge when by this means access can be had across a deep ravine with or without water. In this case such a bridge might often constitute a point of vantage from which the sides and bottom of a glen or ravine may be viewed with safety, and present at the same time, perhaps, a more effective picture than could be obtained from any other position. To look perfectly natural such a bridge should have the appearance of having been formed either by water, which undermined the rocks, and by constant abrasion washed away the softer parts of the stone, or by violent volcanic action which caused the rocks to fall in such a position as to form a natural bridge. The hints given in a previous chapter on the formation of the roof of a cavern may be found of service to those wishing for further information with regard to construction.

SINGLE STONE BRIDGES.—A practical and often very effective mode of introducing variation in a rock garden consists in forming a bridge by means of one single stone. But, while a natural arch, as a rule, would form the means of transit at a considerable height above the level of the water, or, as the case may be, the bottom of a ravine, a single stone, if forming a bridge, appears generally most natural and effective when placed at a lower level or close to the water. Of all bridges this is the easiest to construct, requiring nothing more than a large flat stone, which for safety should have a good bearing at each end, and might be embedded in cement, but so as not to look in any way stiff or artificial.

STEPPING STONES.—For crossing a shallow streamlet, even if this should be of consider-

able width, a stepping-stone bridge can often be made most attractive, while affording at the same time a very safe mode of access. The illustration No. 1 shows such a bridge, with Water Lilies and other aquatic plants growing between the stones. In constructing a stepping-stone bridge, care must be taken to place the stones so as to afford a free passage to the water and appear at the same time careless and irregular. It is, of course, also necessary to have due regard to comfort by not keeping the stones too far apart and fixing them so securely that they can never shift when trod upon. If the bed of the streamlet were constructed with cement, as recommended in a previous article, the stepping-stones should not be placed in position until the bottom is quite hard and water-tight, when an additional layer of cement

through decay. There are, however, positions, especially in rock gardens on a large scale, where we could not well dispense with them and where a stone bridge of any kind would be far too heavy in appearance. Such a case is illustrated in the engraving No. 2, showing a rustic wooden bridge spanning the rocks above a waterfall. Lightness combined with strength is the great desideratum in a bridge made of wood. To avoid a clumsy appearance, I generally use for bearers the stems of crooked Oak, from which all the bark has been removed.

The railing of a rustic bridge can, unfortunately, not be made in the same substantial manner—at least not with wood—without looking too clumsy and heavy. It would be best, therefore, to make them of light pieces of crooked Oak or thin Larch stems with bark

fix in such a position, a chain stretched tightly across or a single rail of iron securely fastened might be found serviceable for the purpose.

Exeter.

F. W. MEYER.

(To be continued.)

FLOWER GARDEN.

CARNATION NOTES.

THE flowering season of 1893, although a brilliant one, has been of short duration, and now in the middle of August a great many kinds are flowerless. One aim we should have in the



No. 2.—Example of rustic bridge made of wood.

may be spread and the stones embedded in it. The remaining surface of the bottom is then covered between the stones with river gravel and small pebbles, so as to look perfectly natural.

As a rule, the use of stepping-stones should be limited to shallow water. If used for deep water, it is more difficult to fix them so as to be quite safe without looking more or less stiff and artificial. Especially is this the case when the water is so clear that the foundation of the stepping-stones under water would be visible. But where it can be so arranged that the stepping-stones appear like natural rock projecting here and there above the surface of the water, their use for deeper water would be quite commendable.

BRIDGES OF WOOD.

Wooden bridges, like wooden steps, have one great drawback; they soon become unsafe

attached. But it must be borne in mind that every few years this railing will require to be renewed, though the bridge itself may last for a generation if made of heart of Oak. In speaking of railings I would once more draw attention to the successful imitations of Birch, Beech, and other wood in iron, as mentioned under the heading of "Steps," and recommended as being light and durable.

Before concluding my remarks on the subject of bridges, I would like to mention another kind of wooden bridge suitable for occasional use, but more adapted for a rocky Fern glen shaded by trees than for a rock garden constructed for alpine. This consists in the stem of a large tree thrown carelessly across the stream or ravine, as if it had fallen there naturally. As a wooden railing would here look out of place and would, moreover, be difficult to

future is to develop and encourage that charming successional blooming habit so characteristic of Countess of Paris and several other French selfs, but this one notably. Someone recently sent me flowers of a promising seedling that is to be infinitely superior to the Countess of Paris, and the sender remarked that the Countess looked poor beside his seedling and was quite out of flower; whereas the seedling was promising a succession of bloom for several more weeks. No Carnation that I have ever grown out of doors can compare with the Countess in this respect, and the finest flowers it produces are really those upon the secondary spikes. I have them now perfect in form and delightful in colour. I believe a fictitious value is often placed upon seedlings, and their real value is only found out and known after they have been grown again one season at least

from layered plants. Seedling plants invariably have extra vigour, in part the result of their long season of growth previous to their first flowering; and as to successional blooming, they often promise this in the seedling state, but discontinue to do so entirely when grown on and layered from year to year in the usual way. A great number of seedlings appear at the shows in competition for the prizes offered for outdoor kinds, but I think a restriction should be placed upon this to some extent. It would not be well to insist upon named varieties alone, but if seedlings are permitted, there should be some means of knowing whether the blooms were cut from layered plants or from seedlings blooming for the first time.

EARLY PLANTING.—All the details of culture have in this extraordinary year been performed from three weeks to a month in advance of the usual date, and as a consequence there is nothing, so far as the state of the plants is concerned, to prevent the all-important early planting being carried out. I began to day (August 14) by putting out a group of more than 100 plants of the best white self I ever grew, namely, Alice. There was no attempt at trying to begin on the first possible day, but the layers are furnished with large balls of roots such as we usually find upon them from the middle of September onwards. From now and henceforward as early summer things fade away, ground will be immediately prepared and planted.

YELLOW CARNATIONS.—I am pleased to read on page 147 that yellows are no longer "scarce, weak and disappointing," but I do not find full assurance in the facts that Mr. Weguelin proclaims. In the first place, I spoke of selfs, or at any rate if not clear on the point, these were uppermost in my mind. But Mr. Weguelin is obliged to borrow assistance from the yellow grounds, which I admit are numerous and fine, but they are beside the question altogether. From the standpoint with which we regard outdoor Carnations, these yellow grounds are too much alike. I do not wish to imply that they are not distinct from each other, but firstly, by reason of their varied colours and then by their subtle differences of shade, they have not that distinctive character and individual charm that are the most precious qualities of the true selfs. If the other yellow selfs Mr. Weguelin mentions are as fine as Germania and Leander, I hope they may soon be plentiful and cheap; but meanwhile my contention is true, and take any colour you will in Carnations, yellows are decidedly in the minority.

As to Leander and its raggedness, these terms of ragged and rough that are often given to flowers not quite up to the false standards of perfection, are, to say the least, absurd. If the flower is perfectly formed and clear and good in colour, why should some well-marked individuality or characteristic of the kind be set aside as depreciating its worth? If Leander does not spread each petal out flat and regularly disposed, it can find but scanty recognition amongst those who are bound more or less by the tenets that destroy the charm of individual distinctness, through setting up a false and formal standard which if not unreal is certainly too exclusive.

CAROLUS DURAN AND MRS. REYNOLDS HOLE.—These are both first-rate Carnations, but the former is, all points considered, the better of the two. I have had them both under close observation, Mrs. Reynolds Hole since 1887 and Carolus Duran since 1889, when it was sent to me from M. Hochard as a nankeen self, which it really is. Almost everyone who sees it makes an unfair comparison

between it and Mrs. Reynolds Hole, and the usual remark is, "It is so much paler." Of course, that is one of its points of distinction. No one ever said it was the same in colour as Mrs. Reynolds Hole, but it has some of the same brilliant apricot tint, although paler in the outer petals. In form, however, it is quite superior, and has never burst with me; whereas in some seasons I have not had a perfect bloom of Mrs. Reynolds Hole, although it should be admitted that it is not the persistent burster that some kinds are. Last, but far from least, after the Countess of Paris, Carolus Duran is the next best successional bloomer I know, and though its first blooming is past, there are now many flowers and spikes developing which as yet do not show their terminal buds. No doubt Mr. Weguelin will see its fine character better as his stock increases and grows stronger, for it is not two years since in correspondence with me he said he only then had it in a weak state. If it were more generally distributed there would be more said in its praise, but in all probability it has never been sold in the country unless Mr. Weguelin may have disposed of a few surplus plants. I have given it to a few, and among them Mr. Tallaek, who speaks well of it in THE GARDEN of August 5.

A. H.

NOTES ON HARDY PLANTS.

Eryngiums.—Your correspondent at page 99 speaks deservedly well of these, and, indeed, it would be hard to over-praise them. One part of his note, however, struck me as what I think I may term exceptional, viz.: "It is unfortunate that these hardy plants cannot be propagated freely, but that seems to be impossible." This I cannot understand, and surely another experience than this must be the more common. They are got freely from seed, from crowns, and from root-cuttings. They have also a way of propagating themselves if you dig near to them, for every rootlet severed from the old plant and left in the soil will grow to a young plant even if 1 foot deep in light soil. It is true the plants are partial to light land, as may be readily concluded from a glance at the length and form of their roots. If the roots of a plant escape through the hole of a pot and you break them off, the parts left quickly grow into a tuft of plantlets. If you dig up the long liquorice-like roots of an old plant in spring, you may cut it into a number of pieces each 1½ inches long, and by keeping the natural upper ends correct and so inserting them 2 inches below the surface in sandy soil, you may confidently expect every one to make a plant. I know a place where the Eryngiums do well in deep sandy stuff, and the quarter cannot be cleared owing to the bits of roots left behind sending up growths long after the stock proper has been cleared, and this applies to all the best and better known sorts. This property of the vitality of the roots is further to the advantage of propagation when we find that all make very long tap roots, some as much as 3 feet, and none perhaps less than 1½ feet in the case of mature plants.

Gentiana gelida.—To see this name quoted as a blue-flowered species (July 15, p. 48) must bring to mind to many GARDEN readers the difficulty of getting the wrong (and once frequent) name put down. I hope, therefore, your correspondent will pardon this intervention. I only do it from a vivid recollection of the great trouble and annoyance the error caused when it prevailed about eight years ago. The name was given to the variable species septemfida, but, variable as that species is, none of its forms ever, in the double sense of the term, could give the least colourable excuse for the name gelida. G. gelida is really a yellow-flowered species, on the authority of "M. B.," and is reported as occurring at Ararat (Adams) and Iberia (Fisch.), but there is not

known to be any living specimens existent. There is no other species or even variety bearing the name gelida that is authorised; hence, we see at once the fragrance and well-defined nature of the error. I for one do hope the use of this name will not creep in again.

Aster Thomsoni.—A person once might have sought for this half a lifetime without getting hold of the right thing, owing to the muddled state of the nomenclature and the more mixed condition of both plants and names in commerce. The name can yet often be seen in lists, but the true thing is not at all plentiful. This is regrettable, because it is one of the Asters that nobody can fail to admire. There is, however, this to be said for it: When once seen, no one could easily mistake it, it is so markedly superior as well as distinct in its features. Now that the perennial Asters are being more cultivated and studied, this along with other types is more generally recognised. It is, therefore, to be hoped that this will soon become widely known, for that is only needful to ensure its wide cultivation. It has been said of it that it is not quite hardy and scarcely perennial. This is only another proof that the true plant has been confounded with some other for its hardness is perfect and it is a reliable perennial. You can sometimes get seedlings that flower the first year, but such precocious examples give but a partial idea of the habit of plant or quality of the heads. Seed, Mr. Wolley Dod tells me, is not a certain crop, but I have got a nice batch from some seed he kindly gave me. I have also been otherwise fortunate. It has been my practice for six or eight years to try every Michaelmas Daisy from every available source that seemed to suggest itself as a possible untried kind with a view of getting hold of the finest flowers of the genus, and I have been rewarded by finding this lovely species in quantity, and, oddly enough, under a much commoner name than its true one. I only mention this to show that some plants may not be so scarce as we have been apt to think when hunted up. It may be said with a measure of truth that it is not true to date as a Michaelmas flower, for it begins to bloom in August, but it continues a long time, and certainly the buds, which slowly develop, promise a succession of heads well into the Michaelmas season. These are 2 inches to 3 inches across and of a delicate glistening mauve; the ray florets, which are narrow and stiff, give a distinctly starry effect. The whole plant is pubescent, and has a forked or branching habit.

Jeffersonia diphylla.—"J. C. L." refers to this (p. 33), and supposes its flowers were destroyed by birds or something. I have noticed that the flowers are so fugacious as to scarcely offer the chance of their being seen more than once, or one day, especially if sunny and dry at the season, which is usually the case. Its enormous wiry roots enjoy a light, but moist sandy or silky loam, and I think better if free from lime.

Lilium candidum.—We cannot afford to despise this Lily because of late years it has suffered and failed from some cause in hundreds of gardens, neither any information that has a bearing on what might prove a remedy. My friend Mr. Weaver, of Crouch End, again favours me with his experience of the results of his experiments in shallow planting in the following words: "Lilium candidum has been good with me, but only where planted as I advocate—shallowly. The clump I referred to last year (planted shallow) was even more successful this; every spike flowered well, and the offset on the rockery developed twelve blossoms. Others planted only last summer did nearly as well." As this is the best month for planting this Lily, it seems this mode is worth a trial.

Lubinia purpurea.—This is a notable example of a species true to its specific name. Its flowers are red-purple, also its stems, its roots and fruits, or at least the fleshy capsules. This is what I consider an interesting plant, though neither showy nor beautiful.

Amianthium muscætoxicum is a bulbous plant fond of damp places and a covering of half-rotten peaty and other vegetable matter. It has

elegant foliage of a succulent and glaucous character like that of the *Tritomas*, but not so strong. The flowers appear in July and August in this climate, and they are in dense spikes, small, creamy white, and wax-like, with a powerful perfume resembling that of the Elder flowers. Now this is just such a subject as we want for the damp retreats of the garden in late summer when flowers are sparse. Given the above-mentioned conditions, there is nothing to hinder this North American species from flourishing, and it may be left alone for years to form natural groups, which alone can show off its many merits.

Iris lacustris.—This gem with generous treatment is, I find, coming into flower a second time. Likely enough the exceptionally warm summer may favour flowering, but under no circumstances can it be considered otherwise than free flowering, and certainly it is a good doer. It is a most dainty Iris of about 3 inches or 4 inches in stature.

Primula rosea.—A timely note about the planting of this may be useful. There is not much difficulty with this robust and distinctly beautiful Primrose, however or whenever it is set, but for the best results plant it by all means whilst there are yet plenty of leaves on it. Then, if you like, plant more later when the foliage has all died off, and you will then see the difference in the flowers in spring. It is better to deal with all the Himalayan species in August; they need transplanting when in a leafy state.

Lewisia rediviva.—Another timely note about this, too. As I pointed out in early summer, the leaves all suddenly wither and die when the flowers are open, and the plant seems to die totally in another day or two. It is not so. The roots, if left alone, begin to grow in August or September. This year they are sending up tufts of rigid foliage in early August, and by the time winter sets in may make a fair show of vegetation. This stands the winter in the open ground with me without the least injury, and this has been my experience of the plant for at least ten years.

Jaborosa integrifolia.—I used to grow this without any other care than providing for it deep and light soil, and for the first year with newly-moved specimens giving a handful of dry Bracken. The roots are injured by frost, but in the second year they naturally go deep down into the light soil, and are then safe.

Arnebia echioides is surely doing its very best this year, flowering freely and strongly for the third time in the case of the stronger specimens. Though many, perhaps most, of the Borage Worts may be partial to a little shade, I grow this fully exposed to all possible sunshine, and I do not see any reason why I should do otherwise. Of course, the position should be moist and the soil deep, and by preference light as well. The rainy weather of the past three weeks or more has doubtless helped on the present crop of flowers.

Helianthemum pulchellum.—This is a gem of the first water. The plant, only 1 inch or 2 inches high, has rigid, short, forking and spreading branches. Leaves grey, almost silvery, and nearly as small as Thyme leaves. Flowers bright yellow, well imbricated, and about the size of a three-penny-piece. A very lovely plant for the rockery.

Woodville, Kirkstall.

J. WOOD.

Lilium Leichtlini and Batemannæ.—Though greatly dissimilar from each other—for *L. Batemannæ* is an erect-flowered species and bears a good deal of resemblance to *L. elegans venustum*, while *L. Leichtlini* is nearly related to the Tiger Lily group—yet it is very difficult to distinguish the bulbs from each other; in fact, it is in many instances quite impossible to speak positively on that point. They are both natives of Japan, from whence such quantities are sent to this country during the winter months, and this fact, combined with their close resemblance, at times causes a certain amount of confusion. The bulbs of *L. Batemannæ* are as a rule larger than those of the other, and when large they generally present the

appearance of a fusion of two or more bulbs and produce a corresponding number of stems. In addition to the bulbs of *L. Leichtlini* being as a rule smaller, they are also generally less flattened, but this is a feature which varies somewhat. One item of difference, not, however, always infallible, is that *L. Leichtlini* starts into growth earlier than *L. Batemannæ*; indeed, so noticeable is this, that when the balls of clay (in which the bulbs are hermetically sealed when sent here from Japan) are broken, *L. Leichtlini* will often be found starting into growth, while *L. Batemannæ*, on the other hand, is one of the latest to commence growing.—H. P.

The Pentstemon is one of the principal flowers of the season, and at Kew there are large beds of it which have a bright aspect by reason of the excellent selection of varieties. Care is essential in choosing Pentstemons for effect, as so many of the kinds have flowers of a purple-magenta or allied shades, which do not show to the best advantage in the garden. The plant is so graceful and free, that it deserves to be well grown, and more use should be made of it for boldly grouping on the outskirts of the lawn. A few good kinds are Norma, a very charming flower, soft pink and white throat; Marjolaine, pinkish purple, white centre; Thos. Traddle, deep crimson; Archibald Anderson, rose-crimson; Countess of Tarbat, similar shade; Henry Cannell, also of a rosy shade, the throat deep crimson; Mrs. S. Walker, scarlet; Rosy Gem, rose; and Rob Roy, brilliant scarlet. These are better for effect than the more delicately coloured kinds.

DAHLIA PROSPECTS.

THERE is every probability that we shall have a remarkably fine Dahlia season, for not only are the plants very clean, but they are flowering early. There can be no doubt but that most interest, after all, centres round the Cactus section—the prettiest of all the purely decorative varieties, for these are now being developed in the best direction, and whilst the big, flat-petalled or purely quilled flowers that have hitherto been classed as Cactus varieties are now lightly esteemed, the true Cactus forms are becoming more and more popular. It is pleasant to find that the production of such beautiful forms as Delicata, Robert Cannell, Panthea and similar pointed-petalled forms have led raisers to see that they have been wrongly directed previously, and that only real Cactus varieties, not large, but diversely coloured and of perfect form, will command popularity. That we have got added to these newer varieties some more compact habit of growth there can be no doubt, although there is much room yet for improvement. Plants that average 3 feet in height are tall enough for any purpose; the flowers are readily seen, the plants need less staking and are less susceptible to harm from rough winds. Already the show or large-flowered varieties are as dwarf as is desirable. Plants that are, when properly extended, some 30 inches across should be at least 3 feet in height; some, however, begin blooming at 2 feet, but their average height by the close of the season is about 3 feet. That is very good. We may hope to see some of the newer pompon section also materially dwarfed, but all these are so wonderfully free to bloom, that the height may be excused; however, even now some are moderately dwarf. As to the singles, these are more under control. Whilst so many of the older named varieties are so very tall, we have some dwarf ones, and as all are so readily raised from seed, it is obvious that intercrossing dwarfs with the best of the tall ones will soon remedy their defects as to height. That the singles are by no means so popular as they were cannot be doubted. The better Cactus and the pompon forms are rapidly displacing them. Then the flowers are of so fleeting a description, whilst the others when out are so lasting, it is no wonder that public taste is greatly in favour of the more enduring varieties. The present condition of the plants is almost one of rude health. Whilst the hot, dry weather did somewhat cramp or check

growth, yet it was fairly firm and much more conducive to the production of early flowers than might have been anticipated. The frequent and very refreshing showers which fell since the end of June have done wonders to improve the plants, and although both watering and mulching have needed close attention, yet everything seems to be singularly satisfactory. Growers have now to attend to thinning—a great necessity with almost every section, but especially with the show varieties. Even in gardens where the show forms are grown for decoration only, it is wise to thin out.

A. D.

FLOWER GARDEN NOTES.

THE propagating season seems to have come upon us quickly, all too quickly in fact, for in all gardens where an abundant supply of water was not ready to hand growth was very slow, and cuttings will not be easily obtained. The cutting business, however, is not what it was in the old days when *Pelargoniums* of every colour went in by their tens of thousands. Seedlings, of which *Begonias*, *Verbenas*, *Petunias*, *Marigolds*, *Centaurea*, and *Crimson Beet* may be cited as examples, have in a great measure taken their place and very much reduced the August propagating. Nursery beds of seedling *Begonias* that were planted in June should be gone over occasionally to mark any specialities in colour and habit; these beds, by the way, are satisfactory where they were well mulched and watered, but they have not relished the prolonged drought where left entirely to its mercy. In the flower garden beds, too, note should be taken of the 1892 seedlings, and any that have not quite borne out the expectations formed respecting them may be shelved for more satisfactory varieties. *Begonias* certainly are grand summer plants, but all are not adapted for bedding, and, to my thinking, a type occasionally encountered with Cabbage-like foliage and flowers that drop on to the bare earth or dwarf carpet, as the case may be, are quite out of place in good flower gardening. In like manner beds of seedling *Verbenas* will want careful looking over to see if there are any good things worth propagating. It very often happens that this is the case so far, at any rate, as a thoroughly good flower is concerned; after-experience must decide if the variety is equally worthy of continued propagation from a constitutional standpoint. Continuing the subject of plants from seed adapted for bedding, I may mention that one or two new *Calendulas* seem likely to prove good things for the backs of borders and for large beds. Dying flowers must be promptly removed if a constant supply of bloom is required, and they like copious supplies of water. In the ornamental-leaved plants of that particular colour and size there does not seem anything to beat Dell's *Crimson Beet*—a trifle stiff and heavy, no doubt; but this, when it is in a mass, can be relieved by the sparing introduction of a few lighter plants.

Beds of scented plants, of which we make a speciality and to which we devote consequently a little extra attention, are looking well, thanks to a slight mulching and copious supplies of water. An idea for two large beds was occasional clumps of three plants of *Eucalyptus citriodora* surrounded by a nice band of *Heliotrope*, filling in the remaining more central portion of the beds with such sorts as *Lady Plymouth*, *quercifolium*, *filicifolium*, *tomentosum* and *Lady Scarborough Pelargoniums*, with an edging of dwarfier varieties. The *Heliotropes* were autumn-struck, grown on in 5 inch pots and lightly staked to keep them well above the heads of the scented *Pelargoniums*.

VASES AND WINDOW BOXES.—It has not been an easy matter to keep these going satisfactorily this year. A surface mulching and plenty of water were absolutely necessary for a time, and then rather more stimulant than usual. Free-flowering *Fuchsias* and Ivy-leaved *Pelargoniums*, with seedling *Petunias* and one or two good *Tropaeolums*, hold their own as among the very best plants for the purpose. One of the most effective

large boxes I have seen was planted with a strong-growing, light-flowered *Petunia*, faced with *Cli- bra's* Gem *Tropæolum*. Aided by a few twigs, the *Petunias* had climbed to a considerable height, and also drooped over the sides of the box and mingled with the flowers of the *Tropæolum*. Another very good box is a capital dark flowering *Fuchsia* faced with *Jeanne d'Arc* Ivy-leaved *Pelargonium*. This same dark *Fuchsia* also makes a capital plant for the centre of a vase, with *Heliotrope* and the trailing *Sedum* as edging plants.

I do not know how the majority of THE GARDEN readers have fared in the matter of earwigs. They have been a perfect pest here, and I think are worse enemies than the wasps (also very numerous before a raid was made on their nests), for the wasp confines its attention to fruit, but the earwig preys on both fruit and flowers. Traps, consisting of small pots with hay, also Bean-stalks, have for some time been in and about Dahlias and outdoor *Chrysanthemums*, with the result that the enemy has had its numbers considerably reduced. Dahlias, especially the *Cactus*, decorative, and pompon sections, are likely to be very valuable this season as cut flowers, and, aided by well-prepared borders and a good surface mulching, are now doing well.

E. BURRELL.

Claremont.

A border of annuals makes a charming picture in the garden. Unfortunately, however, annual flowers this year are by no means satisfactory, but at Kew skirting the wall in the herbaceous ground they are as fine as we have seen them this year, the more conspicuous kinds being *Poppies* in variety, the bright *Coreopsis tinctoria* bicolor, *C. coronata*, *Malopes*, *Lavatera trimestris*, *Phacelia viscida*, blue, *Cosmos bipinnatus*, and *Argemone mexicana*, very interesting with its Thistle-like leaves, veined with white, and pale yellow flowers. This border is filled with the best kinds of *Daffodils*, and when these have died down we get a succession of annuals that carry on the season of flowers until the autumn.

Double Violets.—In a Middlesex garden I saw some 10,000 very strong plants of double *Violets* growing so well, in spite of the season, that they have made big plants already, and probably there are few better anywhere. The varieties are *Neapolitan*, *Comte de Brazza*, blue and white, *King of the Blues*, and others, and doubtless the chief secret of their robust condition is the free use of the water-pot, for there is plenty of river water close at hand. The plants were raised from runners trimmed from off the stock of last year, usually in October, then dibbled thickly into frames and near the glass, where they make root, and are then early in April lifted and dibbled again out into the open ground in rows 12 inches apart. Now the plants make almost a mass of leafage. The process of production is so very simple in this case, that it leaves little more to be said about it.—A. D.

Tiger Lilies.—In common with all *Lilies*, these are flowering during the present season somewhat earlier than usual. As border *Lilies* they make a good show, but for pot culture there is only one variety that will succeed. This is the variety *splendens* or *Leopoldi*, which differs from the ordinary form in the leaves being fewer in number, broader, less woolly, and of a deeper green, while the stem is quite smooth and almost black, but in the other forms it is more or less clothed with whitish wool. The flowers of *splendens*, too, are larger and of a brighter colour, with the spots less numerous, but larger than in the others. Where there is space for but a single form of the *Tiger Lily* this should be the one chosen. Another merit is that it is less particular in its requirements than the others; at all events, I am acquainted with two places where all the forms except this soon die out and the variety *splendens* improves year by year. These different *Tiger Lilies* by no means flower simultaneously, the first as a rule to bloom being the typical *L.*

tigrinum, followed by the double-flowered variety, then *splendens*, and after that in a general way the variety *Fortunei* or *sinense*, a bold-growing, very woolly form with rather pale-coloured blossoms. Nearly allied to the *Tiger Lilies* is that known as *Lilium Maximowiczii*, *L. jucundum*, or *L. pseudotigrinum*. This is altogether a more slender-growing plant, and one without the bulbils in the axils of the leaves to be found in all the others. The flowers of this are red, dotted with black. The straw-coloured *L. Leichtlini*, dotted with red, is in shape and general appearance a good deal like the preceding.—H. P.

Clove Carcation Gloire de Nancy.—I think this beautiful white-flowered sport from the old crimson *Clove* suffers very much here from its French appellation, because so few persons seem to understand that it is the old *Clove* with a new colour after all. I saw a remarkable batch of this the other day in a small nursery in Middlesex in perfect health, and so abundantly layered, that if all take well, there should be at least 3000 rooted plants to lift presently. Even then the old plants were carrying numerous pure white and deliciously perfumed flowers. The owner seemed to think that it would pay him better to keep all his stock and grow it to produce flowers, for, said he, "I made 6d. per dozen of them in the season, and from a few thousand plants that would mean a good sum." Of course, it is the delicious perfume which the flowers give that adds so much to their value. There is no other white variety that can equal it for sweetness.—A. D.

Auricula-eyed Verbenas.—These represent a strain of *Verbenas* of various colours from maroon to pink, all having conspicuous white centres, and very striking and attractive because of the contrast between the marginal colours and the centres. Beds of these on the terrace at Dropmore are just now in full bloom, and it was pleasant to see the *Verbena* taking its place once more as a prominent bedding plant. Mr. C. Herrin raises the plants from seed, and they appear to come remarkably true to character. They are also of good habit, and it is almost superfluous to say they are very free blooming. I think, notwithstanding what is sometimes said to the contrary, that flower-beds of mixed colours are to be preferred for general effect to those of one colour, but on a terrace garden, where a large number of beds has to be planted, there is ample space for both, and one pleasingly diversifies the other. A bed of mixed colours of tuberous *Begonias*, for instance, is much more attractive than one formed wholly of crimson, scarlet, rose, &c. A bed of mixed large flowered *Phlox Drummondii* is one of the prettiest which can find a place in the garden.—R. D.

A note on Cactus Dahlias.—We have lately seen in gardens the so-called decorative *Dahlias* grouped in large beds, but the flowers are too coarse, although in a sense effective. Some of the kinds produce blooms of immense size, but not in the least pleasing through want of refinement. It is a pity that more use is not made of the true *Cactus Dahlia*, avoiding the coarse creations that certainly remind one of the show *Dahlia* spoilt. The *Cactus Dahlias* that have been raised within the past two or three years are very beautiful, the flowers neat, yet not too formal, the segments pointed, and in expression like *Juarezii*, the origin, so to say, of this group. Perhaps the varieties are too expensive to plant freely as yet, but when they get cheaper more should be seen of them in the garden than is at present the case.

Montbretias.—The note on page 114, whilst calling attention to the rich beauty of these, conveys the impression that they need a light, favourable soil. I do not think this is the case, and in consequence they become all the more valuable. One of the brightest things we have in the garden at the present time is a great spreading mass of *Montbretia crocosmiflora* in a bed of poor, stiff soil beneath large bush *Azaleas*. The ground must be full of the bulbils, and there is a perfect forest of leaves and flower-spikes. *Montbretias* are so pretty in many ways, that they

deserve every encouragement and are worthy of careful trial, as new kinds have come rather freely of late, but are not altogether distinct. For cutting, the flowers are very charming. I do not think *Montbretias* are nearly so tender as supposed to be, and need not be confined to gardens in the south.—A. H.

SHORT NOTES.—FLOWER.

Monarda didyma alba is an interesting form in bloom on the Kew rockery. It is similar to the type, but differs in the colour of the flowers.

Native Water Lilies.—In reply to "A. H.," the tinted pink form is the larger of the two varieties, in fact, more approaching the dimensions as stated by "A. H." himself. Another season I hope to be able to send him some blooms.—A. YOUNG.

Heuchera sanguinea.—A friend of mine who thinks much as I do about *Heuchera sanguinea* has mentioned one thing to me which perhaps should not be forgotten. He says that it should be divided and planted in July if it is to blossom the following year. Of course, this is now out of the question, but it would be well for anyone who thinks of acting on the advice I have given to lose no time about it.—H. E.

Pompon Dahlia White Aster.—This is perhaps the most widely grown of all *Dahlias*. The variety, whilst a true pompon, is perhaps the earliest to bloom, and one of the freest. It has pure white flowers, which are highly prized for decoration. The flowers have somewhat pointed petals that give to them an appearance less stiff and formal than is the case in other varieties.—D.

GARDEN FLORA.

PLATE 924.

NEW TRUMPET DAFFODILS.

(WITH A COLOURED PLATE OF GOLDEN BELL.)*

I REMEMBER the assertion being made with some confidence a dozen years ago by a high authority upon *Daffodils*, that in *Emperor* and *Empress* the extreme limit of size had probably been reached. But Messrs. de Graaff, of Leyden, have considerably passed it in their *Glory of Leyden* and some bicolor seedlings, and it would be rash to prophesy that we shall not have even larger flowers, whether they are desirable or not. It is doubtful whether any raiser could give a recipe for producing giant *Daffodils*; certainly I cannot. Seed can, of course, be saved from the largest varieties, in hopes of enhancing their size. There is little doubt that *Emperor* is a seedling from the older *N. rugilobus* or *lorifolius*, and that *Glory of Leyden* was in turn a seminal enlargement of *Emperor*. But raise a hundred seedlings from *Emperor*, and there is every chance that fifty will bear flowers no larger than the parent and fifty miserably smaller. In my own experiments I have of late years tried the scientific Darwinian plan of having pollen sent from a distance, or letting one of the parents be the offspring of bulbils freshly imported into my garden the previous season. But the result of thus differentiating the parents seems much less marked in bulbous plants than in some other families. No doubt there are laws, if we could only

* Drawn for THE GARDEN by H. G. Moon, from flowers sent by the Rev. G. H. Engleheart, April 27, 1892.



NARCISUS GOLDEN BELL

master them, which govern the improvement from seed of all seed-bearing plants, but of Daffodils my own experience justifies me in saying that only some one individual plant out of some hundreds may be predisposed to yield enlarged progeny, or that there may be a fortunate moment of growth or season when fertilisation may secure unusual results, or that a particular flower needs pollen of some one other particular variety to gain such results. The hybridist not seldom finds that a chance seedling has secured the required conditions which have eluded his painstaking industry. The trumpet Daffodil Golden Bell, the subject of the coloured plate here given, grew from a seed of Emperor not artificially fertilised. The pollen parent was probably some such kind as Countess of Annesley. This flower was more than once nearly discarded, but four or five years after its first blooming suddenly developed both size—in which it runs Glory of Leyden hard—and characteristic beauty of form and colour. Its trumpet is rich yellow, the perianth primrose. The boldly-expanded and deeply-toothed mouth catches the light conspicuously, and the somewhat drooping, bell-like attitude of the flower marks it off from other large Daffodils. Golden Bell obtained a first class certificate R.H.S. in 1892, and the medal for the best flower of that year.

G. H. ENGLEHEART.

Appleshaw, Andover.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

SOWING CAULIFLOWERS.—Sown earlier than the latter part of August or the first week in September, the plants are apt to become much too large before winter, and when this is the case they rarely if ever succeed satisfactorily. This possibly is the reason why sowing in the autumn is not so much adopted as formerly, but, taking all points into consideration, good plants may be raised, and which, if wintered carefully, will produce good and early heads. Another advantage in raising the plants now is, that where glass accommodation is scarce and labour also lacking at the busy season of the year, there will be the certainty of having a supply of plants at hand. A suitable seed bed should be provided, so as to ensure the germination of the seeds evenly and well, as if at all lumpy, the seedlings appear very irregularly, so for this reason a little fresh soil will be a decided advantage. The seeds are also the better for being sown in drills, as the plants are thereby enabled to have a circulation of air about them. If the soil should be dry, water the drills before sowing, and as a safeguard against the depredations of birds, a net should be stretched over the bed. The plants must not be allowed to grow too large before pricking off, and as success will depend largely upon this proceeding, the rooting medium must be suitably prepared. The frame should be in an open position, and be placed on a level and firm surface so as to prevent the roots from striking deeply. Over the bottom must be spread a layer of rotten manure to the depth of 2 inches or 3 inches, and over this the same quantity of holding soil. The plants should be pricked out 4 inches apart, and also be left exposed, the lights only being replaced when cold rains and frosts appear. Instead of pricking out the plants, they may also be potted, using 5 inch pots. The varieties

adapted for sowing now are Early London, Early Dwarf Erfurt, Walcheren, and Large Asiatic. For producing large heads of Autumn Giant during August, the seeds may be sown now.

OPEN-AIR TOMATOES.—Where these have been kept well supplied with water the recent tropical weather has been all in their favour, large clusters of fruit swelling off and ripening freely, and this without the least sign of disease. After this time the shoots must not be allowed to extend, the whole resources of the plant being given up to the finishing off of the fruit, and which must be freely exposed to the sun. To assist this, all overhanging leaves should, if they cannot be tied on one side, be promptly removed or partially shortened in, and in the case of over-vigorous plants not well burdened with fruit, all the leaves may be shortened in, also seeing that no side laterals are allowed to grow. Even now water must not be withheld from the roots, especially if the weather should remain bright and sunny, and in the case of plants growing in confined borders, liquid manure may be advantageously applied. With a fine and bright September there is every likelihood of heavy crops being ripened off without having recourse to ripening them up under glass or in warm kitchens, as under this process the flavour is not nearly so well developed.

TOMATOES UNDER GLASS.—There has been a heavy strain upon Tomatoes growing under glass. In some cases they will be almost exhausted, but much might be done to renovate them, as if the space could be spared, these old plants would produce fruit until late in the season. If there is not room for the leading shoots to extend, these might well be shortened back, younger and healthier growth following. At the same time, some of the old surface soil should be removed and be replaced with some loam, horse manure, and wood ashes in equal parts, this being pressed down firmly. Fresh roots will soon take possession of this, when the plants should be well fed up with liquid manure. Plants in pots or boxes must be kept well fed, or they will quickly give out, the curled state of the foliage showing plainly that the plants are not having adequate support.

GLOBE ARTICHOKE.—These have done good service this season, and with a little attention are likely to do so. Although very often left to take care of itself, yet the best results are obtainable by looking after the plants' requirements, as the larger the heads the better the flavour. All old heads as well as stems should be promptly removed. All old rubbish having been removed, a soaking of liquid manure in which a little salt has been dissolved will swell out the late and smaller heads. As seedlings are apt to produce many spurious ones, take care as the heads are formed to mark only those which are of a good type, these being reserved for increase of stock. Those which have prickly scales are of no use whatever, being very poor in quality. By marking the plants now, much disappointment will be avoided another season.

A. YOUNG.

ORCHIDS.

WE will soon be into the month of September, when we may expect cooler nights and a more congenial temperature for cool Orchids. I fancy cool Orchids and Auriculas require similar treatment as regards repotting them. In fact when cool Orchids were first introduced we were so fearful of their being injured by excessive heat in summer, that all schemes were tried to keep them cool, and I placed my first lot of plants of *Odontoglossum crispum* and *Masdevallia Harryana* in frames on the north side of a high wall with the Auriculas. *M. Harryana* had not flowered in England at that time, but we knew it was a good thing, and those who had plants were anxious to see them flower. The plants did well in the frames, and were kept there until the end of September. I do not care to repot Auriculas during excessive heat in summer, nor is it well to repot the cool Orchids, of which *Odontoglossum crispum*

and *O. Pescatorei* may be considered the leading species, when the weather is very hot. The bulbs are apt to shrink a little, owing to the check caused by repotting and the heat combined. In September the outside air is very much what cool Orchids require, and if any plants really require repotting, it is better to make arrangements to have it done as speedily as possible, for the plants will quickly become re-established at this time of the year and will form roots freely. I believe the best time in the growth of the plants to repot them is soon after they have flowered. I like the plants to be allowed to recover themselves after flowering before repotting them. The bulbs are often much shrunk, and it is better to wait until they plump up again and start to grow from the base of the last formed bulb. Most of the cool Orchids seem to be always making new roots, and they soon run into the new compost. All the plants should be looked over, and if the system which I have recommended of recording the date of the previous shift on the label has been followed out, it will be easy to determine whether the plants should be repotted or merely surface-dressed. For *Odontoglossums* and *Masdevallias* I think it is better to have about two-thirds Sphagnum Moss to about one-third of good fibrous peat, with a fair sprinkling of broken pots and pieces of charcoal. I fear that slugs will be numerous in the Moss this year; they must have been driven into the damp places where the Moss grows from the dry ground surrounding it. At any rate it is always desirable to look over the Moss to clear it from all extraneous matter, slugs included. Besides the preparation of the compost, it is also necessary that flower-pots be rather more than half full of drainage, and if they are of large size two-thirds full, as masses of decayed peat and Sphagnum cannot but be injurious, as they very speedily decay when always kept in a moist condition. I pot rather firmly, and the potting material should be above the rim of the pot in the middle, but a little below it at the margin. Vigorous plants well rooted should have a good shift without disturbing the roots much. It is too much to expect that all will be vigorous and well rooted; some of them will be exactly the opposite of this. Badly rooted and weakly plants should have the soil washed from the roots and be repotted in much smaller flower pots. Such plants require very careful management to get them into good condition again. Choice varieties of *Odontoglossums* may be divided by cutting through between the bulbs. A plant may continue to make one bulb annually for many years, and if it is undisturbed no growth will be formed, but when a portion of the back bulbs is severed from the parent plant a new growth will be produced, weak at first, and it may not form a very large bulb, but in time the growths will be stronger, and spikes will be produced as vigorous as those of the parent.

I was looking through a choice collection of cool Orchids recently, and saw some of these severed-back bulbssuspended from the roof of the cool house, and was informed that they were from choice varieties, which were left in this state of suspended animation until some signs of growth were apparent, when they were planted in small flower pots to start on an independent growth. I observed that two bulbs were cut off from the parent plant. It takes a long time to get up a stock of a distinct variety of *Odontoglossum*; on the other hand, *Masdevallias* are very free, as old plants may be broken up into numerous small pieces, which very speedily grow into flowering plants. Some Orchids seem to do best when cultivated in small pots, and some of the *Masdevallias* may be included in this category. I believe it was owing to this characteristic that the system of making up large specimens for exhibition became so common at flower shows. A better formed specimen could be made up of small plants than if it had been grown as one specimen for many years, but the system once begun, exhibitors planted a dozen or more plants of one species together in a large pot or tub, and exhibited the make-up as one Orchid. This is not now so much done as it used to be. Any large specimens of the freer growing *Masdevallias* of the *M. Harryana*,

igneæ, or Veitchi types should be broken up and repotted when they get too large into small flower-pots. Only the summer flowering species and varieties should be repotted now if they need it. *M. tovarensis* should be repotted in February or March, and *M. Davisi* or any autumn-flowering varieties may be repotted either before they pass out of bloom or soon after. If the plants are to be divided, it will be better to let them pass out of bloom before interfering with them. I ought to add as information to the inexperienced that it is better to divide *Masdevallias* by pulling the parts carefully asunder, as in this way they break off at the joints; whereas if a knife is used, the joints may be severed and the division be made at the wrong place. Plants that have been divided should be kept in a part of the house which is closer than usual. Keep moderately cool with plenty of moisture about them. Of course it will be necessary to see that the plants are quite clean before repotting them. In fact, now is a good time to remove all the plants from the stages and clean the wood and glass-work, being careful to surface-dress all plants if they need it and do not require to be repotted. I am writing on the assumption that we may soon have a change of weather, for the temperature both by night and day has been very high for the latter part of August. Even at night we gave up the use of fires, as the outside minimum temperature varied from 60° to 65°. If the plants are dipped to destroy aphids or thrips, lay them on their sides so that the solution may not run down amongst the roots. I tilt the pots so that the water may drain off at the end of the leaves, leave them for a few hours, and sponge the leaves over with clean rain water.

J. DOUGLAS.

FRUIT HOUSES.

VINERIES.—Another spell of exceptionally hot weather is proving very trying to Grape growers. The foliage, previously much weakened by fierce sunshine and red spider, now burns badly, and nothing short of shading rather heavily saves white Grapes from shrivelling and the black varieties from losing colour rapidly. During hot weather the houses ought to be set as widely open as possible, wasps notwithstanding, and be kept so during fine nights. This applies to those containing ripe Grapes, as well as all that are cleared of the same. Outside as well as inside borders will once more require attention, especially where no mulching material is applied. When approaching dryness, give water freely. In the case of well-established Vines that have borne heavy crops, something should be done towards reconquering their wasted strength. Directly the crops are cleared off, give either a good dressing of special, easily dissolved manures and well wash in or, better still, apply liquid manure rather freely, that obtained from a cesspool answering well. Any Vines that it is desirable should go to rest early should have all sub-laterals cut off, and if the laterals are somewhat long, these also ought to be shortened to about the fourth or fifth leaf. Any that are to be partially lifted should not be thus pruned, the aim being to keep green leaves on these for as long a time as possible. Not till the hot, dry weather is well over should any severe renovating measures be attempted, but if only about a third of a border is broken up, this may be done when next the weather is dull. Everything, that is to say, a good fresh compost, should be got ready before the old border is interfered with, and, seeing that the object of lifting in the autumn is to promote the formation of many fresh root-fibres before the leaves fall, the greatest care ought to be taken not to unduly expose the old ones to hot sunshine and drying winds.

LATE VINERIES.—This season it is not a question of forwarding late Grapes, with a view to having them perfectly ripe by the end of September, but rather whether it is not a wise practice to retard ripening as much as possible. *Alicante*, *Lady Downes*, *Alnwick Seedling* and *Mrs. Pince*

are all colouring very rapidly, and most probably will be too early ripe to keep so long as desirable. Even the slow ripening *Gros Colman* is laying on colour faster than usual, and *Muscat-flavoured* Grapes are colouring well under quite cool treatment. Instead of nearly closing the houses containing these late varieties during hot weather, abundance of front air and a fair amount of top air should be left on all night, all being increased to its fullest extent in the daytime. Whenever the weather is dull, cold and damp, rather less air should be given and the fire-heat turned on, the aim being to keep up a good circulation of warm, dry air. Under this treatment the Grapes will colour perfectly, also laying on a thick bloom, the quality and keeping properties of the different varieties being considerably enhanced accordingly. If red spider is troublesome, paint the hot water pipes with flowers of sulphur mixed with milk and turn on the heat rather strongly in the evening occasionally, avoiding, however, completely closing the house more than a few hours during the night.

PEACHES AND NECTARINES.—Hot weather is trying the trees of these, red spider being especially active and injurious to them. In the case of early and successional trees, much of the thinning-out that is frequently left till the winter pruning is completed may well be done now. Cut out all that can be spared of this season's fruiting wood, but do not shorten much of that which is reserved for fruiting next season. Root-lifting and a change of soil have a most beneficial effect upon trees rooting in partially exhausted borders, and this should be done before the leaves fall, though not before September. In anticipation of this work, a heap of good loamy compost should be prepared. While hot and dry weather lasts, the borders must be kept uniformly moist and the mulching material be damped down at least once a day. In the later houses the fruit, in spite of being shaded, is ripening much earlier and more rapidly than desirable, and both Peaches and Nectarines will very probably be scarce when most wanted. All that can be done is to keep the borders moist and the houses as cool and airy as possible, shading also being applied during clear days. If enough whitening is mixed with water to make it no thicker than can be applied with a syringe, this will afford the necessary shade and the first heavy rain will wash it off again.

POT STRAWBERRIES.—Plants that were early placed in their fruiting pots have grown rapidly, and in many instances will most probably require to be spread out more in order to prevent them from becoming drawn and weakly. They ought always to be set in a sunny position and either on boards, slates, or ashes, or otherwise worms will find their way into the pots and clog the drainage badly. Those early established in 6-inch pots are usually the most reliable for forcing, but late potted plants not unfrequently succeed remarkably well. The former are apt to become divided, removing all but the central strong crown being necessary accordingly. Not so those late potted. Use clean, well drained pots and a fairly rich loamy compost. See that the plants are well moistened at the roots before turning them out of the small pots they are now in, and repot firmly. Arrange them in a sunny spot and attend carefully to the watering. During hot and dry weather overhead syringing every morning should be practised in the case of Strawberries in pots generally, this serving to keep them free of red spider.

PRACTICAL.

PLANT HOUSES.

PLANTS AND THE WEATHER.—In this department of the garden there will now be need of most constant attention to plants in pots of all kinds. No one will dispute the fact, I think, that this unusually hot weather is as trying (more or less) to plants under artificial cultivation as it is to human beings. It may not be just at present that any ill effects will be so fully evident, but in the course of a

few weeks the state of things will in all probability be different where due care and attention have not been bestowed upon the plants in general. True, it may be favourable to the ripening of growths in many instances, but adventitious ripening even is not always desirable.

WATERING.—This will, as long as this phenomenally hot weather lasts, be the most important of all work (in conjunction with ventilation) and a close observation should be kept to it from morning to night. Such hot weather casts aside, so to speak, all ideas of morning and afternoon waterings sufficing where the plants are in any way exposed so that they dry up rapidly. For instance, where the plants are out of doors in warm or sunny spots and their root-action in a good state, it is in the case of free-growing subjects quite astonishing what an amount of water is needed. But this increased supply has also its faults in that the soil becomes all the sooner exhausted of its good properties, and the plants thereby in a measure weakened in due course. To remedy this, partial or entire plunging can be adopted; partial in the case of permanent plants and those with the most delicate roots, and entire plunging with others of more rapid growth. When dealing with Cape and New Holland plants of the hard-wooded section, the better plan is to screen the pots with others of smaller growth and of less consequence, or to hang some shading around, or in some way to shade the pots upon the sunny side. It is not only to save watering in these cases, but also to prevent injury from the intense heat to the very delicate and minute roots which most of them possess. Plunging of these plants is hardly advisable save with experienced hands, otherwise the watering may easily be too excessive, particularly towards the lower part of the balls. These remarks apply also to Indian Azaleas, which, if they should be in pots of uniform, but not large size, could be shaded by means of a long board resting against the pots just for the time being. By either of these methods a deal of watering may be saved, causing less labour and anxiety also. Another good plan which I had almost omitted to advise is that of dropping pot-bound plants into larger pots, this double protection to their roots saving watering, as well as keeping them cooler. To stand plants in the shade out of doors, which delight in sunshine is not advisable if it can in any way be avoided.

INSIDE WATERING.—This requires quite as much attention as that just alluded to, and it must be given even if other work for the time is postponed. It is useless to grow plants and then spoil them from want of water in hot weather. Close observation as to their requirements and a knowledge of the real needs of separate kinds go a long way towards giving confidence to those in charge. Speaking generally, it will be in the cool houses, where ventilation is freely given, that the greatest need of extra watering will be apparent. In stoves or in ferneries, where the atmosphere is charged with more humidity, there will not be the same degree of watering in proportion. Of course, at such times as the present it can hardly be said that fires are essential; in fact, it is resting time to the plants when nearly approaching the dew point, which is more easily done without a fire than with it. It has hardly been possible lately to keep a fire alight with the outside glass so high all night without the thermometer registering too high a temperature inside. In the case of Palms, more particularly is it necessary to give increased attention to the watering now; so also is it to Aroids and other plants known to thrive with plenty of moisture at the roots. Palms in particular that are in airy and lofty houses will absorb a deal of moisture.

SYRINGING AND ATMOSPHERIC MOISTURE.—The syringe should be used now more freely than usual, it will not only do the plants good, but keep in check all insect pests which thrive in hot and dry weather. Not only does this apply to plants indoors, but outdoors also. As the sun leaves the plants that are outdoors, a good damping overhead will do them a lot of good. This can be done either with a syringe or with a fine rose

on the water can; the latter will answer well when no insects have to be dealt with. In lofty houses with climbers and large plants the garden engine should be brought into use; this will reach those parts which it is hardly possible to do with the syringe. Increased atmospheric moisture in houses with air on by night as well as day will not do any harm, but even now in stoves it will not be advisable to damp down after 6 p.m. with no fires alight.

SHADING.—Additional shading will in many cases be desirable, and the blinds may be let down earlier and be left down later just for the time, but do not carry this advice to any great excess. A good plan of giving extra or temporary shading is by means of whitening only, mixed with water. This can be quickly syringed upon the glass whenever it is found necessary, and it will be removed easily enough by the first rainfall. In some cases the usual shading, if light, will be hardly sufficient, but whitening applied thus will remedy it as long as it is needed. Where no roof shading is used, the whitening is a ready method for the time being.

JAMES HUDSON.

ORCHARD AND FRUIT GARDEN.

THE APRICOT IN FRANCE.*

The Apricot, which appears to be a native of Western Asia, has been known in France for several centuries, its introduction dating as far back as the year 1450. In the north and north-west of France it must be trained on a wall or on a fence, but under these conditions its fruits are, as a rule, only slightly appreciated. They ripen very unevenly, the portion of the fruit against the wall always remaining more or less green, whilst that exposed to the sun becomes more or less mealy. From bushes or standards in the open air the fruits are far better; but, in order to ensure success, great attention must be given to details. The trees require a warm and rather calcareous soil, and should be sheltered from the north and north-east winds. In less favoured localities the Apricot will give good results if sheltered by other fruit trees or by some ornamental trees. Unlike other fruit trees, it will succeed in the gardens of large towns, and even those of small dimensions, as in them shelter is always to be found. The great abundance of Apricots in some seasons does not influence the selling price to any great extent, and they are generally very remunerative. The varieties most largely grown in France are very few in number and to a great extent localised. By simply inspecting the wood it is difficult to distinguish one variety from another. Sometimes confusion may be avoided by noticing the distance—more or less great—between the leaves. In Apricot "Peach" and its sub-varieties, for example, the leaves are very near to each other, and the young wood consequently short-jointed, whilst in other kinds the wood is longer-jointed, and the leaves, therefore, perceptibly farther apart. By means of the foliage Apricots may be divided into three great classes. First, the varieties with large leaves, the blade of which forms a right angle with the petiole, as in Apricot Royal, Commun, &c.; second, those kinds in which the blade of the leaf is rather tapering and forms a sharp angle with the petiole, as in Montgamé, Luizet, &c.; and, thirdly, the varieties in which the leaves are flaccid, wavy, and partly folded, as in Peach, Moorpark, Viart, &c. The stone is also of some assistance in classification. It is generally of a bitter taste,

but has a sweetish flavour in the following varieties, viz., Montgamé, Hollande, Blenheim, Luizet, &c. In Apricot Peach and its sub-varieties the stone is perforated—that is to say, it presents on one side a small orifice through which a needle may be passed. This is a characteristic which is not to be found in Commun or the Royal and many others. The Apricot is cultivated in many parts of France. The locality in which the fruits are chiefly ripened in spring is at Solespont, in the department of the Var. Here the fruits, though only of ordinary quality, are ripe by the 1st of June. When sending to market, about a dozen are packed in a small light box, and, notwithstanding their somewhat inferior quality, they readily find purchasers at a comparatively high price. In La Limogne d'Auvergne a larger number of Apricots are grown, and these represent for the most part a variety with large white fruits bearing the name of the province. The entire produce is almost entirely utilised by the manufacturers of Apricot preserves, into which an appreciable quantity of Pumpkin pulp finds its way. It is easy to imagine the enormous profits realised by the manufacturers who were the first to direct their attention to this particular business. In the valley of the Rhône, in the departments of the Rhône and the Isère, there are several places in which the Apricot grows remarkably well. For several years the variety Luizet—raised by M. Luizet, of Ecully-Lyon—seems to have excelled all others. The fruit is of good quality and ripens rather early, while the trees present a vigorous and fruitful appearance. The average income derived from Apricots in these three departments is said to exceed £4000. The Saumurois, in the department of Maine-et-Loire, is another part of the country remarkable for the culture of Apricots. The variety Peach, and to some extent the less known Précoce de Saumur—closely related to l'Alberge de Montgamé—are the principal ones grown. The last-named is a good early sort, and is superior to the Apricots of the Var. Unfortunately, however, owing to the latitude of the district, the fruits reach the Paris markets rather late for realising very high prices. The average yield in this district is only estimated to return 8s. a tree when in full bearing, and the number of trees seems to be about a thousand. Under the Apricots, Strawberries are grown with great success, and in the full season of their ripening two vans are daily loaded on the railway at Saumur Station for the Paris markets. About twenty-two miles to the west of Paris, and along the banks of the Seine for a distance of about five miles, is to be found some remarkable land, which for centuries has been utilised for the culture of Apricots. This highly favoured locality extends in a circle as far as the parishes of Triel and Vaux, sheltered from the cold winds of the north and north-east by the heights of Hautil. In this region the soil is warm and calcareous, and everyone grows Apricots. Spring frosts rarely make themselves felt there, so that the crops ripen with great regularity. The trees (often more like large bushes) are planted from 12 feet to 15 feet apart each way. The stems are never very tall, 3 feet to 4 feet at the most, and oftentimes the branches bear fruit on a level with the ground, and thus the trees assume, more or less regularly, a globular or pyramidal form. The method of pruning back the fruiting branches to three or four eyes is the same as that used for Peach trees, and it is, speaking generally, the only method to which cultivators attach any importance.

Three years after planting, the trees generally bear fruit, the quantity increasing year by

year, and the trees thrive without any particular attention being given them. Of course poor trees will be met in this locality occasionally, but it may generally be concluded that such are quite the old trees of the neighbourhood, veterans two hundred years old being occasionally met with. It may be said that the trees are at their best for fruit producing between the ages of ten and fifty years. In spite of the favourable conditions referred to, it cannot be said that the yield of fruit is at all uniform in quantity or quality. Sixty pounds weight of fruit may be considered about the average yield per tree, and estimating the price at an average of 24s. per 100 lbs., each tree will at this rate produce an income of 14s. 6d.; but it almost invariably happens that besides fruit of ordinary size there are a certain number of first-class fruits, and even some few extra choice samples, which without the least trouble will realise half a franc per pound. It follows, therefore, that without any exaggeration one may consider the sum of 16s. to be the average value of the fruit produced by a tree in full bearing. Growers who sell their crops on the trees, which is very often done, of course do not realise such a large income as this; but, on the other hand, they do not incur the expenses of gathering, nor of other items which tend to lessen the profits of those who pick and sell their own fruit. The annual sale of Apricots grown in this district is said to amount to a sum of £3000 sterling. The common Apricot is almost the only one cultivated, and although the fruits are not of the finest flavour, they are largely used for culinary purposes. Choice preserves are made from the ordinary qualities of fruit, while the better samples are naturally reserved for the table. In the above-named parishes (as well as throughout the whole neighbourhood of Paris) Apricot trees are worked upon the stock of the St. Julien Plum. The plantations extend in a straight line along the banks of the Seine, which at this point is at an elevation of about 90 feet above the sea level. They occupy a narrow band or border along the river side of only 40 feet or so in width, and are then far from reaching the top of the hill behind. A remarkable fact is that the soil does not appear to become at all exhausted. Every year the trees which perish from old age or other causes are replaced by new ones, which always seem to grow in a very satisfactory manner. The severe winter of 1879-80, however, played great havoc in the orchards of Triel and Vaux, but the majority of the trees have now recovered their usual healthy condition. Descending the river Seine, and more to the west, is a small locality known as Tripleval, belonging to the parish of Bonnières. Here some equally fine plantations are to be met with, and so favourable are the climatic conditions that the inhabitants are enabled to even cultivate the Fig with great success.

At my own place, Bourg-la-Reine, the Apricot grows satisfactorily, but rarely produces anything like a good crop of fruit. Some trees planted twenty-five years ago in my nursery produce an abundance of fruit—at least every alternate year. They are planted in the midst of other fruit trees, and are protected from ill-favoured winds by a screen of Elm trees a little distance away. Some other specimens, however, of the same age and vigour, and only a few hundred yards distant from the preceding plantation, are almost entirely exposed and all but sterile—a fact which serves to emphasise again the necessity of growing the Apricot under particular conditions if it is to yield a satisfactory crop of fruit.

* Paper read before the Royal Horticultural Society by Mons. F. Jamin, August 24, 1892.

WASPS AND THE FRUIT CROPS.

WASPS are more abundant this year than I can ever remember them before, and their attention to and destruction of choice fruits cause very great inconvenience and loss. What would have happened had their nests been left undisturbed is not very difficult to imagine; heavy crops as there are of Plums, Apples, Pears, Peaches, and Nectarines would have disappeared quickly. We have destroyed about ninety nests with cyanide of potassium in solution, and whatever may be said of gas tar and its value in destroying their nests, cyanide of potassium is much easier of application and is not required in the same large volume as tar; hence does not occasion the same amount of labour in carriage from one nest to another. Mr. Tallack's estimate of the quantities required in gas tar speaks pretty plainly of the amount of work in dealing with a large number of nests. Two single pound bottles of the cyanide is the quantity we have used for the ninety nests dealt with, and another one is already in preparation by dissolving in cold water for many others recently found. Its effects are not found strictly uniform, because of the varying positions of the nests. In some cases there is a very small entrance, which makes no difference if it takes a downward course, but if it should take an upward one, then the fumes of the deadly fluid do not act as speedily on the wasps. My plan in preparing and applying the chemical is to dissolve about one-third of a pound in three pints of water in a wide-mouthed bottle holding that quantity. In dissolving it, I find it requires to be stirred briskly, the hard lumps remaining a long time in the water without some aid in this manner. When ready, I take a small tin canister with the bottle, so that a small quantity can be poured into this for applying it to the nest entrance. About a tablespoonful is sufficient, but we vary the amount according to the strength of the nest. Some are much deeper in the ground or bank than others, and I find by the aid of the small tin it can be thrown into the hole pretty easily. In most cases the wasps die almost instantly as they pass over the cyanide. Rarely do they come out once they pass in. If the nest is a very strong one and the entrance small, it becomes blocked with the dead and dying insects so much, that they all cannot get in. In this case a spade or hoe would be useful in making a free passage for the remainder; and a small quantity poured in the next day will destroy all those on the wing. Unless the nest happens to be in a public thoroughfare, where the wasps are subject to annoyance, there is no disposition on their part to sting, for the reason that when they return from their journey they go straight to the nest without taking note of anyone, and once within the nest, they have no opportunity of interference afterwards. Although I have destroyed so many nests, not one attempt has been made by a single wasp to sting, so that there would appear to be no occasion for nervousness on the part of anyone in attacking them with this convenient, but deadly poison.

A bright sunny morning is the best time to choose for an expedition, because then they are stronger on the wing and the sunshine makes their whereabouts more easily ascertained, as they can be seen often some distance ahead. There is no difficulty in finding them in dry banks, but there is a very small wasp which makes its nest in the open field, which, unless it is traced by watching its departure from fruit trees, or is come upon accidentally, is not easy to find. Some of the largest nests must be a home for thousands of wasps, and

it is really surprising the quantities that find their way into comparatively small ones.

Although so many have been destroyed, their numbers do not seem diminished as regards their attacks on fruit. Plums, Peaches, Nectarines, early Pears and Apples all claim attention from them. We have kept them from the wall fruit fairly well by applying Scott's wasp destroyer to the already attacked fruits and on the foliage here and there about over the trees. Its effect is clearly perceptible a few hours after, for no wasps will come near it for a time once they taste it. They commenced an attack on a house of ripening Peaches and Nectarines, but immediately it was observed, the remedy under notice was applied, and no further trouble was experienced. Outdoor Nectarines and Pears they eat while yet hard, and they turn their attention to these latter more when they are driven from the walls by Scott's. It is very singular what a magical effect it has in clearing them from vineries, Peach houses and wall fruit outdoors; very rarely do we find any dead ones resulting from its use. Davis' is looked upon as a superior article to Scott's, but whichever may be used, it would be a profitable investment where fruit of any sort is grown to keep a bottle in hand.

W. STRUGNELL.

Rood Ashton Gardens.

BERDIANSK GRAPES.

BERDIANSK is celebrated in Southern Russia for the size and sweetness of its Grapes. The British Consul in Southern Russia in a recent report speaks of Berdiansk town as formed by Prince Woronzoff in 1842 on the low ground adjoining the steppe, and was originally probably washed by the Sea of Azof, the soil being entirely sand and shells, with brackish water everywhere within a foot of the surface. Plans were drawn up for the formation of gardens, and about 800 acres were offered to peasants and German colonists on condition that they planted not less than 120 fruit trees or 2400 Vines per desiatine of 2.7 acres. Sole ownership was granted upon condition that, in case of default, the land would revert to the town. Every available plot was soon taken up, and in a few years the entire space was transformed into well-arranged and profitable gardens. During 1888 this experiment was repeated by the Town Council. A quantity of land—about 500 desiatines—was sold by auction, and averaged £10 to £50 per desiatine, the terms being an annual payment of 6s. per desiatine for ten years, and the same conditions as to cultivation. No difficulty occurred in finding purchasers, and the necessary Vines and fruit trees were planted, and the gardens now present a very favourable aspect. The Vines thrive well, and already bear fruit, large quantities of ordinary garden produce being also grown. The descriptions of Vines principally grown here are the Chassla or Bernska, Chaons, Isabella, Black and White Muscat, Burgonski, Arcitinski, and the Alexandra Muscat. The Vines give a greater yield on the low, sandy soil, but the more delicate kinds thrive better on the slopes in a clay soil. About 3000 Vines occupy a desiatine of land, and no manuring is practised, although, where experiments have been made with old Vines, manure has been found advantageous. The average yield of Grapes of the common kinds is about 10 lbs. per Vine, 36 lbs. producing about two gallons of wine. The superior kinds give a smaller yield. Prices of Grapes average from 1s. 8d. to 8s. per 36 lbs. and new wine from 3s. to 10s. per two gallons. The crushing is carried on in a primitive manner, and little attention is paid to sorting or cleaning. Bulgarian and German colonists go in from the country districts during the early autumn and buy up the wine, none being as yet exported. There are several large private growers, who take special care in the cultivation of their Vines and preparation of wine, and some good sound wine can be

generally found in their cellars. The bulk of the wine being of a light character (8 to 10 per cent. of alcohol), does not bear keeping; but where the superior kinds are properly cleared from the stalks and sun-dried, a good strong wine is obtained, which keeps well, and can be bought at 12s. to 16s. per two gallons. No phylloxera or other Vine disease has yet been experienced at Berdiansk. It is estimated that some 1500 desiatines of land are under Vine cultivation amongst the various colonies and villages in the district, in addition to the quantity belonging to the town. Probably in a short time an outlet will have to be found for the surplus wine, as the quantity produced will be doubled, and the supply will be greater than can be consumed in the surrounding districts. The Vines seldom fail to give a good yield. The cultivation, therefore, is found to be lucrative; but it is five years before the Vine is in full bearing. The present production of wine at Berdiansk amounts to about 300,000 gallons per annum. The Vines during the autumn are bent down and well covered over with earth to provide against the attack of the severe frosts. In the spring this is removed and the Vines cut down to 2 feet and 3 feet from the ground, and not more than five stalks or branches are allowed to remain, and these have necessarily four or five buds on each.

Raspberry Superlative for late fruit.—I

have for some time grown the above and advised its culture, and this season am much pleased with it on account of its free bearing qualities during a hot, dry summer. At a recent R.H.S. meeting this variety was staged by Messrs. Veitch in splendid condition, and, considering how small fruits have suffered owing to the drought, they were wonderfully fine. If the canes are cut down in the early spring they produce late fruit, so that a row or two treated in this way will do much to prolong the season. It may be thought preferable to grow the autumn fruiting kinds for a late supply, but Superlative will give larger and much sweeter fruit, and being such a heavy cropper it is always reliable. For late fruit a north border under a wall will be a good position for the canes, and as the fruit is produced on the newly-made canes, tall stakes are not wanted, and being dwarf the plants do no injury to wall fruits if grown in front of them.—G. WYTHES.

Cherries and moisture.—No doubt many fruit trees fail through lack of moisture. I have some trees which do grandly in a wet season—at least as far as swelling up the crop is concerned; but, of course, with a wet season there is a serious drawback in the way of cracking, as it is impossible to keep cracked fruits for any length of time, and what is gained in one way is thus lost. There is no difficulty in throwing off heavy rains by planting on sloping banks or by using some conductor to throw off excessive rains and prevent cracking. In dry, gravelly soils the Cherry is short-lived if not well attended to in the way of moisture. If these trees are now suffering at the roots the mischief is soon seen; the leaves droop in hot weather and do not assume an erect growth after a night's shade, and, what is worse, the trees frequently break into new growth early in the year, or even in midwinter if the weather is mild. This growth is soon destroyed, and the result is canker and in time total loss. I am well aware the Cherry does not like a very heavy soil, but feel sure a very light, dry subsoil will not tend to a healthy growth or long-lived trees. I am obliged to mulch very heavily, and in such weather as we are now experiencing to water at least twice a week, this entailing a lot of labour. In no case do I advise a south wall in hot or exposed places, as with a tropical summer the fruits are nearly wasted before they are ripe, as they are much exposed on one side and hard on the shaded side. At p. 92 "Dorset" points out the importance of moisture for Cherries even on a north wall, and it is far more essential on a wall more exposed. I lost several trees years ago through drought, hence my anxiety as to a good supply of moisture. With

plenty of the latter there will be less decay, as a robust growth will result and little canker. I am alive to the importance of ample drainage in heavy land, but deep planting is not to be recommended, as if the fibrous roots can be kept near the surface, there will be little canker provided there is an ample supply of moisture.—S. H. B.

THE AUTUMN PRUNING OF PEACHES.

MR. WYTHES' remarks on this (page 131) are as opportune as they are valuable. The more thoroughly ripened the wood of this year, the finer the crop, weather permitting, the next. Now, maturity of wood is often less a matter of weather than of treatment. Overcrowding of shootlets and leaves is the chief cause of green, sappy wood in the autumn. Such wood, again, is crowded with immature buds, mostly wood ones, which are tender in the ratio of their size. The few fruit-buds among them that escape freezing develop into weakly fruit hardly worth growing. On the other hand, where all the wood is grown up to perfection, wood and buds alike resist almost any amount of cold, and the fruit-buds yield fruit equal if not superior to that grown under glass. The latter is specially so this year, thanks no doubt chiefly to the abnormal heat and drought.

To return to summer pruning, I wish especially to corroborate Mr. Wythes' views as to doing this tentatively, a little at a time. Not only fruit trees in the open, but also under glass, and especially Grape Vines, are often most seriously crippled by wholesale onslaughts of summer pruning. The check to the flow of sap on the heels of such wholesale slaughtering is simply disastrous. But not a few go to the opposite extreme, and instead of having a few field days for wholesale summer pruning, leave all pruning until the winter or spring. The latter resent time and force by growing what is worse than useless, viz., a redundancy of wood in their Peach, Plum, or other fruit trees.

Want of time for summer pruning is often urged to cover other objections. Of course, where the trees are numerous and the walls of great height the labour is heavy. Nevertheless, skill of head and nimbleness of fingers get over quantities of such work in a short time in summer weather, and there is little or no labour in the garden that yields quicker or more profitable returns. All the labour expended in summer pruning is also saved in the winter and spring pruning. Summer pruning properly practised lays the basis of fertility. Winter and spring pruning at the best but remove useless or sterile wood out of the way.

D T. F.

Melons and the hot weather.—I believe complaints have been pretty general this season as to the early collapse of Melon plants, the recent hot and sunny weather having been very trying to the foliage. Melons being lovers of bright sunshine, this season should have been more in their favour than otherwise. This early collapse must, therefore, be attributed to other causes than the bright weather. My opinion is, and this is further borne out by facts, that it is on account of a sluggish root-action. For the last few years I have grown a portion of my Melons in a structure where there is a pit filled with leaves, this having previously been used for forcing. On these leaves small hillocks of soil are placed, in which the Melons are planted, and I must say that I never saw Melons thrive better than these have this season. The foliage was of a very dark green colour up till the time the fruit was cut, and without an insect of any kind being seen, and this without any syringing to promote this end, as this latter is a practice I do not believe in with Melons. There being such a body of leaves, the inference might be drawn that this would favour a strong succulent growth for the time being, and predispose the plants to canker and gumming. This, however, does not happen, as the leaves keep up a healthy and continuous root-action. A large body of fermenting material composed principally of horse litter might be against such good results,

but not leaves, as I am certain these are a good aid to the Melon's healthy progress. The leaves by generating a gentle warmth promote root-action, and this being the case, healthy foliage follows, and such as will withstand hot sunshine and dry weather with impunity.—Y. A. H.

THE BEST PLUMS.

THIS has been a very extraordinary Plum year, yet it is doubtful if anything like good representative collections will be forthcoming at the principal fruit shows. Already many of the best are nearly or quite over, and those that follow will be principally produced by trees trained against walls with a cool aspect. These remarks, however, apply more particularly to the more southern parts of the country, and should the northern growers come south to



Plum Green Gage.

compete at the great fruit show that is to be held under the auspices of the Royal Horticultural Society at Islington, they will very probably have matters much their own way with Plums. If we cannot compare fruits, there is nothing to prevent comparing notes. In addition to be very plentiful, or far more so than at one time thought possible, Plums have also been of exceptionally good quality. So well have they ripened, that the immense quantities that have been eaten do not appear to have injured but few people, this further confirming the well-recognised theory that it is only unripe fruit which is very injurious to those who partake too freely of it in a raw state.

As far as early dessert varieties are concerned, there are none in my estimation to equal Oullin's Golden Gage. To do justice to this fine Plum a fairly warm site or a wall facing south-east should be accorded it. It is of sturdy growth, the wood as well as leaves being very distinct. With me it rarely fails to bear good crops, the fruit being large, roundish oval in shape, of a rich yellow colour, and in flavour not far behind a Green Gage. It usually ripens about the second week in August, but was fully a month earlier this season. Oullin's Golden should find a place in the most limited collec-

tions. The best purple companion for the last named that I have yet tried is De Montfort, a variety but little known, yet a very excellent Plum all the same. In growth it is totally the opposite of Oullin's, being of a thinner habit altogether. For the past six years the tree has not failed to produce a fairly good crop of medium-sized fruit in form somewhat resembling Coe's Golden Drop, only a little smaller and a dark purple in colour. It has a yellow flesh, rich, and is improved rather than otherwise by keeping. Transparent, or as some prefer to name it Early Transparent Gage, is always a very attractive variety, but this summer it is better than I have ever seen it before. The tree is of a fairly strong and productive habit of growth, the fruit being somewhat flatter and also larger than the Green Gage, and when ripe the skin is transparent yellow and prettily coloured on the exposed side; quality first-class. Transparent Gage forms a good succession to Oullin's Golden, and actually pleases better than Jefferson, good as the latter is. The last-named has long been popular, this handsome richly-flavoured yellow Plum succeeding well in most gardens, always provided the trees can be trained against a wall of some kind. With me it colours beautifully on a south-east wall, but the finest fruit is gathered from a tree trained against a wall with a north-west aspect. Kirke's is still the best purple companion for either of the two yellow Plums just commented on, this also being of a good productive habit of growth and the fruit large, handsome, and richly flavoured. If a tree or trees of Jefferson are planted against a wall with a cool aspect, the supply of choice fruit will usually be maintained till Coe's Golden Drop is ready for use. The latter is, perhaps, the most valuable variety in cultivation, and this season, thanks to its long keeping properties, will be particularly appreciated. It is a good grower, yet never fails to flower and, if the season is favourable, to crop heavily, the fine, handsome, richly-flavoured fruit frequently keeping till November. In Guthrie's Late Green we have another good late variety. On walls it is a sure bearer, and the large, round, green-coloured fruit, though not particularly attractive in appearance, are of good quality and keep remarkably well. The Gage family—I mean the true Gages—is somewhat disappointing. Only the ordinary Green Gage (here figured) can be termed reliable, and the trees even of this are more crippled by red spider this season than any other varieties. But for their superior quality not many Green Gages would be grown by me, and both the Purple Gage and Reine Claude de Bayay have been discarded owing to the fruit cracking so badly.

All the foregoing are dessert varieties of superior quality, but they are equally valuable for making into preserves or for pies. Why, therefore, so much good wall space should be devoted to second-rate varieties is to me somewhat of an enigma. It is true some of them are available for either dessert or cooking, but they are a poor substitute for the genuine article, and if grown at all should be more in the form of standards, pyramids, or bushes. Early Orleans, of which Grimwood's Early is the best form I have come across, and a tree of Victoria are about all that should be given wall space in the majority of gardens, and if an extra early variety can be found room for, plant Morocco in preference to the flavourless Rivers' Prolific. The Czar, Sultan, and Washington are of fairly good quality only against walls, but the two former are among the best for growing in the open. Quite recently I passed

through a rectory garden where no less than four large trees of Prince Engelbert are trained against moderately warm walls. It is true they rarely fail to produce a crop of extra large purple fruit, but the quality is simply execrable. Those other extra large varieties—Pond's Seedling and White Magnum Bonum—are equally worthless, but they have their share of wall space in many gardens in spite of their poor quality. Goliath, again, is not of much value, and Diamond is sour and of but little good, though there are plenty of well-grown pyramids of it to be seen in different gardens. Prince of Wales and Mitchelson are suitable for growing as low standards, and so also are Czar and Sultan, both of which I have just previously alluded to. If a really good preserving or cooking Plum is wanted in quantity, then plant standards of Gisborne's, this being an improvement on Pershore, a small, yellow-fruited, heavy-cropping variety much grown in Worcestershire. Coe's Golden Drop should also be tried as a standard, as I have seen it doing well in orchards near London, and no variety surpasses it for making into preserves. Winesour seems to be going out of cultivation, yet the fruit of this variety is considered very superior for cooking or preserving, the flavour being quite distinct from that of any other Plum I have yet tried. The tree is of erect, but not very strong growth, and from what I can remember of it not much fault can be found with it as regards productiveness.

FRUIT GROWER.

STRAWBERRIES ON LIGHT LAND.

THIS has been a trying season for this fruit when panted on light, gravelly soils; indeed, in some cases there has been a total collapse of plants if the latter were poor or had occupied the same ground for any length of time. There is considerable advantage in adopting the yearly system with such soils, especially if special means are taken to plant early and thus secure a good growth before the winter. The runners require as much care as if layered for forcing. It may be thought best on dry, poor land to allow a freer growth somewhat like the alpine Strawberry. By allowing the runners to root and fruit between the rows there is less chance of failure. No doubt this is a good plan on light land where the necessary attention to secure first-class fruit cannot be given, as I have seen crops obtained in this way that would otherwise have been utter failures. Often small fruit in abundance is required for preserving, so that the last-named answers admirably, especially for such kinds as Black Prince, King of the Earlies, and the old Scarlet Pine. I have had abundance of fine fruits from plants put out in February, these having been wintered in $4\frac{1}{2}$ inch pots, but I do not recommend it for general practice. My reason for doing it was that some of the new varieties that came to hand were badly rooted, but by potting up, keeping plunged up to rim in the open or in cold frames, they well repaid special means to get strong plants. There is often considerable loss by planting badly-rooted runners. Again, why, it may be asked, is it necessary to get special soil when the plants occupy it such a short time? There are several reasons, and one more important than others is to prevent failures in seasons such as we have just passed through. By planting in suitable soil a greater size of fruit and a heavier crop are secured in favourable seasons. Some varieties almost refuse to grow on poor gravelly soils, but by the use of heavier soil few failures occur, and the old Strawberry bed when cleared is just the place for such crops as Broad Beans, roots of various kinds and many other green crops. It well repays the cultivator to give his Strawberries some heavy soil, and where it cannot be done thoroughly, that is, by carting clay or marl into the quarters, a few barrow-loads of this

material placed along the rows or round the plants give the latter a firm root-hold, as well as secure them against drought. If a few rows are planted every season in the way described, there will be as much weight of fruit as from double the quantity of plants on poor, light soil. It is surprising to see the progress the plants make when first planted in such soil. Often heavy soil may be had at a small outlay and would cost less than a large quantity of manure; it may not always be ready to hand just at the time required, but those who can store a good heap will find it of great value at this season when planting. I find it invaluable, as it comes in for other fruits, such as Melons, Vines and hardy fruits. There are several varieties of Strawberries which refuse to do well unless special means are taken to secure a good root-formation. If close observation is made with pot Strawberries, it will be found a large proportion of heavy soil is used, this being made very firm. I would also advise a thorough treading, or even ramming the bed before planting. I do both and pass the back of the rake over the surface after treading, planting carefully with a trowel and leaving a cavity round each plant to hold the water. By attention to details at this season there is less anxiety as to the plants next year, indeed failure rarely occurs. The individual fruits will be much finer, the flavour improved and a very heavy crop secured.

Y. T. II.

OUTDOOR GRAPES.

WHILST we are having one of the most favourable seasons ever known for the maturing of outdoor Grapes, and there will be found still in diverse parts of the kingdom immense quantities of the common varieties, there is little probability that we shall see even the best samples fetching in the markets more than 2d. per lb.; whilst the worst of Spanish and Portuguese imported Grapes will sell readily at 4d. and 6d. per lb. This fact is due to two things: first, our average summers are distinctly unfavourable to the production of good outdoor Grapes, and second, because our outdoor varieties are of such inferior merit. Then, even when conditions are so favourable, as is the case this year, practically nothing is done to improve the quality of the Grapes by thinning either bunches or berries. Probably did anyone take so much trouble, it would not pay in a pecuniary sense; but it would pay were the Grapes consumed at home, as whilst the number of bunches or berries would be reduced one-half, the loss in that way would be more than compensated for by the superior size and quality of the berries. If we have so few Grapes that are worth cultivation outdoors, we have our own inaction somewhat to blame, but more, of course, our unfortunate climate, which gives us absolutely so little encouragement to improve our hardy Grapes, that the present season stands out literally as but one in ten; indeed, it is almost a rarity in a lifetime, and in such case how is it possible to expect that anyone would care to undertake work which would meet with such poor encouragement? If we take stock of outdoor Vines now all over the kingdom, setting aside, of course, those planted in vineyards, as at Castle Coch, Cardiff, we shall doubtless find that White Sweetwater is almost exclusively the one variety grown. Mr. Fenn used to grow Esperione and Royal Muscadine at Woodstock on the best aspects of the old rectory house, but even there the berries could never be said to ripen, although they answered the purpose of the grower for wine-making. Some fifty years ago, and before glass was so cheap, a large portion of the population had to be dependent upon such fruits as they could obtain from the outsides of their dwellings and from walls. I remember

well as a boy Clement Hoare's earnest and well-meant effort to form a vineyard on a hill slope at Shirley, near Southampton, for I just then lived close by. He erected low walls at moderate intervals from each other, and rising one above the other on the slope. But in spite of the warm position and the undoubted special knowledge of the planter, the attempt failed absolutely. The best hardy varieties of that time were August Muscat, Early Black July, Royal Muscadine, White Sweetwater, White Dutch, Esperione, Black Prince, Parsley-leaved, Ciotat, and a few others. So far as my recollection serves, the best for the production of good-sized berries was the White Dutch, but the bunches were small. The Sweetwater is perhaps the next best white, whilst the best blacks are the Ciotat and Black Cluster, although these are poor enough. I often wonder whether amidst all the efforts made from time to time to secure improved tender Grapes anything has been done towards obtaining better hardy or outdoor Grapes. Not that anyone, if he did with ever so much success, would reap any pecuniary benefit. It would have to be a matter of pure liking or of fondness for the work of hybridising, for, after all, let the results of such labour be ever so good, there could be no actual benefit unless we had seasons that would fully mature Grapes outdoors. One of the special needs is found in varieties that will break into growth earlier than is usually the case, but even then, so tender are the young shoots, that they may be all killed by late spring frosts. Then Vines outdoors have formidable rivals in other fruits. How much more can be made on south aspects from Apricots, Peaches, Pears, or the best Plums. How much more regularly do these crop, and how invariably does the fruit ripen fully. A good Marie Louise or Pitmasdon Duchess Pear on a north wall would probably give a ten times better return than would the best cropping Vine. I should never think of advising the clothing of a cottage front with any Vine now, although it was common about fifty years ago. Happily, whilst seasons have so largely given the *coup de grace* to outdoor Grape culture, they have not materially injured the production of other fruit, and so long as we can purchase fairly good Grapes—much better indeed than we can grow outside—for from 4d. to 6d. per pound, we need not want for Grapes, whilst other fruits rarely are too plentiful, especially of the fine quality that walls give. A marked feature on outdoor Vines this year is the absence of mildew.

A. D.

THE FRUIT CROPS.

SOUTHERN.

Cassiobury Park, Watford—Apples under average. Pears bad; only a few set. Cherries good. Plums good. Peaches and Nectarines average. Apricots average. Black and Red Currants good. Raspberries average. Strawberries under average.

Vegetables in every case a very light crop. Early Potatoes small, but of good quality. All seeds sown early stood this dry season best.—CHAS. DEANE.

Gaddesden Park, Hemel Hempstead, Herts.—The fruit crops in these gardens and neighbourhood, I think, in general have been with few exceptions very satisfactory. Apples a fairly good crop, and the fruit swelling very well. Apricots a heavy crop, the fruit set in clusters like Grapes. Pears a very fair crop, not heavy. Plums a fair crop. Peaches and Nectarines a good crop; the Peaches have ripened off very early this year,

three weeks before the usual time. I began picking Early Alexander June 21, Hale's Early July 3, Early Rivers July 5, a heavy crop, fruit well coloured, and not split at the stone, as it usually does here; Early Beatrice July 14. The only protection the trees receive in the way of covering is a double net in the spring and a board for a coping 16 inches wide. Cherries have been very plentiful, especially Morellos. Strawberries have been fairly good, but smaller than usual, and in many places were over very soon. In these gardens they have done very well. I have them planted on borders with different aspects. I began picking on May 28, on south border, Noble, then Vicomtesse H. de Thury and La Grosse Sucrée; then followed on with the same sorts in the open, President added; then the same sorts on north border, Sir Joseph Paxton added; the last turned out very fine. I picked every day from May 28 until July 17. Gooseberries, Black, White, and Red Currants have been a very good crop, the fruit not so large as usual.

The vegetables have been very good considering the long spell of dry weather we have had. Early Potatoes turn out very small, not more than half the usual crop. The late ones look more promising. The Onion crop is bad in places, especially with the cottagers. Several of them have lost the crop entirely with the maggot. Peas have done fairly well. All winter stuff got in early is looking very well.—HENRY FOLKES.

Holly Lodge, Highgate.—Strawberries and Raspberries good on the whole. Bush fruit full average crop. Morello Cherries a heavy crop and well finished. Peaches and Nectarines good. Plums and Damsons partial. Apples and Pears a full crop. The foliage of Apples and Plums has suffered severely from the drought and insects; consequently the fruit is below average size. All fruit crops up to the present have been nearly a month earlier than last year and of shorter duration. Present appearance is a falling off in bulk of Apples, Pears, and Plums. The foliage of Apples and Plums is much damaged.—J. WILLARD.

Wonersh Park, Guildford.—We had no rain from March 2 till the first week in July, with the result that nothing would grow, our time being fully occupied in keeping things alive by continuous waterings. The fruit crop was rather disappointing after such a good show of bloom. Strawberries were a poor crop and deficient in flavour. Red and White Currants were above the average, but Black was the poorest crop I have ever known. Raspberries much below the average. Gooseberries rather above. Apples are a good crop, especially such old standard varieties as Blenheim Orange, Keswick Codlin, Hawthornden, &c. Pears are rather better than last year, a few varieties carrying good crops, both on walls and standards. Plums an average crop, such varieties as Cee's Golden Drop, Victoria (Denyer's), Diamond, White Magnum Bonum, and most of the Gages being fairly well loaded. Morello Cherries were a good crop. Peaches and Nectarines outside are carrying an average crop, though very small, the sorts doing best being Royal George, Alexandra Noblesse and Diamond, and in Nectarines, Murray and Violette Hâtive. Apricots were above the average, though rather small.

Peas were a poor crop, Telephone and Duke of Albany doing best with us. Broad Beans were a complete failure, flowering about 6 inches from the ground, and being completely smothered with black fly; the early sowings of dwarf Beans were spoilt by red spider, but later sowings are doing well. Cabbages, Cauliflowers, &c., were rendered unfit for use by blight. Early Potatoes were an average crop, but I find that the late varieties, such as Magnum Bonum, are growing out very much. Carrots and Beet have failed altogether. Onions where free from maggot a medium crop. One thing I noticed particularly, and that was the superiority of the Cabbage varieties of Lettuce over the white Cos in standing the drought.—A. HORSELL.

Brickhill Manor, Bletchley.—The year 1893 will long be remembered for the exceptional

drought and great heat. With the exception of a slight shower, no rain fell in this district between March 18 and June 28. In consequence of the want of rain between the dates mentioned, many crops have suffered. Strawberries set well, but could not swell to full maturity, and I found them wanting in flavour; the plants have suffered also. We gathered in the open air, May 21, Keens' Seedling, and by the end of the month the whole crop was ripe. All sorts of Apples are bearing heavy crops, the trees healthy and free from caterpillar. Plums abundant, especially on pyramids, and the trees free from blight. Pears moderate crops. Apricots and Peaches do not succeed here. Gooseberries heavy crop, but the foliage was devoured by the caterpillar in spite of all remedies we could apply. Red, Black and White Currants good crop, but smaller than usual. Walnuts, Filberts and Cobs are good crops.

Vegetables have suffered from the dry weather. Veitch's Selected Early Pea did well. We gathered from this variety May 20; American Wonder and William I. followed. Stratagem and Autocrat stood the heat better than other varieties, and I consider these two of the very best Peas that are grown, and especially adapted either for large or small gardens. Carrots are good in gardens, but field crops are poor. Among Turnips for early use, I find nothing so useful and reliable as Early Milan. Onions, spring-sown, are almost a failure all round this district. Potatoes look well in the top, but I find the yield is small, and unless all early sorts are lifted, second growth will take place. Magnum Bonum and such late sorts require a good rain. All are very healthy and no disease.—G. BLOXHAM.

Stowe, Bucks.—There has been an abundance of fruit this season here. We have quantity, but not quality. Apples plentiful, but small. Pears plentiful in places; crop varies. Plums abundant. Currants and Gooseberries the largest crop for years, but on light soil the strain upon the trees and dryness have killed many.

Around here this season has been an unfavourable one for vegetables. The dry season has caused the seeds to germinate at different times. Thus on the Beet bed I have seen here and there a very fine plant, with others just coming out of the ground, and also find good seed not yet germinated. This has also been the same with the Onion and Carrot beds. Cauliflowers have been quite a failure, while Peas sown in trenches have been very good, as also have been French Beans. Potatoes which were not in a sheltered situation were cut down by a frost we had in June. Since then they have done no good, although the haulm has grown more than usual. Very few Potatoes are found on the roots of these. From Potatoes not cut by the frost I have fine crops, but the tubers are now growing. On the lighter soil I find many of the Potatoes covered with a dark substance, which gives them a scabby appearance, while on the heavier lands they are perfectly clear.—G. HASKINS.

Binsted Wyck, Alton, Hants.—In this district Apples are over average and the trees clean. Pears are very good. Not many Plums or Damsons, and trees have suffered from blight. Peaches and Nectarines are plentiful. Bush fruit has been very plentiful. We have a plague of wasps, which are eating all ripe fruit they can get at. Strawberries were plentiful and good. Morello Cherries plentiful.

Vegetables rather short on account of the dry season. Broad Beans are a complete failure. Early Potatoes are poor. The late ones are looking well; no sign of any disease as yet.—JOHN ROGERS.

Cowarth Park, Sunningdale.—This has been a trying season in many respects, fruit and vegetables being greatly affected by the long spell of drought. Fruit is much below average. The great heat did not suit the Strawberries. I commenced gathering from the King of the Earlies on a south border May 19, followed by La Grosse Sucrée, Noble being a few days later. Sir Joseph

Paxton and Sir Charles Napier were by far the best with me, the fruit not large, but of good flavour. Latest of All to-day (July 26) is flowering freely, and if weather permits I hope to gather some nice fruit yet. Gooseberries, Raspberries, and Currants are very plentiful, but far from satisfactory as regards flavour, all ripening very early and soon over. Caterpillar, red spider, and wasps have been great enemies to the fruit. Very early also were the dessert Cherries, Morellos likewise being ripe fully a month earlier. Plums and Apricots an average crop. Peaches plentiful, but small. I gathered from the outside June 23. Nectarines of medium size, colour good, but flavour poor. Apples are far below an average, although at one time they looked promising. Pears are abundant, every tree being loaded. Nuts are plentiful.

This has been a bad season for all kinds of vegetables. I commenced gathering Chelsea Gem Peas on a south border on May 25, followed by the Pioneer and William I. Cauliflowers and Lettuces have been a complete failure. Potatoes were never better, not large, but good and free from disease.—H. ATTFIELD.

Westbury House, Petersfield.—Strawberries were all quite a fortnight earlier than usual, Noble, Vicomtesse Héricart de Thury, and Sir J. Paxton having been nearly all in at once, each having an abundance of fruit, well coloured, and well flavoured, though deficient in size. I have no late Strawberries at all this year; Frogmore Late Pine, Laxton's Latest, and Loxford Hall Seedling all came in before Sir J. Paxton was quite over. The three late varieties just named are comparatively new, or at least they are not yet very widely grown, and this is the first year that I have been able to test their relative merits, each variety having borne a large crop of the most splendid fruit I have ever seen. Gooseberries quite average crop, but small and not well coloured. Red and White Currants plentiful, but small; Black Currants under north wall abundant, and nearly full sized. Raspberries small and short stemmed, but fair average. Peaches on walls where covered in spring plentiful and of good flavour, though under-sized in spite of thinning, watering, and mulching. Apples with me very plentiful. Walnuts with me a failure, the frost having destroyed the blooms, but trees a few miles out on higher ground are heavily laden. Filberts and Cobs well fruited just here, but I believe rather partial.

I have Carrots of four or five different sizes and heights on a bed from one sowing. Parsnips the same. Beet the same. The most sorry spectacle of all is the Onion bed. I sow over 1 lb. of seed annually, and usually store from 10 to 15 bushels of bulbs. This year I cannot store one half-bushel. This is quite accountable, and if we are beaten we at least know how it has been done. For seventy clear days, viz. from March 7 to May 16, not one drop of rain fell in this neighbourhood. The small seeds were sown and found just sufficient moisture under ground to cause them to germinate, after which came a long succession of burning hot days, and no more moisture being forthcoming in any shape, the germ dried up and the seed died. The seeds which have been coming up lately and formed a succession were those which at sowing were left nearest the surface, and never got damp enough to start them till the rains came. We have had a very harassing time fighting red spider, wasps, &c., which have almost mastered us here, and from what I read my friends at a distance are quite as badly plagned.—C. LANE.

Wyfold Court, Reading.—We have had good crops of all kinds of fruit, but Strawberries had to be watered to prevent berries shrivelling. Currants and Raspberries suffered worst of all; the fruit could not withstand the scorching sun, consequently only half came to perfection. Gooseberries finished off well. Apricots, Peaches, Plums, Pears and Apples have all done well, the crop of the three last being very heavy and clean. This being a Cherry county, large quantities are grown, the crops heavy. The absence of rain caused the fruit to finish off without splitting. All fruit was ripe three weeks earlier than usual. I have ob-

served that plants of all kinds with long roots withstood drought best, and, again, only on well-cultivated ground have plants done well; therefore we must bear this in mind and dig and plough deep.

Among seeds, Carrots, Beet, Parsnips and Salsify took much longer to germinate than usual, but it was noticeable after a while, when the roots had penetrated the soil, that growth was rapid. Onions did well; good crop and large considering no water was applied. Peas have been bad; although the haulm quickly grew up, only half a crop of pods followed, which quickly filled. The haulm of all early varieties was cleared off by first week of July. Out of eight varieties I found Laxton's Supreme was the best. Early Potatoes, such as Myatt's Ashleaf, were good crops and of fair size, but Early Rose, Beauty of Hebron, and other second earlies were very poor and haulm all dead by July 10.—ARTHUR LONG.

Englefield, Reading.—The Apple crop in this neighbourhood, I believe, is an average one, but in these gardens it is very poor, Keswick Codlin, Alfriston, and Cox's Orange being the only varieties which are fruiting this year. Pears are pretty good. Apricots good. Plums good. Peaches good. Gooseberries good. Red and White Currants good. Black Currants very poor, which I attribute to very late frosts when in bloom. Raspberries were nearly a failure owing to the long-continued drought. Strawberries the early part of the season were good, but the late varieties were poor on account of the dry weather.

Early Peas were good, but later crops have suffered much from the dry season. All crops in the kitchen garden have suffered much from drought. It was difficult to get many seeds to germinate.—JAMES COOMBES.

East Sheen.—The Apple and Pear crop in this district is very thin, although there was abundance of bloom and a heavy set. Owing to the drought the fruit dropped badly. The best Apples here are Lord Suffield, Lord Derby, Bismarck, Worcester Pearmain, Kerry Pippin, Baumann's Red Reinette, Pott's Seedling, the best Pears being Clapp's Favourite, Williams' Bon Chrétien, Beurré Fouquieray, Duchesse d'Angoulême, Pitmaston Duchess, Fondante d'Automne. Plums are a failure. Cherries, except Morellos, are a failure. All kinds of bush fruit are good. Wall fruit is very good. The best Peaches are Royal George, Condor, Grosse Mignonne, Alexander, Sea Eagle. The best Nectarines are Elruge, Lord Napier, Pineapple, Rivers' Early Orange, and Prince of Wales.—S. OSBORN.

Syon House, Brentford.—The year opened with every promise of an abundant crop of fruit, the protracted frost early in the year keeping the blooms later than otherwise would have been the case. Apples are under average. There was plenty of bloom and a fair set, but owing to the long drought a great portion of the fruit dropped. Such kinds as Lord Derby, Alfriston, Lord Grosvenor, Manks and Keswick Codlins—indeed, all of the Codlin type are bearing freely. Lane's Prince Albert and Stirling Castle, the latter on Paradise stock as a cordon, are bearing very heavy crops. Choice dessert kinds are very scarce, our best bearers being Cox's Orange, Cockle, and Kerry Pippin. Pears are a very thin crop, the best croppers this season being Louise Bonne of Jersey (which rarely fails to bear), Beurré Bachelier, Beurré Diel, Pitmaston Duchess, and Easter Beurré. Though we devote a large wall space to Pears on various aspects, the pyramid trees are our best bearers this season. Plums may be termed a failure. Cordon trees have invariably done well, but we grow only a few cordon Plums. Our best Plum this year is Czar, a valuable variety. Peaches and Nectarines promised well; there was abundance of bloom and a free set upon such kinds as Hale's Early, Early Silver, Stirling Castle, Royal George, and Noblesse, but many fruits dropped during the stoning, our soil being very light. Lord Napier Nectarine is bearing a good crop of large fruit—indeed, in my opinion this is our most reliable Nectarine, equally good inside or out. Much

labour was entailed in keeping these trees in a healthy condition. Red spider and aphids were most troublesome during the hot, dry weather. The trees are now making a vigorous growth, having been mulched heavily to protect from drought. Apricots are an enormous crop, fruits smaller than usual and much earlier. We gathered Early Frogmore end of June. Hemskirk, Moorpark, Shipley, and Large Red are our best bearers. Moorpark suffered most from the drought, losing some wood, although receiving due attention in the way of mulching and moisture. Cherries bore well, but were smaller than usual. Governor Wood, Early Rivers, several of the Bigarreans, and Black Tartarian bore grand crops. Morellos are very heavily laden, and others of the Kentish or Morello type are all bearing freely. Strawberries were exceptionally early and much under average. Some varieties suffered badly from the drought. Those kinds with a soft and hairy foliage got infested with red spider despite all remedies to prevent its spreading. Our crop would have been poor, but by early mulching and a thorough soaking weekly we had fruit for nearly six weeks and of good quality, Vicomtesse, La Grosse Suerée, Keens' Seedling, British Queen, Elton Pine, Jubilee, and Latest of All giving a good return. Raspberries suffered badly from the hot, dry weather, the fruits being smaller and soon over. Superlative was our best kind and of good quality. Small fruits, especially Gooseberries, dropped badly, and the trees were infested with spider, taking a lot of time and trouble to preserve the few fruits left. Currants did better, the crop being good and the berries of fair size. Damsons are a failure, the trees being very dirty.

Potatoes are under average, the tubers of the early kinds small and not numerous. Sharpe's Victor was dug from the open ground the second week in May, and Veitch's Ashleaf came in early and good in quality. Many of the American varieties are of good quality this season, not so watery, owing to the drought. So far there is no disease, and late kinds promise well. Peas were very early, but soon over. We mulched heavily all our mid-season and late varieties, and thus secured good crops. Cauliflowers were scarce early in the year owing to the loss of plants in winter. Cabbages very early, but most of the Brassica tribe have suffered badly from fly. Our best Spinach is Victoria; this is valuable in hot weather. Roots, such as Carrots and Turnips, have done fairly well. Succession crops are making good headway and will be valuable.—G. WYTHES.

Nash Court, Faversham.—The fruit crop here and in this neighbourhood may be put down as exceptionally heavy. Pears and Apples very heavy crop, but small owing to the long drought. Peaches, Nectarines and Plums abundant and good. Cherries never better. Strawberries a fair crop, but soon over. Of bush fruit Black Currants were but half a crop; Red Currants and Gooseberries heavy crop; Raspberries fair average. Nuts are plentiful, especially Walnuts, which are the heaviest I ever knew.

Vegetables with me have been almost a failure. Potatoes are of good quality and no disease. Most of the crops here had no rain from planting till lifting.—G. HUMPHREY.

Denbies, Dorking.—Considering the dry season the crop of fruit here has been very good, especially Strawberries, Gooseberries, Red and Black Currants, Cherries, Plums, Apples and Pears. Raspberries were very small owing to the drought; also the Apricots from the same cause, and the same may be said of Peaches.

Vegetable crops, with the exception of Cabbages and Potatoes, are very inferior both in quantity and quality.—J. BEESLEY.

Woodhatch Lodge, Reigate.—Apples and Pears over average. Plums slightly under average. Morello Cherries, Peaches and Nectarines average. Strawberries under average. Gooseberries, Raspberries, Currants, Nuts average. Apples and Pears where the trees have not been watered are very small. With us the fruit is swelling very fast owing to having been watered, and the

showers that have fallen lately have moistened the atmosphere; in fact, Pear Marie Louise is as good now as when gathered in October. The season, owing to drought, has been a short one for small fruit. Strawberries promised well, but late fruit failed to swell. Trees have suffered from black-fly, especially Plums and Cherries.

Early varieties of Potatoes are a failure, but later varieties promise well at present; the haulm is green and sturdy in growth. It has been a most trying season for vegetables. Early Peas and Ellam's Cabbage have been good, but later Cabbage has failed. Everything in the Brassica tribe, also French Beans, are smothered with black-fly. Main-crop Peas have been covered with thrips.—C. J. SALTER.

Hamstead Park, Newbury.—Peaches, Gooseberries and Apples are plentiful; also Black and Red Currants; but Strawberries, Raspberries, Damsons, Cherries and Apricots are poor crops. Plums and Pears are fair crops. Roses have been very poor, and the herbaceous plants have suffered very much.

This has been the most trying season for all kinds of seed I ever knew. In many cases I have had to sow four times. All the early kinds of Potatoes are very poor indeed, a little under half a crop, but Magnum Bonum is looking well. I am in hopes we shall get a full crop. Early Peas and Cauliflowers have been almost a failure.—ROBERT GAMMON.

Claydon Park, Winslow.—The fruit crops, speaking generally, are very good in this district with the exception of Strawberries, which were very light and soon over. Caterpillars, aphids, and red spider have been very troublesome. I have noticed the Gooseberry trees in many of the cottagers' gardens have been literally stripped of their foliage, though bearing heavy crops. Apples especially are above the average, trees on the Paradise stock that have been kept mulched have borne very firm fruit of excellent colour. Mr. Gladstone and Beauty of Bath have been exceptionally early this season. Pears are scarcely up to the average; the trees have suffered from the ravages of the red spider. Plums are above the average. Gooseberries and Currants very good, though the fruit is small. Our Peach crops as a rule are good; this year they are very abundant and quite a month earlier, owing no doubt to the almost tropical heat we have had during the summer. The fruit is very firm and the flavour excellent.

Vegetables, especially Cauliflowers, have suffered very much from the drought. Peas and Spinach have suffered very much from the intense heat. Potatoes are very good, and up to now there is no sign of the disease.—I. MILSOM.

Luton Hoo, Beds.—In this neighbourhood Apples and Pears are very abundant, the fruits being of first-class quality. Peaches are a good crop, so also are Apricots, but rather small. All kinds of bush fruits are good. Strawberries I never saw looking better than they did in the spring. We had a good set, but the fruits turned out very small owing to the drought, the best being gathered from Sir J. Paxton, President, and John Ruskin. Plums are a good crop, and though great numbers fell off through insufficient moisture, there is still plenty left. Early Potatoes are good, but the crop will be lighter than usual. In some parts of Bedfordshire caterpillars have been very troublesome, but fortunately not so here, green and black-fly being our worst enemies, with red spider on the Damsons.—G. H. MAXCOCK.

Waresley Park, Sandy.—Fruit crops with me and in this neighbourhood are with a few exceptions below the average and fully a month earlier than usual. I gathered some Jargonelle Pears to-day (July 18) of good quality. This Pear in ordinary seasons is not ripe before the end of August or beginning of September. Apples are a fair crop. Pears and Plums are very thin. In some parts of this district there are good crops of Green Gages. Cherries are light, but good. Apricots are splendid, the best I have had for years. Peaches and Nectarines are below the average. Strawberries were

good, but of short duration. All sorts of bush fruits are fairly good.

Vegetables in this dry district are very poor unless the land is in a high state of cultivation and abundance of water been used. Beans, Marrows, Cucumbers, and Onions are grown largely in this district for market, and in most cases they are a failure.—R. CARTER.

NOTES OF THE WEEK.

Solidago serotina is a splendid Golden Rod. Its flowers are of the richest yellow colour, produced in a dense mass, and make a fine show of colour in the border at this season. We recently noticed it in bloom at Long Ditton.

Zinnias from Surrey.—I have sent you some double Zinnias and Gaillardias. The Zinnias are planted in masses, each colour separate, and give a grand effect.—J. GUYETT, *Broadlands, Ascot*.

These Zinnias are fine in size and superb in colour, owing no doubt in part to the hot Surrey soils. In some cold soils Zinnias never show their fine qualities.—ED.

A beautiful Funkia which we noticed in bloom a few days ago with Mr. Barr at Long Ditton is *F. subcordata grandiflora*. It is flowering freely in the open, the spike sturdy, and supporting large pure white deliciously fragrant flowers. If the soil is not well drained, moderately light, and the position sunny, it will not bloom. A good mass of it is a distinct gain to the garden, the flowers being larger and more fragrant than those of any other kind. It is more often called *F. japonica*.

Hedychium Gardnerianum.—A bed of this species in the Chiswick Gardens is interesting, as the plants are blooming freely, and the fine green leafage, even without flowers, is conspicuous. The *Hedychium* is, of course, a greenhouse plant, but it may be used with advantage for beds, the best soil to use being light loam. In especially favoured spots it will be safe in the open if the crowns are protected with coal ashes or cocoa-nut fibre refuse; otherwise the roots should be lifted and treated similarly to those of the Dahlia.

Lilies at Tottenham.—Many Lilies are in bloom with Mr. Ware at Tottenham, and amongst them there is the new *L. Henry*, which we recently made note of as in bloom in the Kew collection. We are pleased to see that this beautiful kind is getting spread, as it will doubtless become in a few years' time a largely grown type. Very charming also were the tall-growing *L. superbum*, *L. speciosum* in variety, *L. auratum platyphyllum*, *L. a. rubrum vittatum*, and the forms of *L. tigrinum*, the best being the very fine variety *splendens*.

The Flame Nasturtium, as *Tropæolum speciosum* is familiarly called, is one of the finest flowering creepers. It was very beautiful a few days ago in the garden of Mr. G. F. Wilson at Wisley, the graceful shoots coming through a dense hedge and lighting it up with colour. It is strange that such a creeper should be comparatively rare in gardens, although in moist, fairly rich soil it will thrive to perfection. It is perfectly hardy, and the trailing shoots covered with rich vermilion-coloured flowers are brilliant in the extreme.

Magnolias at Washington City, D.C.—The species and varieties of *Magnolia* indigenous to the States, as well as those from China and Japan, succeed admirably in Washington. Our warm, dry autumns mature the wood and perfect the flower-buds for spring. These plants are perfectly hardy. Our winters, in which the temperature occasionally goes down to 10° below zero, never injure wood or bud if the cold is uniformly steady. What we have most to fear is mild weather in January or February, followed by a cold snap. This injures the flower-buds. The past winter has

been unprecedentedly cold, yet on the return of spring our *Magnolias* were very fine. I sent by mail yesterday some photographs of *Magnolias* in bloom. Should you consider any of the same of sufficient interest to use in *THE GARDEN*, they are at your service.—JOHN SAUL, *Washington Nursery, August 12, 1893*.

Excellent photographs, showing well both habit and bloom, and which we hope to have engraved for *THE GARDEN*.—ED.

Sedum Ewersi.—Our gardens lose much in interest through want of variety in the plants used for edgings. A bed in the Chiswick Gardens is edged with this *Sedum*, and it is a perfect mat of rosy purple flowers, so densely produced as to hide the silvery or glaucous leafage. A broad edging of it might be planted freely without introducing a monotonous effect. It is quite hardy in light soils, and bees have a special fondness for the flowers.

Annuals in a dry season.—Among those which have flourished well during this dry and hot summer are the following: *Viscaria cardinalis*, *Linum grandiflorum rubrum* (never saw it so fine), *Phacelia campanuloides*, *Agrostemma cœli-rosa*, *Calliopsis*, mixed; *Larkspur*, mixed; *Lupine*, mixed; *Lasthenia californica*, *Bartonia aurea*, *Sweet Sultan*, *Phlox Drummondii grandiflora*, *Shirley* and *Mikado Poppies*, *Nemophila*, *Salpiglossis* and *Cannabis*.—M. A. R., *Liphook*.

Carnation Mrs. Reynolds Hole.—I was surprised to note that some correspondents write rather disparagingly of the constitution of this variety. It does very well here. To make sure that there is no falling off, in this exceptional season, from a constitutional standpoint, I looked carefully through our bed of this variety, and found we had been able to put down an average of seven strong layers from each plant. It bloomed very freely, but some of the flowers were inclined to split.—E. B., *Claremont*.

Pentstemons are blooming remarkably well this year, and this is evidence that they are capable of withstanding a long spell of tropical weather, whilst tuberous Begonias and zonal Pelargoniums are almost burnt up. The *Pentstemon* is becoming slowly, but surely, a popular garden flower. A few kinds noted in bloom may be mentioned as being of very fine colour: *Cythere*, purple; *Wm. Scott Watson*, deep crimson; *Mrs. Hemans*, white, flushed with rose; *Emperor*, crimson; *H. Stadler*, purple; *Longfellow*, crimson; and *Norma*, which is one of the finest of the crimson-coloured varieties.

An interesting Tigridia is *T. Van Houttei*, a native of North America, and of extremely beautiful colouring. Unfortunately, however, the various shades are rather dark and the flowers comparatively small, so that this acquisition is far less valuable to the garden than the brilliant *T. pavonia*, the familiar Tiger flower. The growth is slender, the leaves narrow, deeply ribbed, rich green, and the flowers clear yellowish as regards the ground colour, richly striped and suffused with deep crimson in rich association with the yellow stamens. *T. Van Houttei* is certainly a most interesting type, and is in full bloom in the Long Ditton nursery.

Early-flowering Asters.—Several early-flowering Asters are in bloom, although they usually do not flower until quite September. But when recently in Messrs. Barr and Son's nursery at Long Ditton we made note of several varieties in beauty. One of the best of all this section is *A. acris*, a dwarf, vigorous growing kind, which we should like to see more popular in gardens. The flowers are of a soft and pale purple-lilac, produced in a dense head, and the plant when in a mass makes a great show of colour. A bed of it presents a fine effect in the autumn. Also in bloom were *A. ptarmicoides*, *A. umbellatus*, *A. corymbosus Perseus* and *A. Shorti*.

Hardy Cyclamens.—These charming flowers are in full beauty in the Broxbourne nursery. They are represented by large masses, which make a gay display of varied colour. At Kew also, near the

Cumberland mound, clumps of them amongst Ferns make a pleasing picture, and it is a pity that they are not more grown in English gardens. They are not difficult to establish, but should be left alone to form bold masses. There is beauty not only in the flowers, but also in the marbled and variously coloured leafage; whilst the shelter from Grass, Ferns and similar things protects them from storms of rain. At this season of the year the flowers are most welcome, and in mild weather continue in beauty more or less throughout the winter.

Plumbago capensis planted out.—It is surprising that this beautiful plant is not more used as it is at Chiswick for bedding. In the larger London parks large specimens are grouped on the turf, and they have a distinct aspect, but Mr. Barron uses small examples in beds, with the result they are as pretty as anything we have noticed this season. In one case a bed is filled with it, the edging an *Echeveria*, whose tall flower-stems are in delightful contrast to the profuse display of delicate blue flowers. *P. capensis* is blooming exceptionally well this year, and a good mass of it makes a distinct feature in the garden. It is an easy matter to lift the plants before they are injured by frost; pot them up, keep over the winter under glass, and plant out again in the following May.

Primula Poissoni is flowering in the rock garden at Kew, but it is better as a pot plant. It does not seem very happy in the open, although it is early yet to tell what this fine species is capable of. *P. japonica*, to which *P. Poissoni* bears much resemblance, is now planted largely in the open. We hope that it will prove as easily grown as the older species. The coloured plate of it in *THE GARDEN*, October 17, 1891, will show its character; the flowers, however, vary in colour, those of the plant figured being of a rosy shade. *P. Poissoni* was first introduced to France by a French missionary named Abbé Delavay, who found it in Yunnan (China) about eight years since. Seeds of it were forwarded to Paris, and from thence to Kew. It was found at an elevation of between 5000 feet and 7000 feet.

Nymphæa Marliacea—A specimen of this beautiful Water Lily has for several weeks made a pretty picture in a recess at the far end of the lake in the pleasure ground at Kew, and on the morning of August 19 seven flowers were fully expanded on the plant. This Water Lily was first brought into notice about six years ago by M. Latour Marliac, a well-known cultivator of *Nymphæas* and Bamboos. The flowers are of a beautiful soft yellow and about the same size as in our native *Nymphæa alba*. Its affinities, however, are with the North American species, *N. tuberosa*, and it is said to be the same as the variety named *flavescens* by Professor Oliver. However that may be, there can be no doubt as to its value as a hardy Water Lily, being extremely free-flowering and distinct from any other thriving out of doors. A coloured plate of it appeared in *THE GARDEN*, March 31, 1888.—B.

Vanda Sanderiana.—On its first flowering under cultivation nine or ten years ago, this *Vanda* was at once recognised as the finest species known, and this position it still holds. Its pre-eminence is shown yet more strongly by its flowering during August and September, when few of our showiest Orchids are in bloom to compete with it. It is a native of Mindanao, one of the largest of the numerous islands of the Philippine group. It is erect in growth, with stout, strap-shaped leaves a foot long. The racemes proceed from the axils of the leaves, and have been known to carry more than a dozen flowers. But with even half that number, the effect produced is not easily surpassed, for not only are the flowers unusually large, but they are remarkable for their striking contrasts of colour. The upper sepal and the two petals are of a pale rosy lilac, tinged towards the base with yellow, where also numerous crimson dots occur. The lateral sepals are 2 inches in diameter, the fawn-coloured ground being overlaid by a conspicuous network of brownish crimson

lines. The lip is proportionately small and in colour dull crimson and greenish yellow. The full diameter of the flower is 5 inches, its somewhat flat appearance suggesting a resemblance to *Miltonia vexillaria*. There is a good example at Kew now carrying a raceme of seven flowers.

An interesting race of double *Begonias* we made note of a few days ago in the Chiswick gardens. A large bed is planted with several varieties, each of which is better adapted for bedding than the ordinary double-flowered kinds. The plants are compact, neat and dwarf, the flowers being produced well above the leafage. *Louise Robert* is white, touched with rose, the flowers very neat; *Mme. Louis Urban*, rose-crimson; *multiflora l'Avenir*, deep crimson; *multiflora rosea*, rose-pink; *multiflora Mme. Courtois*, pale yellow, a very charming kind, very free and pretty; *multiflora gracilis*, crimson, and *Soleil d'Austerlitz*, deep crimson. These varieties represent a class of *Begonias* which will be doubtless much used for bedding in the future, as they are blooming freely this year, when double-flowered *Begonias* in the open are scarcely satisfactory. A bed might well be formed of such a kind as *Mme. Courtois*, of a peculiarly soft and attractive colour. The plants are useful also for forming a margin to beds filled with larger growing things.

Vanda cœrulea.—First introduced in 1819, this beautiful *Vanda* remained for many years one of the rarest of its class. Like many other Orchids sent home about that time, which although natives of tropical latitudes, yet grew at such high elevations as to be practically temperate plants, it was sweated to death in hot, close stoves. Its cultivation is now, however, pretty generally successful. It is usually grown in the *Cattleya* house, where it obtains abundance of fresh air and light, and is rested in winter by keeping it on the dry side from December to February. During the period of active growth it likes copious supplies of water. The colour of the flower is one of the most rarely seen in Orchids, being a lavender-blue on the outer segments, whilst the lip is almost pure blue. The sepals and petals are oblong, the ground colour prettily tessellated with darker lines. In large-flowered varieties the blossoms are 4 inches in diameter, the parts overlapping each other. The species grows on the branches of trees on the Khasya Hills in localities where slight frosts are occasionally experienced.—B.

The Sorrel Tree (*Oxydendron arboreum*).—Although one of the oldest of American ericaceous plants introduced to Britain, this species appears at present to be one of the rarest. *Oxydendron* is now its accepted name (by Professor Sargent amongst other botanists), but it is more frequently known in gardens as *Andromeda*. In an adult state it is, as the specific names implies, a small tree, and is found in the South-eastern United States in the valleys of the Alleghany Mountains. It carries a cluster of racemes at the end of each branch, the flowers being white and cylindrical. The leaves are dark green, oblong, tapering to a point, and slightly serrated; they differ from the somewhat similar foliaged *Vaccinium arboreum* by being smooth underneath, whilst the latter is slightly hairy. A fine old specimen grows in Mr. Anthony Waterer's nursery at Knapp Hill, and there is one flowering at the present time near the Water Lily house at Kew. The leaves have an acid taste, on account of which the tree is known in the United States as the Sorrel Tree. The species sometimes figures in trade catalogues as a *Lyonia*. It is believed to have been introduced in 1752, and is altogether an interesting as well as a beautiful tree.

Ailanthus glandulosus is a noble tree, beautiful at all seasons both when leafless on account of its varied outline, and when adorned with its large pinnate leaves, toothed at the base with the glands from which it takes its specific name. It was introduced from China in 1751. It is quite hardy in this neighbourhood and attains fine proportions. Its special recommendation is the beauty of the seed-vessels, which resemble those of the Ash after a warm and sunny summer, such as the pre-

sent and that of 1887. During the past four or five weeks the parts of the trees exposed to the sun have been brilliant, the elegant keys, of a bright red colour, hanging in profuse masses. The large trees thus emblazoned form very striking objects. This year, from the prolonged and powerful sunshine, the trees have been unusually bright and conspicuous, but not so brightly coloured as in the Jubilee year, the seed-vessels not being so large, but more numerous than in 1887. The mode of fructification is very interesting. The male trees this year were so laden with pollen, that when shaken by the wind it fell as a cloud, and the ground beneath was thickly covered. The pollen thus dispersed alighted on the female inflorescence at considerable distances. The area over which the pollen was spread was large, and the topmost branches of some trees a furlong distant and apparently in face of the prevalent wind have been fertilised, but none so markedly as that in the accompanying photographs.—J. S. B., Bath.

* * With these notes were sent excellent photographs, one showing well the form of a fine tree and the other a fruiting shoot.—ED.

NOTES FROM NEWRY.

ONE of the most charming of dwarf alpine which flowered here last spring was *Mathiola valesiaca*; it has narrow grey foliage, and forms a perfect hillock of the softest mauve. *Hesperis violacea* is similar in colour, but the flowers are larger. It is blooming again now in August. *Myosotis lithospermifolia*, distinct and good, forms an upright light tuft, and is of a peculiar shade of blue. *M. Welwitschi*, now in full flower, is a very good and free-growing plant, and where *Forget-me not* is required in plenty in the end of summer, is quite a valuable introduction. *Micromeria montana* is a charming little shrubby plant, the spikes quite 6 inches long, the flowers pinkish. *Thymus comosus* is a very fine plant, and quite the best of the *Thymes*; the rosy spikes, 4 inches long, produced in great profusion, continue long in flower. *Pentstemon atro-purpureus* is a delightful plant, in habit erect, in height about 9 inches, with clean, glossy, ovate leaves and purplish crimson flower-tubes. *Gentiana alba* will become quite a front rank plant; it grows freely in any ordinary soil not too wet, attains a height of 12 inches to 18 inches, and bears terminal heads of very large pure white flowers, and is in full beauty now. *Sagittaria gracilis flore-pleno* is one of the most chastely beautiful aquatics which has flowered this season. In foliage it is by far the most graceful of the *Arrow-heads*; the flowers are full, double and snowy white. *Liatris callilepis* is the handsomest of all the introduced species. It grows about 2 feet high, has large (for a *Liatris*) leaves, and the individual heads are 2 inches across; it is far and away larger than any species I know. *L. callilepis alba* is a gem, indeed; the species is a very graceful and handsome one; the flowers are pure white and remain a long time in beauty. *L. callilepis alba rosea* is the first instance I have seen of a bicolor, and in habit it is similar to the last; the flower tubes are white and the tips and anthers pink; it is very charming. *Coreopsis grandiflora* is a well-named plant; its flowers are the largest and the colour superb. The gem of gems in flower just now is *Linaria alpina alba rosea*; the flowers are pale flesh colour with a rich orange throat. The warm summer weather has suited the *Callirhoes*, and *C. involucreata* is and has been very fine, its colour closely similar to that of *Calandrinia umbellata*, which has also been a good 1893 plant. The distinct *Lithospermum canescens* was beautiful in June, with its fine orange flower-heads. Here at any rate it is not a difficult plant to manage, but it is quite eclipsed by the rarer *L. hirtum*, which is more orange. *Fuchsia myrtifolia* is a very valuable garden plant in appearance, much like a miniature *F. gracilis*, foliage and flowers being similar, but in height it is only about 18 inches, forming quite a perfect pyramid, the flowers being produced in the greatest profusion. *Chrysanthemum maximum filiforme* has been one of the most admired plants

here this season, the flowers full size, with the florets cut into thread-like divisions. As a decorative subject it is quite the best of the *Marguerites*. *Coris monspessulanus* was charming in a sunny wall pocket; it appears to live on sunshine. *Aletris farinosa* has been very good in several different aspects; on the top of a stone-supported bank in full sun, in a boggy place in full sun and in a wet shady place. In the last, however, its leaves keep greener and do not take on the bronzy hue they do in the exposed positions. *Baptisia tinctoria* is a really valuable late summer plant. Here it is a dense mass of yellow; it grows about 1½ feet high, finely branching. *Roscoea purpurea* in a sunny border is beautiful. *R. sikimensis* in a shady border is more beautiful; it is a more leafy and robust plant, with flowers twice the size of those of above and of a soft mauve colour. *Nerine cornucopia* in a sunny border close beside the *Roscoea* is and has been in full flower for nearly a fortnight, and despite the pelting rain showers which have prevailed more or less during the whole of that period, it remains fresh and uninjured, brighter and better than on is accustomed to see it in the greenhouses. *Vallota purpurea* in the same border is vigorous and all but in flower. *Hedysarum multijugum*, as a distinctly interesting late-flowering shrub, will be hard to beat; in growth free, the flower-spikes 6 inches to 9 inches long produced in the upper axils, colour purplish crimson. I have been much interested in a miniature bog formed in a stone trough. Some peaty soil was put in nearly filling it, then a quantity of *Lophiola aurea*, *Lobelia*, *Kalmia*, *Lysimachia longifolia*, a few *Arrowheads*, and some tufts of *Gentiana bavarica*. It has been quite a success. Two very fine cold house climbers are in flower now—*Mutisia retusa* with pink rays, and *Convolvulus californicus*, the latter a very beautiful plant. It is evergreen, the growth slender and free, the flowers, milk white, produced in the freest manner for months.

T. SMITH.

BOOKS.

CLASSIFICATION OF CHRYSANTHEMUMS.*

WE have long been hoping to see some tangible evidence of the existence of this society, and are pleased to record that we have just received a small paper-covered pamphlet of thirty-seven pages bearing the above title.

In general appearance this report resembles very closely the National Chrysanthemum catalogue of this country, but its scope is somewhat more restricted. There are four divisions corresponding to the select lists in the National catalogue, and these are devoted to incurved, Japanese incurved, Japanese and reflexed varieties, the whole of which are the product of American seedling raisers or importers. The names of the raisers and distributors, with dates, are supplied, but, as was the case with the catalogue issued by the New York Horticultural Society seven years ago, the descriptions given are rather meagre and confined to the colour only. There is a very lengthy alphabetical list printed in double columns at the end, in which the choice of varieties has been of a more cosmopolitan nature, such well-known European varieties as *Alberic Linden*, *Amy Purze*, *Baron Beust*, *Belle Paule*, *Carew Underwood*, *Etoile de Lyon*, *Eynsford White*, *Fair Maid of Guernsey*, *Hero of Stoke Newington*, *Isabella Bott*, the *Christines*, the *Queen family*, &c., finding a place there. In this list a short description, with the section, follows the name, and is probably all that will be required by American growers.

Considering the very great interest that the Chrysanthemum has excited in America, it is somewhat surprising that its literature does not increase there to a greater extent than has hitherto been the case, but this at any rate makes the

* "Report of the Committee on Classification of Chrysanthemums." American Chrysanthemum Society.

little book now under review all the more acceptable. In England there is so keen a desire among a certain section of cultivators to know exact particulars concerning the varieties in their collections, that the publication of such a work by an authoritative body in America may greatly help to facilitate the acquisition of such knowledge. It has long been a most difficult matter to trace the origin of many Chrysanthemums that have reached this country through America, and we would without critically examining the new work simply observe that its value depends wholly upon the absolute accuracy of such particulars. The price is not stated, and we cannot say whether the report is only supplied to members or not.

CHRYSANTH.

Chrysanthemums.*—This is a small-sized illustrated brochure of thirty pages, forming one of a series issued by Mr. John Lewis Childs, of New York. There are in all eleven short chapters dealing with such subjects as the different types of Chrysanthemums, Chrysanthemums as outdoor plants, as house plants, as greenhouse plants, propagation, growing plants from seed, &c., are of course treated from the American grower's standpoint, and with due regard to the difference in climate. There are nine little illustrations of the average American catalogue type, and the work itself is a creditable volume, and will, no doubt, be of service to beginners in Chrysanthemum cultivation across the Atlantic, although from its unpretentiousness it is not likely to compete seriously with a book like "Chrysanthemum Culture for America," by James Morton, which was reviewed in these pages at the time of its appearance two years ago.—CHRYSAETH.

SOCIETIES AND EXHIBITIONS.

GARDENING AND FORESTRY EXHIBITION, EARL'S COURT. AUGUST 23 AND 24.

THE schedule on this occasion was not framed for plants, although a few miscellaneous groups were shown. It was chiefly for Gladioli and Dahlias, which were shown exceedingly well. The large marquee was filled as full as it should be, at any rate for the comfort of the visitors, there being neither spare tabling nor vacant spaces, but, on the other hand, not overcrowded in any part. A more interesting show in all respects has hardly been held at this resort this year, whilst the winning exhibits were all first-rate. The Dahlias were the most numerous of any, but Gladioli were shown in the finest condition. A quantity of excellent fruit was also staged, chiefly from outside, although some fine Melons were likewise exhibited.

Dahlias.

In most of the Dahlia classes there was an extra strong competition. For twenty-four shows and fancies in variety, Mr. Mortimer, Rowledge, Farnham, was placed first with blooms of first-rate quality and in good selection of colour. The best of these were John Walker (fine white), Buttercup, Mand Fellowes, Muriel, Nugget, David Saunders, and Major Bartelott. Mr. Chas. Turner, Royal Nurseries, Slough, was a remarkably close second, there being little to choose between the two exhibits. His best flowers were Primrose Dame, J. Bennett, Mrs. Slack, Prince Bismarck, and Colonist. Mr. Vagg, Bedford, Havering, Essex, was first for twelve kinds with even blooms, the best of which were Prince of Denmark, Rev. J. B. Camm, and James Cocker. Mr. Ocock, Havering

Park, was a poor second, his best blooms being Dazzler and Harry Keith.

Cactus and decorative Dahlias were exhibited as usual in bunches, and they made a fine display, all four of the competing exhibits being excellent. Messrs. J. Cheal and Son were first with a fine selection, consisting of Countess of Gosford (extra fine), Beauty of Arundel (a rich colour), Kaiserin, Marchioness of Bute, Duchess of York, orange shaded with crimson, new; Lord Rosebery and Bertha Mawley. Mr. W. Seale, Vine Nursery, Sevenoaks, was second with fine blooms, forming a showy stand. Messrs. J. Cheal and Son were also first for twenty-four bunches of single Dahlias with the best kinds, Lowfield Beauty, The Bride, Aurora (new), Eclipse, Miss Linnaker and W. C. Harvey being the best half-dozen. Mr. Seale was second again with a good display of flowers. The latter exhibitor won the first place with pompon varieties with typical kinds, the best being Leila, Lillian, Eva, Whisper, Mary Kirk and Red Indian. Mr. C. Turner again followed very closely in this class, having a fine selection. Rowena (new), rich orange-scarlet; Darkness, Ariel, Fairy Tales and Irene being the best and most distinct. Messrs. J. Cheal and Son also showed well in this class.

Gladioli.

The finest feature here was the magnificent array of 100 spikes in the open class shown by Messrs. J. Burrell and Co., Cambridge. These were of superb quality, the spikes large and the individual flowers large. Of the older sorts, Baroness Burdett Coutts, light pink; Grand Rouge, fine red, with dark feather; Atlas, bluish; Iolanthe, pale salmon; Conquerant, dark cerise, and Pasteur, terra-cotta-pink, were the most distinct; and of newer kinds, particular note should be taken of Tessa, light salmon-pink; Castilda, pale straw colour; Muriel, dark red, with white centre, and Fiametta, a pale salmon-pink, all decided improvements. Mr. D. Whitlaw, Brechin, N.B., was first in the amateurs' class for twelve spikes, all of which were of good quality, Enchantress, Soleil, Couchant and Pyramid being, however, the finest. In the class for fifty spikes, there was no competition. This being exclusively for amateurs was rather too large a class; twenty-four spikes at the most would have been ample.

Miscellaneous Exhibits.

These were very numerous as well as of excellent quality in nearly every case. Messrs. W. Paul & Son staged autumnal Roses of the best kinds. Of these note should be made of the old Malmaison, a fine late Rose; also of Niphotos, l'Idéal, Marie van Houtte, General Jacqueminot, Duke of York (new China), a fine button-hole Rose, darker than Homère; W. A. Richardson, La France, White Lady, and Maréchal Niel (a gold medal was awarded). Messrs. Kelway and Sons staged a fine bank of Gladioli in excellent varieties, the light sorts amongst which were extra good. Note should be made of Sir Michael Culme Seymour, a vivid crimson-scarlet, with violet feathering; Boston, pale cerise-pink; Kate Marsden, a fine light kind; Duchess of Edinburgh, Stanley, Hemon, pale buff. Gaillardias and hardy herbaceous flowers in season were also included (a silver-gilt medal was awarded). Mr. Hudson, Gunnersbury House, Acton, staged a dozen specimens of scented-leaved Pelargoniums, and received a silver-gilt medal for the same. Mr. Wythes, Syon Gardens, Brentford, had an attractive and well-grown group of Nepenthes in the best sorts, as N. Mastersiana, with large pitchers, N. Curtisii, N. Amesiana (after N. Rafflesi-ana) and N. Hookeri, a fine form; N. Dicksoniana and N. Morganiana. With these were grouped Crotons, well coloured, Ferns, and Grasses, the award being a silver-gilt medal.

Messrs. Barr and Son had a fine and showy display of hardy flowers and bulbous plants, the former including Funkia grandiflora (extra pure in colour), Liliums in variety, and Penstemons also, with an excellent assortment of other hardy flowers in variety. Messrs. J. Cheal and Son had some additional boxes of Dahlias, so had Mr. W.

Seale (a fine lot) and Mr. Mortimer, each receiving a silver medal for their exhibits. A showy mixed collection of hardy flowers was staged by Mr. Salmon, West Norwood, the flowering and fine-foliaged plants of Mr. Walborn, Cedars Nursery, West Kensington, making a pretty group. Mixed hardy flowers (annuals and biennials) were shown by Mr. Welsford. A silver medal was awarded in each case. A bronze medal was given to Mr. A. W. Young, South Norwood, for Begonias (tuberous, cut blooms) and Gloxinias. Mr. Such, of Maidenhead, sent early Chrysanthemums. A well-grown lot of Zinnias was staged by Mr. Slogrove, Gattton Park, Reigate, the blooms very good, but lacking the darker shades of colour.

Fruit.

In the class for twelve dishes of fruit, some fine fruit was staged. For twelve dishes of hardy fruit, there were five competitors. Mr. J. McIndoe, Ilut-ton Hall, Guisborough, Yorks, was first, having very fine Pitmaston Duchess and Souvenir du Congrès Pears, Crawford and Violette Hâtive Peaches, good Jefferson Plums, Byron Nectarines, Swedish Reinette and Cox's Pomona Apples, Apricots and Morello Cherries. It is only fair to the other exhibitors to add that the class stated hardy fruit, and in the first prize lot there were certainly three dishes grown under glass—the Pears and Apples. The other exhibitors kept to the schedule. Mr. G. Wythes, Syon House Gardens, Brentford, was second, with very fine dishes of Bellegarde, Grosse Mignonne and Royal George Peaches, Spencer Nectarines, very good Williams' Bon Chrétien and Louise Bonne of Jersey Pears, Duchess of Gloucester and Worcester Pearmain Apples, Magnum Bonum and Denyer's Victoria Plums, Mulberries and Cherries. In the miscellaneous class, Messrs. W. Paul and Son, Waltham Cross, secured the highest award—the gold medal for fruit trees in pots, having very fine Peaches, the best being Exquisite, Chancellor, Grosse Mignonne, Sea Eagle and Noblesse, good Elruge and Stanwick Nectarines, Washington, Kirke's and Blue Imperatrice Plums, very fine Apples and Pears and a dish of the Dartmouth Crab. Mr. T. J. Stacey, Caversham, Reading, staged 150 very fine fruits of The Countess, Conqueror, and Golden Perfection Melons, also two seedlings, which were past their best (silver medal). Messrs. Spooner and Sons, Hounslow, had a nice collection of fruit, including a dozen baskets of Apples, among which Duchess of Gloucester, Cellini Pippin, The Queen, Nonsuch, Col. Vaughan, and Duchess Favourite were very fine. They also showed some good Pears (silver medal). Mr. A. H. Rickwood, Fulwell Park Gardens, Twickenham, staged twenty dishes of Peaches. This was a fine exhibit, and consisted of such kinds as Sea Eagle, Noblesse, Goshawk, Alexander, Barrington, Royal George, Princess of Wales and Teton de Venus (silver medal). Mr. Hoar, West Molesey, had a very fine lot of fruit, chiefly Peaches, Apples, Pears, and Plums. Mr. Slogrove, Reigate, had three very fine dishes of Williams' Bon Chrétien, Beacon, and Brockworth Park Pears. A seedling Apple came from Mr. W. Vaughan, Crowlands. Mr. W. G. Rickard, Ealing, sent a collection of fruit (bronze medal).

A full prize list will be found in our advertisement columns.

NATIONAL CO-OPERATIVE FLOWER SHOW.

AUGUST 18 AND 19.

THIS annual gathering was, as usual, held at the Crystal Palace, and it is fortunate for the executive that they have such an amount of floor space at their disposal, for were it otherwise the exhibits would have to be unduly crowded together. No better place for such an immense display could well be chosen within a reasonable distance of the metropolis, nor could the exhibitors wish for a more suitable position wherein to display their exhibits. The Crystal Palace is still the most popular place of amusement and recreation with the

* A book of practical information regarding Chrysanthemums and their culture (Child's Horticultural Literature).

masses; when, therefore, such a show as that now under notice is held, and which is mainly for their benefit, it would be next to impossible to choose a better place. The entries on the present occasion were larger than at any previous show, these amounting in the aggregate to 4077 as against 4038 last year—the increase being chiefly in fruits, cut flowers about the same, and vegetables somewhat less than usual. The increase, however, was such as to require sixty additional tables, the whole length of which was five-eighths of a mile.

Vegetables.

Classes were provided for collections from different districts, which is an excellent plan, in that it affords more encouragement to those not so favourably situated as others. Eight classes were in this way provided for members of industrial co-operative societies throughout England, Wales, Scotland and Ireland. The best of these collections were most decidedly from the south. Considering the drought has been more severely felt in the south than the north, this is highly creditable. It should be mentioned that the southern district includes Oxford and other counties contiguous thereto. Class 6, for the south of the Thames, produced, on the whole, the best competition, two very excellent collections being staged by Mr. W. Thayer (Crawley Soc.) and Mr. Ward (Horsham); the former included extra fine Carrots, Potatoes, Tomatoes and Cauliflowers. In the other southern class, Mr. G. North (Banbury) was a capital first, with fine produce. In the metropolitan class, Mr. C. Luff, Bromley, had another good collection. In the midland and eastern class the produce was much under the average of that previously instanced; Mr. J. Adams, West Haddon, had the best. The same remark applies to the north-western, where Mr. A. Griffiths, Sawley, was first. From the western district and Wales the produce was again of the very best description, Mr. Nicholls, Chippenham, being first, all his dishes being extra good; these were Tomatoes, Peas, Cauliflowers, Onions, Potatoes and Beans. In the Scotland or Ireland class, Mr. Thomson, Penycuik, N.B., took the first prize; the exhibit a rather small one.

In the single classes of this section the competition was very keen in nearly every instance. The classes for Scarlet Runners were as fine as one could well wish. For Giant Scarlet, Mr. Cripps, Oxford, was first with a dish that could not be beaten in the whole show; for any variety the first still went to Oxford, this time to Mr. Green, with extra good pods. The best French Beans came from Horsham, Mr. Ward winning in a keen contest. Beetroot, both Turnip-rooted and long kinds, is evidently very popular, the best being from Mr. Powell, Norwood, and Mr. Leabourn, Wilton, respectively. The classes for Cabbages were well filled; so were those for Cucumbers, Leeks and Lettuce. Carrots were remarkably fine, the finest in the three classes coming respectively from Mr. East, Maldon, Mr. Nunn, Maldon, and Mr. Leabourn for Early Horn, Intermediate and Long Surrey. Celery was very fine; the best red, large and good, was from Mr. Boole, Mansfield, and the finest white (extra fine) from Mr. Mears, Peterboro'. Onions were remarkably fine, the bulbs large and well ripened. The finest Improved White Spanish were shown by Mr. Turner, Aylesbury; the best spring sown, any variety, by the same exhibitor; and the finest autumn sown (immense bulbs) by Mr. Nunn, Maldon. Peas and Parsnips were excellent, and the Potatoes decidedly first-class, the tubers clean and even, with that appearance denoting excellent quality. For four white kinds Mr. North, Banbury, was first with Snowdrop, Defiance, Windsor Castle, and another of the Magnum Bonum type. The prizes for single dishes of vegetables were closely contested; in each instance Tomatoes again stood out prominently, the best coming from Mr. Richard, Hereford. Turnips, Vegetable Marrows, and Shallots were well shown.

In the section for gentlemen's gardeners and others who prefer to compete therein in preference to the former, Mr. Waite, Glenhurst, Esher, showed in his usual excellent style, having the best collection in this section for vegetables with grand

produce, rather larger, perhaps, than he usually shows, but good all the same. The two first prizes for Runner Beans again went to the Oxford Society, Mr. Holton winning in each class. Mr. Waite was the most successful exhibitor in the single classes for Potatoes (extra fine), Broad Beans, Longpod Beans, Beetroot, Carrots, Cauliflowers, Cucumbers, Leeks, winter Onions, and Tomatoes. Messrs. Mossman, Martin, Holton, and Osman also showed well in these and other classes.

Agricultural Hall show.—On Tuesday, August 29, the great show of plants, flowers, fruits, and horticultural sundries will be opened at the Agricultural Hall, Islington, by the Royal Horticultural Society, and will remain open to the public until the night of September 1. The members of the fruit, floral, and Orchid committees will meet on the 29th inst. at 11 a.m. precisely, but will be admitted at the Barford Street entrance as early as 10 o'clock. They are particularly requested to wear the badges given out at the last Temple show, and to have their Fellow's pass and tickets with them. As the catalogue of the show must go to press on Monday, it is hoped that all exhibitors will have given particulars as to their exhibits by that date to the superintendent of the R.H.S. Gardens, Chiswick, as otherwise they cannot possibly appear in the catalogue.

Senecio pulcher.—This is flowering well in the Broxbourne nursery, where it is grown in quantity. When a large group of it is seen, one gets the full richness of the bold flowers. *S. pulcher* is one of the finest species of the family, but is usually seen singly, whereas the best effect is got from a large group. The flower-stem branches freely, and the large fleshy leaves are of a very deep green colour. Being perfectly hardy, one need fear no mishaps from frost, although the flowers often appear late in most years and get touched. This season, however, through the drought they are in full beauty much earlier than usual. The soil for it must be deep, not too dry, and the position not too exposed, otherwise the stems will get broken about with winds. Cuttings of the roots taken in the spring will strike readily.

Cassia corymbosa planted out.—A short time ago I noticed this plant doing grandly in beds in the Royal Horticultural Society gardens, Chiswick, its bright yellow flowers being very effective, and lasting a long time. Of course it is not hardy, but if treated somewhat like *Cannas* or *Fuchsias*, that is, taken up in the autumn and placed in a cool house, cutting the growth back and keeping on the dry side, it gives little trouble and is readily started in the spring. I have old plants that flower profusely, and these stand under a stage in a cool house during the winter, being pruned hard just before they begin to break. After starting, they are repotted and grown on for house decoration. When planted out if the soil is clayey I would advise a mixture of peat or light loam and plenty of leaf mould. The great beauty of this *Cassia* consists in the bright flowers and continuous bloom, as the corymbs of bloom do not open all at once. Though an old plant it is a beautiful one, easily increased by striking the shoots in the early autumn or as soon as they get a little matured in the early spring.—G. WYTHES.

The weather in West Herts.—On Thursday and Friday in last week the temperature in shade rose respectively to 89° and 91°. Both these readings are higher than any I have yet recorded here. Since then the weather (although above the average for the time of year) has been much cooler. During the week the temperature of the ground at 1 foot deep has fallen 7°, and at 2 feet deep 3°. Rain has fallen on each of the last four days, and to the total depth of nearly three-quarters of an inch, and during a heavy shower on Wednesday at 12:38 p.m. was falling for four minutes at the mean rate of nearly an inch an

hour. Thursday, the 17th inst., proved exceptionally dry, the difference between the readings of an ordinary thermometer and one with its bulb kept constantly moist amounting at 3 p.m. to as much as 20°.—E. M., *Berkhamsted*.

Death of W. Whittaker.—William Whittaker, for many years foreman of the plant houses, and the principal salesman at the Royal Nursery, Slough, died lately, aged 75 years. He entered the nursery sixty years ago when quite a boy during the proprietorship of Messrs. T. C. and E. Brown, and was connected with it until 1891, when increasing infirmities compelled him to retire. He was a most skilful soft-wooded propagator, and during his long term of service at Slough many millions of cuttings and plants must have passed through his hands.

Caterpillars destroying Ferns (*J. B. Harpham*).—The caterpillars attacking your Ferns are those of *Phlogophora meticulosa*, a very common insect. You might syringe the plants with extract of quassia chips, soft soap and water. But by far the most satisfactory method of destroying them is to pick them off by hand, though it is a tedious process. If the fernery is under glass turn out or kill any moths you may find in it.—G. S. S.

The Butcher's Broom.—A plant of the male Butcher's Broom (*Ruscus aculeatus*) would be thankfully received by Mr. Milburn, superintendent of the Royal Victoria Park, Bath, for planting in the Botanic Garden.

Names of plants.—*E. Walker*.—*Oncidium crispum*, fair variety. —*E. B.*—*Periploca græca*. —*W. A. G.*—Apparently *Lælia Dayana*; 3, a *Pendrobium*; cannot determine which, specimen insufficient. —*J. M. L.*—They are two *Stapelias*, but cannot name without flowers. —*J. B. H.*—1, *Cattleya Dowiana aurea*; 2, *Cattleya pumila*; 3, *Onidium pulvinatum*. —*G. Newbold*.—1, *Chenopodium ficifolium*; 2, *Jasione montana*; 3, *Isatis tinctoria*; 4, *Thalictrum alpinum*. —*J. Britton*.—1, *Miltonia spectabilis*; 2, *Oncidium sphacelatum*; 3, *Oncidium Lanceanum*; 4, *O. Lanceanum Louvrexianum*. —*B. H. L.*—2, *Litob ochia spinulifera*; 2, *Elaphoglossum rubiginosum*; 3, *Pleopeltis excavata*. —*E. Hammill*.—1, *Hypoderris Browni*; 2, *Lastrea strigosa*; 3, *Hypolepis repens*; 4, *Neottopteris australasica*; 5, *Gleichenia Spelunca*. —*Rosa*.—*Saccolabium Blumei*; 2, *Cypripedium Pollettianum*; 3, *Selenipedium Sedeni cadi-dulum*. —*T. M.*—A very good form of *Cypripedium oenanthum superbum*. —*F. W. Harmer*.—*Allium senescens*. —*F. Hand*.—1, *Helenium pumilum*; 2, *Pyrethrum parthenium*; 3, *Rudbeckia hirta*.

Names of fruit.—*F. Hand*.—1, New Hawthornden; 2, Hoary Morning.

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No. 1137. SATURDAY, September 2, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

ORCHARD AND FRUIT GARDEN.

THE GRAPE SEASON.

WITH so much sunshine during the ripening period it might reasonably have been expected that Muscat of Alexandria, Buckland Sweetwater, and Foster's Seedling would have been seen at the various early August shows, if not still earlier, in extra good condition. Whatever might have been expected, however, it is very certain that particularly well coloured white Grapes have been by no means plentiful. I will go further and assert that quite as many well-finished bunches have been seen quite as early in the season in most other and, presumably, less favourable seasons. This, let me add, is being written before the great Shrewsbury show takes place, and, it may be, the quality of white Grapes to be seen there will be considerably ahead of that of former exhibits. It has always been my contention that white Grapes want no more sunshine to ripen them to perfection than do black varieties. Light and heat they must have, but a fierce sunshine beating directly on the bunches and a very thin covering of leaves are far from being good aids to colouring. At the Co-operative show, held on August 18 and 19, there was only one good stand of white Grapes, these being two comparatively small, but pretty bunches of Muscat of Alexandria. The berries were not large, but were perfect amber in colour and quite plump. At some of the leading west of England shows Muscats were shown fairly well by one or two exhibitors in each instance, but for one well-coloured bunch there were six that presented a decidedly green appearance. This failure to colour Muscats properly in time for the shows would not so much matter if only perfect ripening would take place later on. Unfortunately, there is little or no likelihood of this happening, for the simple reason that shrivelling has already commenced in several cases. There is no hiding the fact that if Muscats are either over-cropped, and unduly stripped of leaves, over-run by red spider, given too little moisture at the roots, or are rooting too deeply, colouring will be faulty and shanking very prevalent. Why Muscat-flavoured Grapes, notably Muscat of Alexandria and Mrs. Pince's Muscat, should shrivel prematurely is a mystery that no one seems capable of elucidating. As many or more reasons are given for it than there are days in the week, but nothing short of very high culture will prevent it. I shall not be surprised to learn that high culture, even, is no remedy in some cases. It cannot be a want of heat that is responsible for either shrivelled or badly coloured berries, or how is it that so many are to be seen this season? With me well-coloured Madresfield Court promises to keep plumper and better than Muscat of Alexandria in the same house, and yet the latter has been admired for its well-ripened appearance.

Much that has been advanced concerning the faulty colouring of Muscats also applies to the two other white varieties that have been named,

and which are among the most popular forcing varieties. If Buckland Sweetwater and Foster's Seedling started in February or early in March were not well coloured by the first week in August this season, it is very doubtful indeed if they would greatly improve by being left on the Vines any longer. The berries of neither will be fine or assume a clear amber colour if over-cropped, while exposing to strong sunshine has the effect of discolouring rather than improving their appearance. Buckland Sweetwater is invariably grandly shown at the Bath show held at the end of August, or much better than it is usually seen in any other parts of the country. At its best it is a noble Grape and very refreshing, though not richly flavoured. I hold that early ripening, is essential in the case of Mrs. Pearson, and fully expected to see Golden Queen in better condition than usual this summer. Very fine bunches have certainly been shown, but the berries still present that muddy appearance that mars this otherwise excellent late Grape. Trebbiano, Syrian, and Calabrian Raisin are all comparatively green, though the first-named has been considered ripe enough to cut for show. The question is, Is either of them worthy of house room?

Curiously enough, the very hot summer experienced has not been attended with unfavourable results as far as black Grapes are concerned. For instance, there have been more really good, well-coloured Black Hamburgs grown and shown than I ever remember to have seen. Of Madresfield Court, however, the same cannot be said. This noble Grape most probably suffered during the dull, wet weather that we had late in July, cracking of berries being difficult of prevention in mixed vineries. It would seem to be almost impossible to colour this variety properly, that is, when the berries are large. If only partially coloured they become redder the longer they are kept; whereas, the small blue-black berries retain their colour as long as they hang. Which is best, medium-sized to small berries, or large berries faulty in colour? Some judges prefer the latter, but are they right in their decisions? It is much the same with Black Hamburg. Only berries blue-black in colour hang without changing to reddish black or even a foxy red, and early ripening has left its mark on a great many bunches that were to have won prizes. Gros Maroc is very fine everywhere, and only those who have been in too great a hurry have failed to colour the berries perfectly. Its attractive appearance, the berries being extra fine, is its principal recommendation, and if badly coloured, then is it of little value. Alicante is rarely seen so plentiful and good in August, several growers staging faultless bunches. Being subjected to a freer circulation than usual of warm dry air has doubtless been the cause of such perfect colouring, accompanied by a thick bloom, and the quality, too, should be better than is the case when the ripening takes place under less favourable conditions. How will this early ripening affect the keeping properties of this late Grape? It is not wanted for use now, nor will be so long as Madresfield Court and Black Hamburg are available, but it is doubtful if the bunches will hang after, or even up to mid-winter. Lady Downe's has also coloured very early, but is not nearly ripe, and it is to be hoped it will keep better, instead of worse, for being ripened under natural conditions. Gros Colman, again, though far from being black in late houses, is yet ripening earlier than I have ever had it before, the same report coming from other parts of the country. In this instance I am in hopes the berries will be more

solid, better in flavour and keep longer than is the case when ripened, as too often happens, under too cool conditions. Should early ripening prove fatal to long keeping, then there will be a blank in the late winter dessert, for which there is no remedy. Gros Colman is now rightly considered the most valuable late Grape in cultivation, being by far the most extensively grown accordingly, and it is to be hoped the bulk of the crops will not have to be placed on the markets prematurely. It is what is taking place and will continue in the case of all other fruits, and I am afraid many Grapes, too, will have to be sacrificed.

The less generally grown Gros Guillaume is behaving strangely this season. In one famous vinery out of about forty bunches not one is of any value, small bright red berries being the order of the day. In the same neighbourhood another fairly heavy crop of bunches has finished remarkably well, the berries being large, as black as Sloes, crisp and pleasing to eat. Why there should be such a contrast is somewhat of a mystery unless the credit of an improved state of affairs can be given to the Black Hamburg stock, the Vine with red berries being on its own roots. I wish I could say something in favour of Alnwick Seedling. This season it has coloured admirably, as usual, but what a poor thing it is when the flavour test is applied. I. M. H.

Strawberries and Peaches.—When visiting a walled-in garden recently I observed that on a particular portion of a south wall the Peach and Nectarine trees had been almost denuded of their leafage, and on inquiring the reason was told that the border, which is a broad one, was planted with Strawberries, on which the excessive drought had generated spider, and this had, in spite of frequent washings, so taken hold of the trees, that the result I mention followed. When I saw the border the Strawberries had been removed, but the mischief seems to have been done prior to that. It was most interesting to note that up to the margins of the Strawberries at either end the trees on the wall were not merely quite untouched, but were in perfect health. What is here referred to indicates a by no means improbable trouble in many cases, and perhaps may help to open the eyes of some other gardeners who have found spider more than usually troublesome on wall trees this season where Strawberries have been grown close by. Possibly Strawberries are not in all cases alone to blame, as some other crops may be equally harmful. Possibly, however, Strawberries may be more exacting of the moisture of a border, and thus render the wall trees less capable of withstanding an attack of spider.—A. D.

Blister on Apples.—Although Apples here and in this neighbourhood are an abundant crop, of fair average size, and in some cases beautifully streaked by the sun's rays, I observe that this year, and in several previous years, many of the earliest varieties, such as Ecklinville Seedling, Lord Suffield, Hawthornden, Kerry Pippin, &c., are much deformed by a blister or scab over the eye of the fruit, and varying in size in a circular form from a sixpence to a penny-piece. It is chiefly on the sunny side of the tree that it occurs, and the finest specimens are affected. I believe it is due to a sudden outburst of the sun's rays upon frosty or wet petals when the fruit is setting, and might be prevented by a light shading. It spoils the fruit for exhibition or for the dessert table. I shall be glad to have the opinion of your fruit-growing correspondents on the subject in question.—P. DAVIDSON, *The Gardens, Iwerne House*.

Apple Devonshire Quarrenden.—This Apple has been very plentiful this year; in fact, up to within the past few years, when planting of fruit trees has been more general, it was in danger

of becoming very scarce. This variety must be grown on the Crab stock to see it at its best. The two trees I used to see as a boy were old standards—a form under which it thrives well. This season it has also fruited freely on free-growing bush trees as well as standards. As regards quality, it is first-rate, being tender and full of sparkling juice, which during the past hot weather has been very refreshing. My advice to those people with whom it has hitherto fruited very sparingly is to let it have an unrestricted growth, merely thinning out crowded branches. By growing it on the Crab stock, success with this good old Apple will be assured.—A. Y.

Gage Plums and the hot summer.—This has been a splendid season for the ripening of this, the very best class of dessert Plums. Everyone knows the value of the true old Green Gage. In some parts the trees bear enormous crops as standards. Useful as the above kind is, there are several other kinds of Gages I consider of more value for dessert. First, they are larger in size and of quite as good flavour; added to this they are later in ripening, seeing we have a number of kinds that come into use during August. It is in seasons like this that their true flavour is brought out. I have not seen a cracked fruit on the open walls this season; whereas two years ago I had three out of four cracked and many were quite useless. I grow several kinds of these late Gages. The old Green Gage is from our first, from a west wall, followed by McLaughlin's from east wall, next Lawrence's Gage. By the time this is over we have Guthrie's Late Green, Reine Claude de Bavay, Transparent Gage and Jodoigne Green Gage. These kinds keep us supplied till Coe's Golden Drop comes in. I also grow the old Woolston Black Gage and Ickworth Imperatrice; as a very late kind for cooking I grow Coe's Late Red. From these we get a continuous supply till the middle of November. To obtain the best results from all these late Gages, the trees should be grown against an east or west wall, allowing the fruit to hang as long as possible. To do this it is necessary to protect it from wasps, birds, &c. At the present time (end of August) I am covering a large quantity of fruit in a simple way, namely, by putting one or more fruit into muslin bags; this answers well in dry weather, but the fruit is apt to crack in wet weather. Some cultivators complain of the trees growing too strong when young, but this defect can be overcome by root-lifting, keeping the roots near the top and in good soil. If treated in this way, there will be no cause for complaint on this score.—DORSET.

STRAWBERRIES FOR NEXT YEAR.

STRAWBERRY plants suffered badly during the fruiting season, but during the past week, with the thermometer at 90° in the shade, the plants in light gravelly soil nearly gave out if due attention had not been paid to watering and feeding. I prefer young plants, and even these looked bad till watered. Watering such plants as Strawberries means increased labour, never any too abundant in the garden. A great deal of trouble may be avoided by early clearance of runners, as the runners greatly rob the plants of sustenance. Some may think that by leaving the runners the roots are shaded, but such is not the case. I have this season left the mulching as late as possible to protect the plants. This chiefly concerns those which have been grown to provide runners for forcing. These I grow doubly close from plant to plant, but this season, since removal of stock, I have been afraid to sacrifice every other plant owing to drought. These plants only fruit one year. It is not too late to examine the quarters for the main crop next season and to boldly root out and replant if they are at all sickly, as many plants that have suffered from drought and red spider will not pay for the ground occupied. Runners secured from heavy land will be in a vigorous condition for planting, and, I feel sure, will well repay for increased cost and labour if

now planted and given ample attention in the way of moisture. The sooner the planting is done the greater chance will there be of a heavy crop. Pot Strawberries will show at a glance the secret of high culture. Here we have strong runners with plump crowns a mass of roots and abundance of fruit, thinning heavily being resorted to on account of the confined root space being insufficient to mature all the fruit. The question of clearing off old foliage is also important. As concerns next season's crop, I prefer to remove old leaves, thus giving the young growth room to harden and develop. With young plants this is not necessary if the plants are destroyed after the fruit is gathered. Of course, a few kinds do best the second year, but, fortunately, they are few, and in such cases it is preferable to grow those kinds which are sturdy growers and give the best fruit at the least cost. All may not be able to secure good runners, but there is no excuse for growing weak or exhausted plants, as if runners are secured late, these may be planted in rows 18 inches apart and 6 inches from plant to plant and again transplanted into their permanent quarters the following March. Though little fruit will be produced the first summer, there will be no failures or lack of fruit of a large size fifteen months from the time of planting. In severe winters a little leaf-mould or short litter between the rows of these young plants will do much to prevent loss of root and thus favour an early start.

G. WYTHES.

Ripening Vines.—There need be no complaint this season as to the wood being soft if means are taken to expose and ripen up the wood. Those who grow pot Vines and young Vines for hard forcing will have found out that it is not the hottest summers which produce the best rods; indeed, the reverse at times is the case, as in houses much exposed or deficient of moisture, growth is arrested unless extra moisture can be maintained during excessive heat. It will be observed that the wood of the young cane at the base hardens up before the final swelling unless care is taken to stop and feed during growth. I never saw Vines grow more rapidly than they have this season. I planted a house that had given us a crop in May early in June. The new border was made inside, and at this date the growth is as robust as may often be seen in Vines planted early in the year. Owing to the excessive heat, Vines may have lost a few of the bottom leaves, but no injury will result if growth or extension is allowed as long as the rods are swelling. In the London area there is greater difficulty in perfecting the growth of Vines, but we cannot complain this season. Now is a good time to stop pot Vines at the required length if this has not been done. I would also advise pruning in the lateral growths of very early Vines, as if these are stopped only a short time before the foliage falls, the Vines bleed badly when placed in heat and are much weakened in consequence. After stopping, free exposure in fine weather to mature the canes will do much towards next season's success.—G. WYTHES.

ORCHIDS.

REED-LIKE EPIDENDRUMS.

This is a genus which in the Western Hemisphere appears to be akin to the *Dendrobiums* in the Eastern. The majority of the kinds included in this section of the genus are of great beauty and well worth extended cultivation. The flowers continue in beauty a long time, those of some species lasting two and three months in full perfection. The majority of the species succeed best in the cool house, so that no one need hesitate to grow them because of want of heat, as they thrive

well with the *Odontoglossums*. If exception be made to them that they are too tall for the low-roofed houses usually devoted to these plants, then train the shoots upon the roof, where their gay flowers will serve to enliven and set off the pale colours of the *Odontoglossums* beneath. All of these plants, which have Reed-like stems, are not cool house plants, for I have seen some growing and flowering in the temperature of the *Cattleya* house, and recently I saw that fine Veitchian hybrid, *E. O'Brienianum*, growing luxuriantly and blooming in the East Indian house. This was a far higher temperature than that in which I had grown and flowered both its parents. In answer to my inquiries, the grower of this hybrid said, "I do not know whether this hybrid would thrive with less heat than I give it, for I have never tried it. The plant was set down there when I first purchased it, and there it has grown magnificently, and as my other houses are low, there is nowhere else that I could find accommodation for it, so that I am well satisfied to allow it to remain where it is." It may be that the very fact of its being a garden hybrid has given it a stronger constitution, and so it is not so very particular in its requirements. Generally, these cross-bred plants are endowed with a better constitution than the species from which they were derived. Epidendrums require to be potted in peat fibre and *Sphagnum* Moss made sandy. The pots also should be well drained, for during the growing season the plants require a considerable quantity of water to their roots and overhead from the syringe. At no time of the year should these plants be allowed to suffer from drought. The following are amongst the best kinds that I know, and all are worthy of the most careful cultivation. The lowermost flowers on the raceme open first and the others expand slowly, maintaining a good head of bloom for months:—

E. ARACHNOGLOSSUM makes a slender stem between 5 feet and 6 feet long, terminating in a many-flowered raceme. The flowers are of a deep rich crimson, saving the orange-coloured tubercles of the lip. This plant is a native of the mountains of New Grenada, at considerably above 6000 feet elevation, and does well in the cool house, where it proves an almost constant bloomer.

E. CATILLUS.—This also thrives well in the cool house; the stems are tall and somewhat stout, clothed with dark green sheathing leaves; the flowers are numerous and showy, being rich bright cinnabar, the middle lobe toothed. It comes from New Grenada.

E. CINNABARINUM is an old species which was grown by the Messrs. Loddiges, of Hackney. It is a slender plant, growing about 4 feet high and producing large bright scarlet flowers, the lip being rich orange-yellow, spotted with red. It continues flowering for between two and three months. It blooms in spring and early summer, and does best in the temperature of the *Cattleya* house.

E. CNEMIDOPHORUM.—This is a tall and stout-stemmed plant, growing to upwards of 6 feet in height. It is found in the deep ravines of Guatemala at an elevation of between 6000 feet and 7000 feet, but appears to be a rare plant even there. It thrives best in quite a cool house, and is really one of the handsomest of the genus with its long, glossy green leaves and its pendent many-flowered raceme. The flowers are large and very fragrant, china white behind, yellow in front, blotched with deep reddish-brown; the three-lobed lip is deeply cleft in front, soft white, flushed with rose, the long pedicels being pure white. The plant flowered for the first time in this country in the spring of 1867.

E. COOPERIANUM.—This is a stoutish plant, growing about 3 feet high, clothed with long sheathing leaves and a nodding many-flowered raceme. The sepals and petals are yellowish-

brown, the three-lobed lip being of a bright rose colour. It is a handsome species from Brazil, and requires the temperature of the Cattleya house. It appears to be somewhat rare.

E. ELONGATUM.—We have here the original plant of this section. True, other kinds come very near to it, if they are not identical. These are *E. crassifolium*, which, however, is a stronger growing plant with larger racemes of bloom of a somewhat different colour, and *E. ellipticum*, a smaller plant, more slender than the last-named, and bearing a correspondingly smaller raceme. The stems of *E. elongatum* are from 18 inches to 2 feet long, furnished with thick coriaceous leaves of a deep green. The raceme is many-flowered. The flowers, produced in the spring and early summer months, are bright rose. It comes from the island of Jamaica and likes the Cattleya house.

E. FREDERICI-GULIELMI is a lovely species from Northern Peru, originally discovered upwards of forty years ago. Living specimens were not forthcoming at this time, but some time afterwards Wallis obtained some plants and sent them to M. Linden; one plant alone survived the journey. Some three or four years ago Mr. Shuttleworth, of the Clapham Park Road Nursery, had the good fortune to receive a good lot alive, so that now the plant has become somewhat widely distributed, as it well deserves. It is a very robust growing plant, attaining some 5 feet or 6 feet in height. The flowers, of good size and of a bright rosy purple, are numerous on the raceme. It must be grown in the cool house.

E. IBAGUENSE.—A species that appears to be widely spread in New Grenada and Peru. For its introduction we are indebted to the Messrs. Backhouse, of York; the stems are slender, leafy, and surmounted by a large raceme of rich orange-coloured flowers with a yellow lip. It requires to be grown cool.

E. MYRIANTHUM.—This is one of the handsomest of these slender-stemmed kinds. It attains to some 5 feet in height. Its stems are leafy, terminating in a branching panicle of flowers of a bright purplish rose. I have heard of a pure white-flowered form of this plant, but have not yet seen it. The plant thrives best under cool treatment; indeed, I believe its failure to flower must be attributed to its being kept too warm. Lindley gives M. Klee the credit of finding it in the high mountains of Guatemala, but to Mr. Skinner is due the credit of sending the plant to England in a living state. It flowered first nearly thirty years ago, and is still very rare.

E. O'BRIENIANUM.—A hybrid raised by the Messrs. Veitch, of Chelsea, between *E. radicans* and *E. evectum*. It is a very strong grower and a profuse bloomer—in fact, it appears to be never out of flower. The flower is larger than that of either of its parents, the colour bright carmine.

E. PSEUD-EPIDENDRUM.—This must not be passed over in my notes on these plants. It is a winter flowerer, and the contrast of its colours is very singular. It is a somewhat stout growing plant, some 2 feet to 3 feet high, the flowers large, the sepals and petals apple-green, lip large and spreading, frilled at the edge, colour deep orange-red. It is a native of New Grenada at some 4000 feet elevation, and thrives best at the warm end of the *Odontoglossum* house.

E. PANICULATUM.—A species not often found in collections at the present day. Its stems are slender, growing to a height of about 4 feet, and producing at the top a large branching panicle, which is densely laden with rosy lilac flowers, which are gratefully perfumed. It is one of the most charming species that I know, and is found at from 7000 feet to 8000 feet elevation in various parts of South America.

E. RADICANS.—Another old species, having been introduced upwards of half a century ago. Mrs. Lawrence, of Ealing Park, first flowered this, the most beautiful of all the orange-scarlet *Epidendrums*. This plant used to bloom freely in the late Mr. Partington's garden at Cheshunt under the care of Mr. Sewing, with whom it seldom appeared

to be out of bloom. In its native country it seems to grow amongst the long Grass, where its long white roots, which proceed from the sides of the stem, find an abundance of moisture, and this should afford ample evidence that water is essential. The slender stems are terminated by a dense many-flowered raceme, which lasts many weeks in full beauty, the flowers being rich orange-scarlet. It requires cool treatment.

E. SCHOMBURGKI.—This is another old species, originally found in British Guiana, but it has since been found in many parts of Brazil and other places in South America; consequently it varies considerably. The plant grows between 2 feet and 3 feet high, and bears a many-flowered raceme of brilliant vermilion-scarlet flowers. It likes the warmth of the Cattleya house.

E. SYRINGOTHYRSUS.—This species has been known nearly fifty years. It is a native of Bolivia, growing at from 7000 feet to 9000 feet elevation, but it was not till about twenty-five years ago that Pearce sent it to his employers, the Messrs. Veitch, with whom it flowered soon after its introduction. It is a slender plant, growing some 4 feet or more high. The colour of the flowers is rosy purple tinged with a shade of red. The disc of the lip is white, on which are situated several yellow calli. It unfortunately still continues to be rare in collections.

E. WALLIS.—This species is another almost perpetual bloomer. The slender stems grow some 3 feet or 4 feet in height, and are terminated by a raceme of large flowers, which after being open some little time are supplemented by lateral spikes from the base of each leaf. The flowers frequently measure 2 inches across; the sepals and petals bright golden yellow dotted with crimson, the lip white, having feathery lines of bright purple. It is found on the mountains of New Grenada at 6000 feet to 7000 feet elevation.

E. XANTHINUM is a very beautiful plant from warm parts of Brazil. It grows about 2 feet high, the stem slender, leafy, and surmounted with a globose head of clear yellow flowers, the lobes of the lip being prettily toothed and fringed. This plant requires the heat of the Cattleya house.

WILLIAM HUGH GOWER.

Dendrobium Phalaenopsis Schroederianum.—The specific name of this fine *Dendrobe* is very appropriate indeed, as a fully expanded spray reminds one very much of a spike of *Phalaenopsis*. And what a range of beauty there is in the colour of the flowers, some being very pale, whilst others are quite dark and very handsome. Another of its fine characteristics is its wonderful freedom of growth. I can quite bear out the observation made in THE GARDEN a week or two since as to its freedom of growth under cultivation, this even being stronger than in its native home, that is if one may judge from the old pseudo-bulbs. To all appearance much pot room is not needed, as quite large plants may be grown in comparatively small pans.—A. Y.

Odontoglossum houses.—Thos. Castle asks for information respecting these structures. He says, "I have just completed an *Odontoglossum* house 50 feet long with the intention of adding to it. It is a lean-to with a northern aspect, and just as I had put the finishing touch to it a friend that has the reputation of being a good Orchid grower condemned it, saying I would never have a plant fit to look at in such a structure." The cool system of growing Orchids originated with myself in a north house, and the plants did well and were a perfect surprise to everyone who saw them, even the late Mr. James Veitch, of Chelsea. The finest collection of *Odontoglossums* and other cool Orchids which has ever been seen was that of the late Mr. J. Buchan, of Wilton House, Southampton. These were grown for years by Mr. Osborne in a north house. I advise you to continue your plan, and you will be able in twelve months' time to convince your friend that he knows nothing of the

wants and requirements of cool Orchids. Keep the house properly ventilated and a fair amount of moisture in the air, and do not allow the temperature to fall below 45° or 48°, and all will go well with you.—W. H. GOWER.

NOTES OF THE WEEK.

Aster corymbosus.—This is worthy of note among the early Asters, although one hardly appreciates them so much when they come in the heat of summer days. It is tall and graceful, bearing at the top of its slender shoots large flat corymbs of white flowers. In a mass among shrubs it has a pretty effect.—A. H.

Eryngium planum.—This is one of the best Sea Hollies, and though we have most of the good kinds, none of the others last like this. One reason for this perhaps is that the plants seed freely, the seedlings appearing at long distances from the parent. Whilst established plants were flowering well in June, other self-sown seedlings are just now at their best. Except *E. giganteum*, which of course is not a perennial, no other kind grows so freely from seed as this.—A. H.

Fruit crops.—We learn that fruit is so plentiful in Lincolnshire this year, that growers are experiencing the greatest difficulty in disposing of the produce of their orchards. The markets are so glutted, especially with Apples, that the sales in many cases have not realised sufficient to pay the expenses of sending to market. Plums also have been a bad trade, and those that were damaged at all by wasps have been practically rendered unsaleable. The average price of Apples is about 2d. per store.

Tropæolum speciosum and Clematis flammula.—The Flame Nasturtium is noted on page 197 as being very beautiful in Mr. Wilson's garden. At one time it was popularly, but quite erroneously, supposed to be a plant for cold northern gardens alone. Happily, it promises to succeed in many places in the south. In trying it, care should be taken to plant it where there is no risk of spade or hoe being used. We are enjoying the beginning of pretty effects that may go on for years, the Flame Nasturtium and the sweet Virgin's Bower climbing Holly trees and hanging in graceful festoons. If the Flame Nasturtium is a plant for special places, the Virgin's Bower should be largely planted, and it never looks better than when left to itself.

A good town tree.—The Mountain Ash would appear to be an excellent town tree, but I do not know whether it would stand the smoke and fog well. Many times this season, however, I have greatly admired some large trees in small gardens by the side of the station road at East Grinstead. They have been laden with immense clusters of beautiful berries which quite weighed the branches down, and untouched by birds here they look splendid for a very long time. In the country the birds usually take these berries very early. I might mention what promises to be a fine form of the Mountain Ash. It is named *asplenifolia*; the leaves, no mean ornament in the ordinary species, are in this kind beautifully cut like the fronds of a Fern.—A. H.

A good red Tea Rose.—Princesse de Sagan is to me the most pleasing of all the red Teas I have seen. W. F. Bennett, which "D. T. F." would place at the top, I do not know much about, but certainly I know of nothing richer than Princesse de Sagan. I have just been admiring some splendid flowers of wonderful colour—a rich velvet-like crimson overlying deep red, giving them a striking appearance. Souvenir de Thérèse Levet, Charles Legrad, and others I could name are dull and dreary in tint with me. I hope red Teas will not become fashionable, because they come too near the Monthlies when in that colour. The Teas will lose by the

importation into them of a lot of red hued kinds. We have this shade in sufficient variety in the great class of summer Roses, and, considering that there is still room for more first-rate all round Tea Roses of the Marie van Houtte and Anna Olivier type, I hope all who raise Roses will try to preserve the race of Teas in its present delicacy and refinement of form and hue.—A. H.

Two forms of *Lathyrus azureus*.—The Sweet Pea is so deservedly popular, that the other annual Peas are rather overlooked, but *Lathyrus azureus* has come into favour with many of late no doubt because of the lovely shade of blue which its flowers have. We have no such shade of blue among the so-called blue Sweet Peas. The late Mr. T. Laxton sent us two forms of *Lathyrus azureus* for trial this season along with other Sweet Peas, and they will both be welcomed by those who like the typical kind. One has pure white flowers, and those of the other are of a pretty shade of soft pink. Such graceful trailing things as these should be freely used.

A fine water plant.—A colony of the double Arrow-head in the water on the margin of the lake has been a very pretty feature during the past two or three weeks. This is an old, but far from common plant. The roots, which are much like pigeons' eggs in size and shape, were merely pushed into the mud last April, and a good growth has been made. The plant merits cultivation for its leafage alone. When in flower it is striking and showy; the spikes stand up boldly like a great double Rocket, bearing many large double white rosettes. Our native Arrow-head is a plant not to be despised, but this double kind is worthy of a place among the most select hardy water plants.

Bambusa Ragamowski.—I agree with all that "T." says in favour of this splendid dwarf Bamboo on p. 182 except the last remark that it is synonymous with *B. tessellata*. What I know as *B. tessellata* is, in comparison with *B. Ragamowski*, a poor thing. Whilst one is always good, the other, but for the first few weeks of its fresh growth, is a seedy-looking plant. I have had leaves on *B. Ragamowski* 18 inches long and 4 inches wide. The leaves of *B. tessellata* are less than 6 inches long and rather ovate, with rounded tips. It is a dwarf, dense grower, and when full of fresh leaves looks very well, but as soon as growth is completed the edges of the leaves begin to die. This partial death of the leaf occurs as a regular margin, and I have seen this mentioned as a characteristic point in favour of the kind and suggestive of variegation. With me, however, it always bore too plainly the semblance of death. It mattered not whether the plants were in sun or shade, and I came to the conclusion that of all the dwarf Bamboos this kind was of the least value as an ornamental plant.—A. H.

Alabama Snow Wreath (*Neviusia alabamensis*).—At page 408 of your May number I read of this shrub, "This is decidedly an over-rated shrub, and proves once more that the glowing descriptions of some of our American friends savour somewhat of exaggeration." Were the writer of the foregoing to see this lovely shrub on its native mountains, or grown in any of our middle States, he would have a very different opinion as to its beauty. Large bushes of it in my nursery about the time the above was published were covered with flowers of the purest snow-white. The small flowers, from their immense number and purity and their light airiness, could be likened in justice to waves of flickering snow. No *Spiraea* or any other shrub can approach it. No writer in Great Britain who has not been in a drier and warmer climate than his own can have any conception of the beauty of *Spiræas*, *Forsythias*, *Weigelas*, *Magnolias* and other beautiful shrubs—natives of China, Japan and the United States—when grown in our warm, dry climate. The summer and autumn of 1892 in the United States were warm and very dry; this ripened up the wood and buds. An intensely cold winter followed, ranging at times 10° to 15° below zero, yet comparatively few shrubs were injured, not even the power-buds on *Magnolias* and other shrubs. In the

spring of the present year our trees and shrubs bloomed in great profusion—literally covered with flowers of the clearest and purest colours; no white flower on *Spiræa* or other shrub is ever tinged with green in this country, as is frequently the case in Britain.—JOHN SAUL, *Washington, D.C., U.S.A.*

Another race of Carnations.—I send you a few blooms of some of Mr. Herbert's hybrid *Marguerite* Carnations, seedlings of this year. The three blooms tied together are small flowers of the first batch of seedlings of 1892 from a cross between the Margaret Pink and pollen from Robert Houlgrave, scarlet bizarre, a grand exhibition variety raised by the late Samuel Barlow. In the first batch much more of the Carnation character was obtained, and the seedling plants from seed sown in February were strong blooming plants the following August. Further crosses made last summer were with a view to get still more of the Carnation character, and a large number of plants are now blooming, some of them since the end of July, from seed sown in February of this year. The photos sent represent the seedling plants from seed sown in February last. Mr. Herbert is crossing blooms again, and this new race of Carnations will become very popular by-and-by because of the rapidity with which they become strong blooming plants. They are wonderful bloomers, several of them having from forty to sixty buds and flowers on each. They are also of stout dwarf habit, and, as you will see, are not very small plants.—WM. DEAN.

The Californian Poppy (*Eschscholtzia*).—Spring-sown annuals have had a trying time this year, and few of them have made any display worthy of notice. The Californian Poppy in its varied forms, however, is one striking exception, and probably it hardly ever fails, no matter what the season is like. Graceful in growth and remarkably brilliant when in flower, it has a telling effect if sown in bold, broad masses and the plants thinned, so that each may have ample room to spread over the ground. The typical kind has been in our gardens quite 100 years, and the varieties we now grow have doubtless all sprung from it. Of these there are at least half a dozen well worth growing, one of the very best being that named Mandarin. Its flowers are very rich in colour, being of a deep orange with a crimson exterior, showing well in the bud state. *E. crocea* has flowers of a distinct and rich shade of yellow, and then there is a white variety with flowers of a delightful creamy hue. A double-flowered form, too, exists, and is a pretty and lasting variety. The rosy form named rosea is the least reliable, as it generally shows a tendency to revert to the white form from which it sprung. *E. tenuifolia* is a little gem, and looks quite like another species, but probably is a tufted diminutive form of the original Californian. As a choice, yet attractive plant for a little nook or to grow upon the site occupied by some choice spring bulb there are few prettier annuals. It makes a close tuft of the most graceful leafage, and bears on slender stalks the soft yellow flowers, each about 1 inch across. These annuals may be sown now for spring blooming, being quite hardy, and they usually flower longest and best when sown at this time.—A. H.

Five groups in Hyde Park.—Three of the finest between Hyde Park Corner and the Marble Arch are composed of the Australian Gum Tree, *Heliotropes*, and the purple-leaved Castor-oil plants. Each is separate and distinct and of considerable size. The first is formed of well grown plants of pyramidal form and each from 5 feet to 7 feet high. The plants are not crowded together, so closely as to prevent each single plant from being thoroughly seen and its entire beauty appreciated. The Gum trees have the whitest leaves of any I have ever seen, and their quivering motion in the sharp wind added greatly to their effect. The *Heliotrope* used was President Garfield, one of the best and most striking for grouping either out of doors or in. It blooms very freely, the flowers being more compact than in most of the *Heliotropes*. The odour, though not so full as that of most of the

lighter varieties, filled the air far and near, though a gusty day is not favourable to the production or enjoyment of such sweet fragrance. These two groups combined grace and dignity in a very pleasing manner. The Castor-oil plants, which occupied the third bed, could hardly be said to have either, and yet their colour and massiveness of stem and leaves told powerfully in their favour. Close by there is a fine group of new *Cannas* in full bloom, the flowers reminding one more of the size and glowing colours of those of the *Gladiolus* than of the Indian Shot plants of the olden times.—D. T. F.

FERNS.

THE ELEPHANT'S-EAR FERN.

(*HYMENODIUM CRINITUM*.)

The fronds which come from W. O'Brien of this plant show by their brown and shrivelled edges that they have been grown in far too dry an atmosphere, and in such a state the plant is anything but attractive, whilst their size is under 4 inches in length. When grown with fronds some 18 inches long and 9 inches broad the name has a significance, and the specimen is a bold and handsome one, worthy of all commendation. Two other species are included in this genus by J. Sm., *H. pachyllum* from Peru and *H. reticulatum* from the Sandwich Islands, neither of which is known to me. The present plant appears to be somewhat rare in cultivation now, although two or three decades back it was eagerly sought for by lovers of Ferns. It is found in Mexico and the West Indian Islands, and in Jamaica it appears to be very frequently found in the cracks of the mountains which had got filled up with soil. It makes a superb specimen when well grown, potted in a well-drained pot, using for soil peat and turfy loam made sandy, the whole pressed down firmly. It should have strong heat and moisture in the air. It is a very distinct and singular Fern, having fronds from 1 foot to 2 feet in length. The rhizome is densely crinite, the whole surface and the edges covered with long black hairs; the venation is uniformly reticulated, colour dull green; the fertile fronds are contracted, being less than half the size of the others. The stem is densely clothed with long black hairs, and the whole of the under side is occupied with the sori. It belongs to the *Acrostichum* family.

WM. HUGH GOWER.

***Chelianthes capensis*.**—This pretty plant, as its name implies, comes from the Cape of Good Hope, and is somewhat rare in cultivation with us, although it succeeds under warm greenhouse treatment. When at its best the fronds are nearly a foot in height, the edges of the segments toothed, the colour being rich bright yellow.

***Woodsia mollis* (W. O.B.).**—This is the name of the Fern which you send, asking if it is an *Aspidium*. It is a native of Guatemala, Mexico and various other parts of South America. It is a handsome cool house species, with fronds from 1 foot to 18 inches long. It belongs to the section of the genus which is called *Physematium*; some authors make a genus of it. It is distinguished from the true *Woodsias* in not having the main stems jointed.—W. H. G.

***Mesochlœna javanica*.**—H. Baker sends this, asking for the name. He says it was bought from the Messrs. Rollisson at Tooting. It makes fronds from 2 feet to 4 feet long; these are pinnate, the lower part of the frond furnished with abortive pinne, the colour a bright green. The plant is nearly related to *Nephrodium*. I think at the present moment it is somewhat rare in cultivation. It is a native of Java, &c.—W. H. G.

TREES AND SHRUBS.

AZALEAS.

THERE are few shrubs which flower so profusely and with such a range of soft colours harmonising well with each other as the different varieties of garden Azaleas, and one is surprised at not seeing them planted to a greater extent in large gardens. It is possible that many people may be deterred from attempting to grow them by the idea that peat is necessary for their welfare. That which really is essential is the absence of

the greatest profusion every year. After a certain age the bushes assume a distinct character, having flat spreading branches (somewhat like those of the Cedar), the surface of which during the flowering season is a mass of colour so dense, that the foliage can scarcely be seen beneath it. The forms of *A. pontica* have a much more upright growth and are not so good in outline, but, on the other hand, they have the merit of the gorgeous tones assumed by the leaves in autumn, for which alone, had they no other recommendation, they are worth growing, and a neighbour of mine has planted no less than 10,000 during the last twelve months

colour, there seems little reason why grafted plants should not be rejected. This class of shrubs is worth planting for the sake of the immediate effect which they give, and for the number of years during which they will remain a source of pleasure to those who live amongst or see them in their beauty.

C. R. S. D.

FREMONTIA CALIFORNICA.

My garden has just now suffered an eclipse of the greatest possible magnitude. It is owing to the unusual heat, and I shall always have reason to remember the abnormal season of 1893. But it does seem a pity that the very best of all its treasures should have been the one to go, and yet this sort of thing is far from being uncommon. The tender and pathetic words of Moore, which begin with "I never loved a dear gazelle" and end with "it is sure to die," are *mutatis mutandis* quite as applicable, I fear, to a botanical as to a zoological garden. My threnody of regret refers to what I have for some time considered the finest specimen of *Fremontia californica* in the kingdom. I have so often heard that said by one and another of my visitors, that I have come insensibly to believe in it myself, though I daresay if any pains had been taken to investigate the matter, some other claimants for the highest honour would have been found. Mr. Noble, of Ascot, will, I daresay, remember how he noticed this shrub some three or four years ago, and he said then that he thought it distanced any other of a like sort he had either heard of or met with. Mr. Elwes was much struck with it when he paid a visit to the island towards the end of last year, and he called Mrs. Elwes' attention to it as having been last seen by them on the mountains of Mexico. It runs in my head that a dangerous rival to it, and possibly a superior, might be found somewhere in Dorsetshire, and I can only say that if it be so, it must be a very fine specimen indeed.

My *Fremontia californica* was bought by me with another between twenty and twenty-five years ago. It was then, so far as I remember, about 2 feet high, and the thickness of the main stem was about that of my forefinger. I had two of them of about equal growth. The one I planted in the open border, and it very soon succumbed to the rigours of winter. The other I put against a western wall, and it has lived and gladdened me till now. From end to end at each side it covered a space of more than 25 feet; in height it was about 13 feet or 14 feet so far as I can judge, and the girth of the main stem was $1\frac{1}{2}$ feet just above the ground. It was very strong and thick. In point of height it has never had justice done to it at all. The wall against which it stood was in the direct line of the furious south-west winds which so often prevail here, and the tree has had to fight hard against them as soon as it reached above the top of its 6-foot protector. Had the wall been higher, my *Fremontia californica* would have been very much higher than it is. I think, from the size of the trunk, it would have attained to a height of not less than 25 ft. or 30 ft., but it has been hard work for it to make much upward growth, as it has been decapitated so often. The 7 feet or 8 feet to which it has attained in point of height above the wall are the survivors after endless battles with the wintry gales. Latterly it has never failed to blossom, and nurserymen have been provided with seed from it which they could not get elsewhere. Two years ago it was rather extensively layered,



Azaleas at Coolhurst. Engraved for THE GARDEN from a photograph sent by Mr. C. R. Scrase Dickins.

lime in all its forms, and it is possible to secure this in some of the poorest soils and harest districts in this country. Most of the Azaleas may be transplanted with greater success than the Rhododendrons, but it is desirable to guard against the rays of the sun striking directly on the roots near the surface of the ground either by planting in the shade of other things, such as deciduous trees or near low-growing evergreens, or else by mulching the surface until the plants are large enough to shade for themselves the ground in which they grow.

The variety, from a photograph of which the engraving was made, is one of the fiery orange-scarlets, which never fail to flower in

chiefly with a view to the effect of the autumn foliage. It would take more space than I could hope to occupy, and more patient interest than I could hope to arouse, if I were to attempt to catalogue the merits or demerits of the different species, their admixtures and varieties, but I should like to call attention to the way in which, with one or two exceptions, the different shades of colour in the flowers harmonise with each other when planted in sufficient masses. The evils of grafting may be noted in the case of Azaleas, with the consequent annoyance and trouble caused by suckers breaking up from the stock, and as seedlings are generally obtainable classed under different headings of

and the layers should have been able to make a start for themselves in life in a very short time. In fact, it has had quite a run of prosperity save only in its hard-fought contests with the wind, and it never was beaten in them. In June last it perhaps attained to the zenith of its success. As one after another of my visitors at a garden party passed through the gate and immediately set eyes on its myriad golden blossoms, each one of nearly the size of a five-shilling-piece, studding the wall with a blaze of beauty which it would be very difficult to excel, and also mounting high above the wall in the richest profusion; when they saw this outspread of most beautiful colour set off by a dark glossy green foliage which exactly befitted it, and the branches trailing on the ground, which were wreathed to the very tips with the blossom they carried so well, not a few of them said that they had never seen or dreamt of such a sight in this country, and they would scarcely have believed it to be possible. But how little did I then think that all this was for the last time, and that it would soon be over, or at any rate for many years to come. My "dear gazelle" was bound very soon to die, or to come quite near to it. I went away for my holiday in the summer, and though I had fears about many things, I never felt the smallest anxiety as to how *Fremontia californica* would get on. Did not its very name speak for itself? Would not the bright summer glow be only a reminder of its own native habitat? It was a certainty to me that, though other things might fail, this at all events would revel in the almost tropical heat and think nothing of it. I could have fancied its going down before the frosts of December or January, and I have often thrown a friendly net over its head in the rigour of winter, but surely nothing could injure it in July and August, and it would be its season of triumph. And yet what has happened! It is always the unexpected that takes place quite as much in horticultural as in political affairs. My gardener (and I can now say that I have a very good one indeed) passed it without misgiving during my absence from home; he saved innumerable other lives by the anxious solicitude with which his watering was carried on, but it never once struck him where most of all it was required, and no wonder, for he was comparatively new to the place and to the tree, and he might well take it for granted that it had all which it required. But I could be under no such illusion as that. I saw at once on my return home a sort of ominous curl in the leaf, which told me that the tree was ill; its radiance of happiness seemed quite to have gone from it. I looked at it and was startled when I looked, and more than ever so when a quick glance over it took a lower sweep than before, and I saw immediately that the sap was exuding copiously from the stem and running down in thick resinous streams, and, in fact, its very life's blood was passing away from it and leaving it a sort of monument of distress. The tree was labouring in its adversity, and as though some dreadful malediction had come on it like that of which we are told in the Gospel, it shuddered in the fierce sunshine which was pouring on it without any pity at all. The level rays of the western sun seemed to bring death upon their wings; the days of *Fremontia californica* appeared to me to be numbered without hope or remedy. But it is never the part of a gardener who treats his garden as the very home of his favourites, which he watches over with unrelenting care, to give up too soon, or to give up at all if there be the slightest chance of bringing relief to some suf-

ferer in a crisis that has occurred, and drastic measures were not long in being applied. We deluged the border where *Fremontia californica* had been lately growing so well with can of water after can. We applied thick coatings of rotten stable manure as a mulch to its feet, so as, if possible, to keep them cool. We worked up some clay till it had become ductile as putty in our hands, and then, with all the tenderness possible, we swathed the main stem with it just above the ground, where it is $1\frac{1}{2}$ feet in girth, and then most carefully we bound it all round with straw, because we thought it would be a non-conductor of heat, and then we only felt regret that there was nothing more that we knew of to be done. We had to wait some little time to see what would be the end of it all, and if the destroying hand could be stayed even at the last moment after much sad havoc had taken place, or if Ichabod, and nothing short of that, was to be written on a bare and empty wall which had been lately clothed so well. I am thankful to be able to say that while about six-sevenths of my tree are utterly gone and hang down now in hopeless and piteous dejection, I quite believe that the remaining seventh part will be saved. Of course, at the best it will take many long years for those who see it before the former splendour of *Fremontia californica* is restored, if that ever be the case. But it is a blessing to think that it is not quite lost, and if it can be saved by any amount of attention, it will be saved, so as to spread and some day to blossom again. It all depends, of course, on the state of the roots, and about that I can tell very little at present, nor have I looked at all; but the battle has not ended yet in complete and utter defeat, though the struggle has cost me dear. Its *in memoriam* may yet have to be written by another hand than mine. For the future I shall go upon the principle that prevention is better than a cure with this glorious shrub, and I shall dig a trench round it and fill it up with rotten manure and keep it cool and moist in summer-time, and I advise all owners of *Fremontia californica* to give heed quite as much to the heat as to the cold regarding it, and if it has been put against a western wall, I should offer it some slight protection of straw around the stem, for it is worth while to keep it well, and yet this does not by any means come of course. Some half dozen *Magnolias* have braved the wave of heat and seem uninjured by it. In the very same border where *Fremontia californica* stands *Xanthoceras sorbifolia* has laughed at the very worst which could be done against it. *Poinciana Gilliesii* at no great distance off seems to be in quite cherubic happiness. *Pomegranates*, *Roses*, &c., have not suffered to any extent. The only shrub in my garden, save *Rhododendrons*, which has nearly slipped through my fingers is the one for which I would have done most of all with alacrity. It would be an immense pity if the Dorsetshire specimen—unless it be apocryphal—were to suffer as mine has suffered. I hope *Fremontia californica* will continue to be represented there. But it is the way of a garden very often, as it is the way of all human affairs, to endure loss, and it is no wonder that my tree has come to grief—*sic transit gloria mundi*.

St. John's, Ryde.

HENRY EWBANK.

P.S.—I have just now received a letter from a friend in Switzerland which throws some light on the difficulty I have had to meet. My impromptu measures were in the main suggested by what I have seen them do abroad with a bleeding Vine, and though it was rather like shutting the door when the steed had been

stolen, I had recourse just now to a well-known Vine-dresser and horticulturist to see what he would say. His answer may perhaps be useful to others and save them from the disappointment which I have to bear. I therefore append an extract from the letter I have received, and I only wish I had seen it myself a few weeks ago. It runs as follows:—

The tree should be bound up to prevent bleeding. Care should be taken not to pour water on the trunk and bleeding part when watering it, and if it stands against a wall, straw or a plank should be put between it and the tree. That often the hot wall produces such bleeding. Anyway, no water should be poured against the trunk of the tree, especially when the sun is on it or after a very hot day. I hope the tree will yet be spared.—
August 28, 1893.

Stuartia virginica.—This has long been introduced into this country, but very few really fine specimens exist. I never saw the above variety more beautiful than it has been this season. Our plants thrive well and bloom profusely. One, some 15 feet high, faces full south, and the other is on a western aspect. Of course, the former does best, but the one in a colder position never loses any wood by severe weather. *S. virginica* is a lovely object when in bloom. The flowers are white, somewhat like those of a single *Camellia*. I have also noticed the plants bloom best after a wet winter, thus showing the roots like a fair amount of moisture, provided the wood is well ripened. Our soil is very light and well drained. Heavy, wet land would not suit the *Stuartias*, and in the latter they would require a certain amount of peat soil and free drainage. *Stuartias* are compact growers and give little trouble, but they soon get spoiled if at all crowded. At the same time they require a certain amount of shelter from the east winds, which seem more destructive than severe dry frosts.—G. WYTHES.

SHRUBS AND THE DROUGHT.

SAD havoc has been played amongst shrubs during the summer months, and at no time was such destruction seen as during the period from Aug. 13 to 19. During that time shrubs which had been transplanted two and three years succumbed. The worst sufferers are undoubtedly *Rhododendrons*, as some very fine bushes are killed, and in light gravelly soil they have been kept alive with great difficulty, no moisture having reached them for a long time except by watering. No doubt the reason why these plants are suffering so much is on account of their being called upon for extra moisture to supply the new growth. Being moisture-loving subjects, they soon suffer by prolonged drought. Being shallow rooters, shade to a certain extent does no injury, but when the plants are overhung by tall trees then injury is caused. The value of a mulch in such seasons will be very great, and there is no better material than decayed leaves, and the value of allowing these to remain year after year to enrich and protect the roots in preference to the annual clearing out and forking over which are at times practised will be evident. Of course, in heavy soils or in loam of good depth it is not so important, but on thin, gravelly soils more food and moisture are required. Digging and forking give a neat finish, but this may be effected by merely removing broken wood and allowing the leaves to remain, as these soon decay and may be covered or placed underneath the finer soil to support the surface roots in such seasons as we have just passed through. Leaf soil placed as a mulch over shallow rooting shrubs is of great advantage, as after a thorough watering it retains the moisture for a long time. This is a great saving of labour, as the leaves keep the roots cool and moist, so necessary with evergreen and surface-rooting shrubs. Water applied indiscriminately to shrubs on hard baked ground with cracks and fissures in various directions is useless, as it all runs away, but with a mulch it is retained for a long time

Shrubs which are valuable will well repay extra attention this autumn by mulching and thoroughly watering them. If feeding is necessary, I do not know of any better food than cow manure. This if mixed with loam or leaf-mould and well watered in will soon create increased vigour. For conifers and trees with dense foliage it is invaluable.

G. WYTHES.

Japanese Acers and the drought.—On light soil the Acers have had a bad time of it. It would be interesting to know the rainfall these plants get in their native country, as in a wet summer they thrive amazingly, and though they lack the brilliant shades of colour they assume in hotter seasons, I have noticed the foliage is brighter after a wet winter than otherwise. I have tried these plants in very dry sheltered corners and they do not grow freely. I note at this time there is abundance of rain in Japan and drought is not very common, thus showing that the Acers require plenty of moisture. If Acers, when cultivated in pots, are allowed to get dry and flag, the leaves assume a rusty tint, which spoils the appearance of the plants. On heavy soils Acers may not have suffered so badly, but in these they do not stand such severe weather as when growing in light and well-drained land.—S. H. B.

Pterocarya caucasica.—I consider the above one of our most ornamental deciduous trees, and of great beauty when planted near a lake or by water, as in such a position it thrives luxuriantly. The foliage of *Pterocarya* is so distinct that it is easily recognised even at a distance, and when planted at the water's edge it assumes a graceful drooping habit, and being of such noble proportions, it should find a place in all collections where a moist position can be given it. Along the Thames valley it grows grandly. We have noble specimens nearly 50 feet high. This is much above the average height. The leaflets average nineteen to twenty-three, and are much longer and broader than is usually seen. In the autumn months the foliage assumes a rich colour. The plant is readily increased by suckers from the base. The trees are lovely objects when in bloom, the flowers, of a greenish white colour, hanging in long pendulous spikes. Seed ripens in favourable seasons.—G. WYTHES, *Syon House*.

CHRYSANTHEMUMS.

SEASONABLE NOTES.

"**TAKING**" the buds will now occupy the time and attention of the cultivator of large blooms, whether they be intended for home decoration or exhibition. The plants that made a second break about July 20, as noted on page 126 in *THE GARDEN*, are now (August 19) forming another flower-bud at the point of growth. I am just now referring to plants of the Queen type. This family, owing to the many distinct varieties that have emanated from the original Queen of England, raised by J. Salter during the year 1847, or from its direct sports, is an important one in the exhibition tent. The plants composing this family have behaved somewhat strangely this season in the matter of premature bud-formation, owing presumably to the effects of so much hot and dry weather during the early part of the year. Where the plants received constant attention as directed in the matter of daily syringing to maintain a less arid atmosphere about them, and where growth was forced, as I might term it, by one or two doses of nitrate of soda given cautiously, with a view to the elongation of the sap vessels, the plants are now in a satisfactory condition, in spite of their unpromising appearance earlier

in the year. By the time these lines appear in print the buds will be sufficiently developed to enable the cultivator to "take" them safely. Directly they are sufficiently developed to discern that no deformity exists, owing to the work of insect pests, of which there is a plentiful supply this year, the shoots which cluster around the buds should be promptly removed, so as to concentrate the whole vigour of the plant into the buds selected. If the removal of the shoots is delayed for a few days longer than it ought to be, they appear to rob the bud of its powers of development so much, that it does not swell in proportion to its requirements, and consequently does not make so fine a bloom as it should and would do under the correct cultural conditions. Early in the morning, when the foliage is laden with dew, or in the evening is the most suitable time to "take" the buds, not only because the work can be carried out so much more expeditiously, but because it is much safer to remove the shoots when they are succulent. If done during the middle of the day, the heat renders the leaves and shoots limp, and the danger of injury to the bud is increased. By holding the shoot firmly in the left hand and giving the shoots a downward sharp bend, they snap off easily and quickly. Blooms of the Queen family developed from buds "taken" as directed are certain to be of that uniform shape, colour and substance so desirable in this family. In close competition it is the adherence to the quality noted in this family that places one exhibitor before another. No variety in the whole incurved section tests the cultivator so much as does the Queen family. Those persons who select buds of these varieties known as "crowns," irrespective of the time they are produced, simply because they are regarded as producers of the largest blooms, will have much cause for regret this season. True, they obtain size as far as diameter is concerned, but it is at the expense of quality. After a season like the present we hear loud complaints of the blooms having reflexed petals instead of incurved ones; this defect is entirely owing to the anxiety of the cultivator to ensure the early-formed buds. Experienced exhibitors, however, seldom commit such an error.

I never saw the plants of the Princess of Wales family look so promising as at the present time in all collections that have come under my notice. They are tall. In this section I firmly believe the finest blooms invariably come from tall plants. I do not mean, however, that those plants that are rendered abnormally tall by faulty methods of culture, as crowding them during the early stages of their existence and allotting them a position unsuitable during the summer. The present appearance of the plants denotes blooms of the finest quality. The cultivator should pay daily attention to all varieties in the matter of bud-formation, as it will not be wise to allow any variety in either of the large flowered sections to "run on," as it is termed. If buds are now lost, the blooms resulting from the next formed growth will be small and indifferently developed compared with others produced from earlier selected buds.

Pompons, Anemone pompons, and single-flowered varieties are now many of them setting a bud in the point of each shoot, while the bulk will not do so for several days. Where exhibition blooms are required, and these to be set up in threes in the orthodox manner, whether pleasing to the general public or not, these buds must also be "taken." If this method is not in favour, rub out the bud and

allow the shoots to "run on;" the next formed buds will be the terminals, and from these the best results are obtained in these sections. Whether the plants themselves are required for decoration or the shoots are to be cut, a wealth of blossom is obtained. Rich food should now freely be given to those plants that have their flower-buds partly developed. The present hot and dry weather is all in favour of a liberal employment of stimulants, and especially of a liquid kind. In any case care is necessary to avoid too strong doses of any kind; far better give two weak ones than one double the strength. Another caution appears necessary, that of allowing the soil to become quite dry before applying stimulants. It should never be in that state when artificial food is given, the roots are so liable to be burnt, and thus receive a check which is not desirable. During dry weather like the present the plants are in a better state to receive aid from artificial means than during a wet season, and where applied with discretion I expect to see good results emanating from such practice. The plants are all the better when they receive what I term corrective treatment, i.e., supplied with nothing but clear water for a couple of days about every fortnight. Stimulants have a greater and more beneficial effect afterwards. Where lime does not exist naturally in the soil in which the plants are growing, it is a good plan to occasionally well soak the soil with lime water, adding as much lime to a canful of water as will be held in suspension. When the lime in bulk settles at the bottom of the vessel the water is strongly enough impregnated with lime. Not only is this treatment beneficial to the plants themselves, but the lime rids the soil of worms. Surface roots should be encouraged as much as possible, for these have a decided effect upon the flowering of the plants. It is not that a limited few roots on the surface derive so much benefit from the food given, but it is the multiplication of roots that is to be encouraged. A cool and moist state of the surface soil will increase the stock of roots in that particular spot. When the plants are allowed to become dry too often, seldom can ever a fair quantity of surface roots be found. Now is a good time to set about the increase of surface roots. Plants that have their buds taken are in greater need of assistance from the roots than at any other period of their existence, because of the extra strain of supporting both leaves and developing the buds also. A top-dressing of some rich food is obviously the best means of affording additional food and encouraging surface root action at the same time. There are so many kinds of top-dressing materials recommended, that it is difficult to individualise them. No one can err in employing fresh turfy loam sufficiently decayed to destroy the grass; two parts of this to one of bone-meal or dissolved bones will form a good rooting medium if laid on about three-quarters of an inch thick and pressed down firmly. It is a good plan to well soak the loam in liquid manure before using it. Freshly gathered cow manure mixed with maiden loam in equal proportions provides a good rooting medium. Many of the growers around Liverpool are staunch believers in top-dressing their plants in this manner. Some of them build up small mounds around the edge of the pot with the top-dressing material to give additional space for water. In cases where but little space is left for top-dressing, owing to the pots being filled too full at potting time, if a thin layer of soil is laid on the surface and partly covered with pieces of potsherd, it is surprising what a number of roots quickly form on

the surface underneath the crocks, showing their value in maintaining moisture close to the surface. No matter in what way surface roots are obtained, they must benefit the plant, and should be encouraged as much as possible.
E. MOLYNEUX.

CHRYSANTHEMUM NOTES.

WITH what extreme rapidity the weather is causing prognostications with respect to the blooming time of Chrysanthemums to vary. Not long ago the bloom must be a month earlier than usual, then came the showers and clouded skies, and it was then found so robust were the growth and leafage, that flowers might be rather late than early. Even "E. M.," I observe, says that in low-lying districts it may be needful to pick off some of the leaves to allow the wood to ripen. Since that was written we have been having a couple of weeks pretty well of intensely hot weather, and the hardening process has been going on so rapidly that already there is fear again bloom will be unduly early. Certainly the recent heat has done more to mature wood and develop buds than an entire month can often accomplish. Even now we feel that Chrysanthemums must be chiefly contingent upon the weather of September, and what that may be remains to be seen. When I was in the Reigate district, where there are many good growers, on August 5, I was informed that there was no special reason to think bloom would come unduly early. Since then a change has taken place, as no one then contemplated the tropical heat which began on Bank holiday. Nevertheless, Chrysanthemums everywhere look wonderfully well. I saw 1000 fine pot plants at Woodhatch, Reigate, recently, and they were in the finest possible condition. I saw a smaller collection in a Teddington garden some time ago, the plants in 9-inch pots only, three parts full of soil, and they looked very poor and weak. Then I saw them a few days since, and they had done wonders, their thin weak-looking stems having put forth stout shoots that delighted the grower as much as they surprised me, for the pots still remained one-third empty. The rains so far had provoked a remarkable change, but this grower, who always produces some capital blooms, prefers to rather starve than feed his plants at the first, then gently stimulate later, filling up the pots with fresh soil, and feeding when buds are swelling. That is, however, a rare method, as almost everywhere I note that the flowering pots are filled right up at the potting time, and apparently very much the same results are obtained whichever plan may be adopted. That after all shows how easily the Chrysanthemum adapts itself to diverse forms of treatment. Given plenty of moisture at the roots, it would seem as if the plants revelled in ample air and sunshine. I have sometimes thought that plants standing, as is so frequently seen, in very long rows on each side of a garden path, the plants touching each other, lost very much of sunshine when the sun's rays ran longitudinally along the walks, as one plant materially shaded another. At Woodhatch I observed that Mr. Salter had nearly all his plants standing in rows, one a little above the other on a rising space, so that every one obtained a maximum of light and air. No doubt such a position is the very best, if at the same time somewhat sheltered from rough winds. So far there has been little trouble on that head, but because the great heat may generate wild thunderstorms at any moment, it will be well for growers to be prepared for eventualities by having every shoot securely tied.
A. D.

Early Chrysanthemums.—Last year at a meeting of the Royal Horticultural Society, held on August 25, Mr. McMillan, of Trinity College, Edinburgh, exhibited some splendid blooms of Chrysanthemums, consisting not only of the varieties usually associated with summer blooming, but also of the ordinary November flowering forms.

This season at Earl's Court, on August 9, the same exhibitor was to the fore with beautiful blooms of the following: Elaine, Stanstead Surprise, Mlle. Marie Hoste, Mrs. Irving Clarke, Mme. Leroy, Puritan, Stanstead White, Mrs. Hawkins, Venus, Admiral Symonds, Annie Clibran, Mlle. Lacroix, Edwin Molyneux, C. Wagstaff, W. W. Coles, and Mary Anderson. The blooms of all were very fine, and some of them would occupy a prominent position much later in the season than this. Four varieties, viz., Edwin Molyneux, Annie Clibran, Mlle. Lacroix, and C. Wagstaff, were shown in the shape of good sturdy plants about a yard high, the first mentioned three carrying four good blooms and the last three. The foliage on the plants exhibited was in good condition. Apart from the question whether Chrysanthemum blooms are needed at the present season, such an exhibit was a very noteworthy one, and it would be very interesting to many to learn how such results are achieved.—T.

KITCHEN GARDEN.

PRESERVING TOMATOES.

MISS LAWRENCE will be greatly obliged if any reader will tell her what are considered the best ways of preserving Tomatoes for winter use.

* * There are extra heavy crops of fine Tomatoes ripening in the open both against and clear of garden walls and fences, and as yet all are free of disease. This being so, the question naturally arises, Why not make some attempt to store some of these for winter use? As it happens, there are several ways of utilising not only the ripe fruit, but also quite the smallest green Tomatoes, these latter being more sought after by those who know their value than are ripe fruit even. Bottling or canning Tomatoes is an industry principally confined to America, and of this I have had no experience. I fail to see, however, why private growers should not try to imitate the practice on a small scale. Cans, it should be noted, are fast going out of favour from their tendency to spoil their contents to the extent of rendering them positively injurious, owing to the effect of acids upon the metal, and it is either wide-necked jars or bottles that should be used in preference. Another recommendation these latter have over cans is to the effect that they can be effectually made air-tight without any assistance from a tradesman, soldering down being necessary in the case of cans. For bottling, the preference should be given to sound medium-sized to small ripe Tomatoes, these being separated from their stalks and sponged quite clean if need be. These should then be packed closely and tightly, but not crushed, in the bottles or jars, afterwards filling up with clear water. Supposing it has not been possible to obtain bottles provided with rubber rings and screw tops, though, unfortunately, I am unable to state where these can be procured, the bottles or jars must next be very tightly corked and then placed in a stock pot or deep stewing pan, filling this with cold water and setting over a fire to very gently boil for the space of about twenty minutes. In order to render ordinary bottles or jars perfectly air-tight, new corks soaked for a short time previously in hot water should be used, and after the boiling has taken place and all are cool again, cut off the corks even with the tops. Make a cement or bottle wax by melting 2 ozs. of resin and 1 oz. each of beeswax and gum shellac, inverting each bottle or jar in this, repeating it when the first coating is cool. Store in a cool, dark

place, where the Tomatoes ought to keep admirably for many months.

The foregoing is the best recipe for storing Tomatoes that I am acquainted with, but there is an older and more simple, if less to be commended, practice that I will next give. Select perfectly ripe Tomatoes and pack them closely and without pressing in a stone or glazed earthen pot, and completely surround with a brine of salt and water strong enough to support an egg. Cover with a deep plate in such a manner that it presses upon the fruit and set in a cool dark room or closet. Fruit thus treated will keep a year without further attention, but must be soaked in fresh water for several hours prior to being cooked.

There are several methods of making Tomato ketchup, or sauce as it is often erroneously termed, and a few bottles of this might be found very serviceable during the coming winter. The first of these recipes, and which I can strongly recommend, is as follows: Take Tomatoes when fully ripe, bake them in a jar till they are tender, strain them, and rub them through a sieve. To every pound of juice add a pint of chili vinegar, an ounce of shallots, half an ounce of garlic (both sliced), a quarter of an ounce of salt and a quarter of an ounce of white pepper finely powdered. Boil the whole till every ingredient is soft; rub it again through a sieve. To every pound add the juice of three lemons, boil it again to the consistency of cream. When cold, bottle it; put a small quantity of sweet oil on each, tie bladders over, and keep in a dry place. Another recipe that might also be tried with advantage is rather simpler. Slice the Tomatoes, put them in layers into a deep earthen pan, and sprinkle every layer with salt. Let them stand in this state for twelve hours. Then put them over the fire in a preserving kettle and let them simmer till they are quite soft. Put them into a thin linen bag and squeeze the juice from them. Season the liquor to taste with grated horse-radish, a little garlic, some mace, and a few cloves. Boil it well with these ingredients, and, when cold, bottle it for use. There is yet another good recipe for Tomato ketchup, and it is this: Slice the Tomatoes and sprinkle them with salt, boil them, and strain through a coarse sieve. Slice two good-sized Onions to every gallon, add a small spoonful of ginger, two of pounded cloves, two of allspice, and one teaspoonful of white pepper. Boil twenty minutes after the spices are in. Keep it in a jar closely covered.

Although no mention was made of green fruit by the lady who asked for information as to the best methods of storing Tomatoes, I am enlarging upon the subject for her benefit, and I hope for that also of many other readers of this paper. So well have Tomato plants grown and so freely have the crops set, that there are extra large quantities of green fruit that will not have an opportunity of attaining anything like their full size, colouring being as a consequence quite out of the question. Even if green fruit can be kept after being cut long enough to colour, the quality is as a rule wretchedly bad, and the fruit in a fresh green state might well, therefore, be put to a better use. Tomato pickle made principally from the green fruit and Onions invariably finds favour with most people who have an opportunity of trying it and believe it to be quite wholesome. There are only two recipes for pickling Tomatoes that I am acquainted with, and these I will give. The first, and which is most popular, is as follows: Take two pounds of green Tomatoes, pull them to pieces (they must not be cut), add two or three Onions sliced and six chilies.

Scatter salt over them, letting them stand fifteen hours, then strain away the liquor and cover the remainder with good vinegar. Place this in an earthenware jar, bake in an oven for one hour and then press pulp into jars. Now take a dessert-spoonful of mustard and half a tea-spoonful each of pepper, spice, sugar and cloves, a little cinnamon and four chillies, adding sufficient vinegar to make this quite thin; boil it and pour over contents of jar while boiling hot. If spiced vinegar is used, this may be brought to the boiling point and used without the addition of the raw spices. When cool, closely cork the jars and cover with bladders. This pickle is found to be rather hot, especially if not well stirred prior to use, the hot spices collecting on

SHORT NOTES.—KITCHEN.

Celeriac is cultivated here to a great extent. It is used as a winter vegetable, boiled and afterwards cut into thin pieces for salad.—*LOUIS KROPATSCH, Vienna.*

A seedling Pea.—I send some pods of a Pea raised by Dr. Froud, of Feltham. I wish to call it *Oceana*, after his namesake, the travelled and charming historian. It has a good constitution, catches no mildew. The haulm has borne Peas for quite two months, these being off the one row I have. I also send some ripe seed which I have been gathering for three weeks past. One row of this Pea does the work of three rows of any other. It is, I should think, a step in the right direction, and though the haulm dries up a good deal, still it

it may be worth while if in judging Tomatoes it be made a rule to cut them transversely and then give the prizes to those which best present the above-mentioned features. Some of the varieties have in them rather hard cores; others lack solidity, having far too much seed room and soft juicy pulp rather than firm, yet soft, smooth flesh. Of course solid fruits will weigh the heaviest; hence, apart from their greater favour with consumers, they would be more profitable to growers. I do not learn that there is any diverse form of culture adopted to secure this solidity. It seems to be a characteristic of the sort. Generally, Tomatoes seed too freely. That may be a virtue with those who grow for seed production, but still we have far more of Tomato seed than is required, especially that the bulk of growers for market or private use save their own. To get rid largely of seed and its surrounding pulp, therefore, would be a good feature when it is replaced by solid flesh.—*A. D.*

ROSE GARDEN.

ROSES IN POTS.

IN order to secure a display of cut Roses during the winter months, it is necessary to look forward and commence operations at once. There are two plans that may be adopted. We may secure ripened wood to start with during October or November, or we may keep the plants growing steadily on the cool side of a wall until colder nights warn us that they must be housed, and so succeed in realising the last crop of bloom from the Tea-scented and Noisette varieties. But where the same plants are to give a second or third crop of bloom during the early spring months, I would prefer to start with those that have had a fair amount of rest for six or eight weeks. When a batch of plants has once been used for early forcing, they naturally come to hand better for the same purpose another time, because the earliness of their growth allows of a corresponding earliness in ripening. Plants that were under pressure all through the winter and early spring may well be stood out of doors by the middle or end of June, especially if a sheltered position can be afforded them. During the two or three months they are in the open it is necessary to be particularly careful as regards watering. If given too free a supply, growth will not cease in the gradual manner so essential in building up ripened wood for the following winter's forcing. On the other hand, almost as much harm may accrue from a little neglect, it taking but a short time for the soil to become so parched as to ruin a large number of the Rose roots. They may be allowed to get dry without being sufficiently so to show the effects, and it will be found much better to give a thorough soaking occasionally. I prefer to have the pots about half plunged, and if this can be arranged upon a concrete bottom, so as to avoid worms, it will be still better. Standing the pots upon pieces of slate does not recommend itself to me, for a very little soil being washed to the bottom will cause a stoppage. Worms, &c., may be kept out by sprinkling a layer of soot over the ground and standing the pots upon this. By partially plunging the pots, we avoid that sudden and injurious drought which comes on so unexpectedly after a few hours of dull weather, and as the most important roots of pot Roses are usually in the lower half, it behoves us to take due care of them. My own plants in pots that are intended for winter forcing are in two batches, one of them being about in the stage I have endeavoured to describe above.



Tea Rose Niphetos in a pot.

the top. The other recipe alluded to is also worthy of being given a trial. Scald and peel green Tomatoes, lay them on dishes and strew salt thickly over them. Let them stand twenty-four hours, occasionally pouring off the liquor that the salt extracts. Drain them and gently squeeze them, as it is this juice that weakens the vinegar and makes them spoil. Take a large jar, put in a layer of Tomatoes, then a layer of sliced Onions, mustard seed, cloves and white pepper or whole black pepper, or two pods of red pepper may be broken up and put into the jar. When the jar is full, pour very strong vinegar over, and in a few days the contents will be ready for use. Stored in a cool dry place, this pickle will keep all the winter.—*W. I.*

goes on bearing nice Peas of a thoroughly good flavour.—*A. DAWSON.*

Solidity in Tomatoes.—A friend recently gave me a few good-sized, handsome Tomatoes. I did not learn what sort they were supposed to be; indeed he did not know, for he had the fruit from which the seed was originally taken without name. When I cut these fruits transversely I found they gave the smoothest and most solid flesh I had ever seen, and they contained very few seeds. I hope to have more of these later to see how far the character thus given is sustained. Now I think it is in this particular direction we should look for further improvement in the Tomato. So far as beauty, colour and productiveness are concerned, it will be hard to excel what we have, but there is room for improvement in solidity of flesh. For that reason

By the time these notes are in print I shall probably be overhauling this batch and repotting the plants that require it. What pruning may be needful will be done at the same time and the whole batch stood back again, care being taken to keep the newly-potted plants by themselves. This is more necessary than might generally be imagined. In the first place, they will not need so much water until the new roots are well at work, nor will they receive any liquid stimulants nearly so early as in the case of the established plants. Those plants that do not need a shift will have a portion of their top soil removed, the drainage looked to, and be mulched with a rich turfy compost. It is not necessary to turn all of the plants out of their pots to ascertain if the drainage be sound or not; one can generally see by turning the pots on their sides. When a pot is full of healthy roots, turning the plants out must necessarily injure and disturb them more or less, and I would avoid it as much as possible. By the middle of October it will be well to take a few of the most forward looking under cover, but not to introduce them to any artificial heat. A deep pit or frame, where they could be kept close without heat, will be found much better than taking them into the greenhouse direct, the end of November being quite early enough. Should a bright and late autumn set in, the plants must be sprinkled over-head occasionally, or red spider, &c., is almost sure to attack them. The steeper and stouter the new growth breaks, the better and more numerous will be the flowers. The pruning necessary will be very slight, and simply consist of shortening back strong shoots and removing as many as possible of the weaker lateral growths. This last sentence refers to ordinary growers like Catherine Mermet, Mme. Falcot, Niphetos, &c., and not to those of the climbing section.

Reine Marie Henriette, Maréchal Niel, William Allen Richardson, l'Idéal, &c., may be used for early forcing with every prospect of success, provided a thoroughly matured rod or rods of growth is available. As the blooms are practically stored in the ripened eyes of these varieties, we see how necessary it is to have well-matured wood. It is easy to get rods of these ranging in length from 6 feet to 12 feet and 15 feet, and where they can be trained upon the roof, say about 18 inches from the glass, a quick and certain crop may be expected from all ripened wood. It is a good plan to have a dozen or so plants of this class and to train them cordon fashion, as you then get a more uniform break of young growth. It is useless to attempt forcing these extra strong growers unless they bear rods of considerable length and are well matured. Given this most essential point, I think they are the most certain to please of all early forced Roses. When this class of Rose has done blooming, no time should be lost in securing good rods for next winter's use, and as little good can be had from the old growth, it is well to cut away freely and so induce a healthy break or two from the bottom. This may be grown on as rapidly as possible, feeding liberally with liquid manure. Where repotting is necessary, this should also be done before the young growths have made much progress. What we want is a good growth attached to roots established in good soil, and which will ripen all the more effectually from being pot-bound. Never attempt to repot this section until you have secured your crop of bloom.

The second system of getting winter Roses will need but very few words, it simply being the judicious continuance of late autumn growth. Almost all of the dwarfers growing

Teas and Noisettes may be readily encouraged to make late growth in the autumn. Perhaps the worst foe to contend against in this case is mildew. This is very prevalent during some autumns, the clear bright days with chilly nights and mornings having much to do with its rapid spread. The form of dwarf Rose most suitable for pot cultivation is undoubtedly that worked upon the dwarf cutting or seedling Brier, or the plants may be upon their own roots. The cut accompanying these notes is a plant of Niphetos growing on the short hedge Brier. This also is a most excellent stock, but perhaps more suitable for outdoor culture. Although a few standard and half-standard Roses are of much value in pots, they are not so suitable for general cultivation as the dwarfs.

With a reminder that it is absolutely necessary to keep the plants clean from the very first, and also a further hint that a temperature of from 55° to 65° is quite sufficient until the days have turned, I will close these notes with a list of twenty grand Roses for pot culture. The first six are climbers. Maréchal Niel, l'Idéal, W. A. Richardson, Climbing Niphetos, Climbing Perle des Jardins, and Reine Marie Henriette. Dwarfers growers: Perle des Jardins, Catherine Mermet, Niphetos, The Bride, Edith Gifford, Jean Ducher, Francisca Krüger, Sappho, Ernest Metz, Augustine Guinoisseau, Mme. Falcot, Cleopatra, Anna Ollivier, and Mme. Hoste.

RIDGEWOOD.

EARLY PLANTING AND POTTING.

OWING to the excessively hot and dry weather since the few showers of last month, many Roses, especially those of the Hybrid Perpetual section, are rapidly ripening, and will soon be ready for transplanting. I am a staunch advocate of either very early or late planting of Roses. In the former instance they commence rooting again immediately, and are, therefore, in much the same condition next spring as plants that have been established a season. Indeed, plants put out extra early this season are likely to be more than equal to those transplanted early this spring, as, owing to the excessively dry summer, these have made little or no growth. When a plant ripens so early as many Roses are likely to do this year, late autumn rains often cause a fresh growth, which, owing to the approach of winter, is often of little value; rather the contrary, because it weakens and exhausts the plant, as well as renders many of the best and strongest eyes useless for another year. This is especially so among strong growers that are usually selected for pegging down. With the Tea-scented and Noisette sections this does not so much matter, as they very seldom finish their long growths until quite late in the season. My object in writing is to call attention to the great advantage of potting up Hybrid Perpetuals as early as possible. By doing so, and standing them on the north side of a hedge or wall where they are free from mid-day sun, we get root-action almost equivalent to that of spring, and avoid the injurious drying properties of the bright autumn sun. Plants that are denuded of foliage can be potted up under these conditions at any time, and are sure to be almost if not quite as satisfactory as those established for a season.

A few weeks gained in planting will be a great advantage next spring and materially assist the Roses during mid-winter, when we frequently get sharp, keen and exceedingly drying winds. In this case, the roots, being surrounded with a younger set of feeders, will be able to convey a far greater amount of sap to the wood than could otherwise be the case. Mid-winter or very late planting does not mean such immediate action of the roots as when this operation is taken in hand while the soil is still comparatively warm. Lift a

plant in mid-winter and lay it in by the heels in a shed, and you will find the roots respond in almost the same way as if planted early; but lay it in in the open ground, and you will find root-action considerably retarded. There need be little fear of new growth being made from early lifting; in fact, not so much as when a plant is allowed to remain in the bed after getting comparatively ripe previous to a late and genial autumn. Teas and Noisettes continue in growth until very late in the season, and if we were to wait until all of their wood was ripened, we should oftentimes find ourselves too late for any but spring planting. I would not hesitate to lift these during October, however full of growth they might be. True, they would present a sorry and woeful spectacle for a few weeks, but frost would also soon have had the same effect. By October almost all of the wood upon ordinary growers that is of any particular service for next year will be quite sufficiently matured to allow of successful lifting. The early roots pushed out would supply enough sap to keep the best of the wood plump and sound, and as winter approached we should find the eyes in a much better condition than upon late-planted bushes, and very little pithy wood would be found at pruning-time in the spring.

A. P.

Rose Climbing Perle des Jardins.—Sent out by Mr. Henderson in 1891, this new Rose has already shown that it has a grand future. In every way it is equal to the type; indeed, I think there are if anything fewer cracked or divided blooms produced. It is one of the strongest growers we have, and may be relied upon to produce blooms as freely and certainly as Maréchal Niel. The foliage is far more handsome than that of the last named variety, while the colour of the flower is considerably deeper in tone and more constant, never coming pale. I note on p. 173 A. Hemsley mentions that this and other climbers which have originated from shorter growers will rarely produce strong shoots from stunted plants. For some time I had the same idea, but find that if the plants are cut down hard and an eye encouraged to break as a sucker, the climbing habit is again produced. No doubt it is better to propagate from those plants which show the greater tendency to grow vigorously. One of my original plants of the above variety and also a climbing Niphetos hung about and only produced the normal growth until I treated them as described. But a few may revert to the original type, as is the case with many sports of other plants.—R.

Some good old Roses.—Alba carnea, blush-white, and alba mutabilis, rose tinted, with alba rosea, a flesh white Tea of about the same period, would form good telling groups either separately or together. Alexandre Dumas, dark crimson; Alfred de Rougemont, fiery crimson; and Alsace-Lorraine, deep crimson, were among the more vigorous and striking of the Hybrid Perpetuals in the 60's, and would be of great value for grouping on lawns and shrubberies to-day. In such fine sorts as Alfred Colomb, Auguste Neumann, Auguste Rigotard we have reds of the brightest that would not fail to give a good account of themselves in the garden or landscape. The following oldish garden Roses should be inquired for, found and grown in quantity wherever distinctness of colour and sturdiness of constitution are desired: Eacchus, H.P. (1855), crimson; Baron de Bonstetten, H.P. (1871), velvety crimson; Baronne Gonella, B.P. (1859), rosy pink, almost as useful and beautiful as Coupe d'Hebe and Charles Lawson, two of the finest Roses for the garden and the house; Baron Haussman, H.P. (1867), bright poppy-red; Baron de Rothschild, H.P. (1862), carmine-red; and, of course, the more modern Baroness Rothschild, which is as showy on a pillar or in a group as it is successful on the show table. Its light rose also contrasts pleasingly with the bright red of Baron Rothschild. Perhaps the old Aimée Vibert, introduced in 1828, was never seen to greater advantage than during the past summer. Its sheen of pure white was specially welcome in the baking sunshine and

drought of the past summer. The old and common variety continues still to be by far the most popular, though the climbing variety, which many have thought to be a sport and which is said to have been raised and sent out by Curtis in 1811, has very substantial merits. The variegated variety did not appear until 1878, and is all too seldom met with. Beautiful as each is by itself, those that have room grow all the three—the climbing variety over an arbour or arch and the others in masses near by. Exquisitely beautiful as the forms of *Aimée Vibert* are, their full effect has seldom been developed through grouping them into masses entirely by themselves or near enough to form sharp contrasts with such brilliant coloured Roses as *Turner's Crimson Rambler*. These would not only be extremely beautiful, but would also link the new and the old Roses together in the production of some of our richest landscape effects.—D. T. F.

Rose Duchesse de Caylus.—I was pleased to note "R."s praise of this fine old Rose (p. 164). It has always been one of my special favourites since its introduction. Even its size commended it to me, while there are few brighter, more beautiful, and exquisitely fragrant Roses. I also note that some of our modern rosarians describe it as large. I did not need to think so, but anyhow it is good most seasons, and it will gratify many to hear that it has been extra fine with me and others in this year of drought.—D. T. F.

MANURES FOR ROSES.

DURING the past few weeks several queries have reached me relating to the above. When discussing the suitability or otherwise of any manure, we must take into consideration the class of soil to which it is to be applied. Roses like almost any kind of manure. What we want to aim at is to give the soil the properties it is deficient of. In many cases Roses are considerably over-manured under the impression that they are exceedingly gross feeders. This idea is wrong. The Rose enjoys a generous and rich treatment, but is quite as easily surfeited as other plants. In more than one instance I have known Roses planted in what was little more or less than a manure heap. In selecting ground for a rosery, it is well to know how it has been manured and cropped during the past two or three seasons. If manured so heavily as many do when growing vegetables of the *Brassica* tribe, there will be little need to do more than thoroughly trench it and apply a small portion of suitable manure to the subsoil. Let us imagine that the soil is naturally of a somewhat stiff and close nature, and that much farmyard manure has been used during the past few years. Under these conditions, unless such ground has been very heavily cropped with gross-feeding subjects, there will still remain a considerable amount of humus. To add to this by applying more of the same manure would not be beneficial to Roses. These being an entirely fresh crop to the ground, would not need more of the same class of manure. Should the soil be very stiff and close, a dressing of fresh lime would be of great service and would bring it into better order, besides releasing much of the stagnant humus. If stiff and not too full of humus, then a manure having a light and opening tendency should be chosen. Soot is a grand fertiliser and also has the desired effect. Liquid manures should seldom be applied to Roses growing upon stiff soil, as it does not drain away freely enough to avoid stagnation. At any rate, it should never be applied except when the plants are in full growth and their roots hungry and ready to absorb it at once. Upon light and naturally well-drained soils the same precautions are not so necessary.

From these few remarks it will be seen that it is not so much a question of what manure is best for Roses as it is to what is best for the soil they are to be cultivated in. I would not recommend the application of what are styled green manures, that is those of a very fresh nature. A heap of rotted weeds, vegetable refuse, old potting soil,

&c., that has had a little night so and other sewage emptied upon it, turned over frequently, and during the last turning had a little fresh lime intermixed with it, is my ideal of a suitable compost to enrich almost any soil for Roses. To sum up, apply heavy manures to very light soil, and the reverse to that of a close and heavy nature. The class or kind of manure employed does not matter in the least so long as it answers to the above, and the soil is not already over-charged with the same. Having got our soil well turned over and manured according to the above, the plants should be put in as early as possible. Do not, however, hurry this operation to the extent of planting when the soil is too wet. Dryness at planting time is a factor that scarcely needs consideration, as it so seldom happens that the soil is too dry. Should such be the case, I would still plant, and water the soil around their roots, not finishing the planting and then applying enough water to penetrate to their roots, but watering around them immediately the first small portion of soil has been placed upon them. Sufficient moisture will thus be conserved around the roots, and the soil will not be in a close or sodden state, such as would happen if planted when excessively wet. It does not want much rain upon newly-moved soil to make it harsh and stiff if trod upon at this time. If you can manage to plant directly it is prepared, by all means do not miss the opportunity.

A most important item in planting Roses is the depth at which to put them. This depends upon whether they be worked as dwarfs or upon standard Brier stocks. The former, with such plants as are cultivated upon their own roots, need to be fully 2 inches below where the bud was inserted. Those on their own roots having no such guiding mark, may be planted the same distance below their base. In this case suckers are more freely produced, the softening influence of the soil tending to develop what would otherwise often be dormant buds for a long period. As the season goes on and the plants are mulched, the soil may be slightly drawn up around them, thus encouraging more eyes to break from a point slightly higher up their base. This is, in fact, the secret of growing dwarf Roses, they producing their most valuable wood in the form of suckers. Before planting, should they be worked upon any stock, great care should be taken to overhaul them and cut out any dormant eyes beneath the point where the Rose was budded or grafted upon the stock. When this precaution is taken, and the Roses are well worked, *i.e.*, as low as possible, there is very little need to fear stock suckers being produced. With own-root Roses this is not necessary. In planting standards, depth is not needed. Only cover the collar of the Brier about 3 inches, and do not draw any soil around them in the way advised for the dwarfs. But it is equally necessary to search well for any eyes upon the collar, or even strong roots of the Brier. This stock not unfrequently produces roots which push away and develop eyes freely, resulting in suckers appearing through the soil from 1 foot to 3 feet away from the plant. In a wild state the common Brier reproduces itself more freely in this form than from seed.

R.

A USEFUL FORAGE PLANT.

IN the protracted drought of the present season it may, perhaps, be permitted to horticulture to come to the aid of the farmer, just as, twenty-five years ago, the gardener's art helped the Vine-grower out of his difficulties by showing him how to make use of the remedy of grafting.

The remedy in the present case is a robust and vigorous-growing perennial plant, which is equally unaffected by excessive heat in summer and extreme cold in winter, namely the *Sachalin Knot-grass* (*Polygonum sachalinense*), belonging to the same natural family as the *Sorrel*, the *Buckwheat*, the *Rhubarb*, &c.

Since its introduction into France we have been growing this plant merely as an ornamental subject in gardens, although its young shoots when blanched are as edible as *Asparagus*, if not of quite so high a quality, and the fine foliage might be utilised in garnishing desserts, and also in packing fruit for market. We certainly had pointed out to bee-keepers the fact that its flowers, which are produced in great abundance, are much frequented by bees at the close of the summer; but the writings of M. Doumet-Adanson on the qualities of this *Polygonum* as a forage plant which were brought under the notice of the *Académie des Sciences* by M. Duchartre, and the reports which we have made on the same subject to the *National Agricultural Society of France* have brought the plant more prominently into view and claim for it the earliest attention of farmers.

This *Sachalin Knot-grass* was discovered by the Russian botanical explorer Maximowicz in the island of *Sachalin* (or *Saghalien*), which is situated in the sea of *Okhotsk*, between *Japan* and *Siberia*. This island is of large size, and was ceded to *Russia* by *Japan* in exchange for the islands of the *Kurile Archipelago*. In the year 1869 my friend M. Edouard André, meeting with this lately-arrived plant in the *Jardin d'Acclimatation* at *Moscow*, was struck with its highly ornamental character, and brought back specimens of it to *France*. In speaking of it to us he dwelt very strongly on the great vigour of the growth exhibited by the plant both at root and at top, the roots sending out horizontally on all sides rhizomes which are capable of penetrating the stiffest ground—even that of old, well-trodden roadways—and pushing up fresh shoots in all directions, thus largely extending the area occupied by the plant when first put in the ground. The stems, which are numerous and grow close together, soon attain a height of 3 feet or more, even when the early frosts may have nipped their extremities. From the middle and top of the stems issue long, slender, curving ramifications. The foliage is pleasing in its effect, the leaves being alternate, distichous, oblong-oval in shape, each leaf measuring from 1½ inches to over 1¾ inches in length, and about an inch in width. The leaves are also perfectly smooth or without the least trace of down or tomentum. The leaf-stalk is of a carmine-red colour, and the stem, as it ripens, takes on a reddish tinge on a green ground. The flowers, which are of a dull white colour, are borne in small axillary clusters, together forming long, paniced, closely-set fascicles, which droop slightly with their weight. The bees frequent these flowers in the autumn, but it must be borne in mind that when the plants are regularly cut for forage, there will be no flowers.

The experiments carried out at *Baleine* are quite conclusive on the subject of forage. A young plant when planted out does not take long to cover an area of a yard square or more with its leaves. The first cutting is made when the stems have grown from 3 feet to 5 feet high, and if the second growth of the first year is strong enough, a second cutting is then taken. In the following years three or four cuttings are taken annually. In the green state the weight of the grass varies from 44 lbs. to 88 lbs. per square metre, so that the yield per acre of green fodder would amount to from about 60 tons to 120 tons, according to the calculations of M. Doumet. Horned cattle are very fond of this green fodder.

M. Edouard André, M. Gustave Huot (president of the *Comice Agricole de l'Aube*) and some farmers have made trial of the plant with similar satisfactory results.

As the Sachalin Knot-grass does not yield seed here, we propagate it very readily by division of the rhizomes, and in this way we have raised thousands of plants for distribution amongst the agricultural schools and to enable us to meet the demands for it which reach us daily. The proper time for planting it is in August and September or else in spring. Any ordinary soil will suit it; however, a moderately moist position would help to retain the sap and be conducive to obtaining a leafy final cutting at the close of the season. After planting, no further cultural attentions are required, and the plant may be left entirely to itself during the winter, whether this may turn out dry, or damp or snowy. In the ensuing spring any stems that remain standing should be cut away before the new growth pushes. At planting time, if the plants are set out a mètre (3 feet 3 inches) apart in every direction, the surface of the soil will soon be covered with an abundance of nutritious forage.

Troyes.

CHARLES BALTET.

GARDEN ENEMIES.

ALTHOUGH the fruit reports from different sources seem unique in their partiality, places only a few miles apart differing greatly as to quantity and quality of crop, there would seem to be an almost unanimous verdict on one subject connected with fruit-growing, viz., that insect enemies were never more numerous or more troublesome. Possibly under such circumstances a lengthy correspondence may arise as to battles fought and won against the enemy. At any rate, I should like to chronicle a little experience in this direction.

AMERICAN BLIGHT.—In all gardens where this has obtained even a slight hold, it will have increased during the summer of 1893 at an alarming rate. About the only sure remedy known for it up to a very recent date—paraffin in a neat form—is a dangerous thing to employ at this season of the year; indeed, any attempt to check the insect with this agent on and about buds that have to be reserved for another year is likely to result in a case of a remedy worse than the disease. Fortunately, experiments have found an efficient antidote in the shape of Murray's electric insect destroyer. This was what I may call a lucky discovery. Having tried and proved its efficacy in the case of mealy bug, it struck me that this woolly aphid, being of a somewhat similar nature, would be equally susceptible to its influence. This is certainly the case. The insecticide in the proportion of one part to four parts water will turn the cocos into a brown pulpy inanimate mass.

EARWIGS.—It is a hard matter to say whether these or wasps have been the more troublesome, but I think the earwig the more mischievous of the two, and the more difficult to dislodge even in the case of fruit. It does not confine its attention to fruit, Dabbias and Chrysanthemums being peculiarly subject to its attack. There was an old idea that in the case of fruit walls it was a good plan to take away the soil to the depth of an inch along the base of the wall early in the season and substitute fresh soil, but this is not of the slightest use. Traps, whether of Bean or Artichoke stalks, or small pots with hay propped away slightly from the wall on short stout sticks, are the only remedy, and this must be attended to early in the season, as soon as the perforation of the leaves indicates the presence of the enemy. The traps must be set to clear the wall if possible before the fruit begins to change, for the earwig does not take kindly to traps when it can pass its time in a luscious Peach, Nectarine, or Apricot.

WASPS.—When a short fruit report was written about the middle of July, some thirty wasps'-nests had been taken within a radius of half a mile, taking the garden as a centre, and the number has been increased up to the present date (August 16)

to over a hundred. I notice in a daily paper that a correspondent takes up the pen on behalf of the wasp to such an extent that the extermination of the gentle insect would almost seem in his opinion to come under "the cruelty to animals act." Possibly his ideas in this direction would be somewhat modified if circumstances necessitated his mounting a ladder and gathering a basket of Plums and Apricots where a swarm of his friends were in and around the fruit. So serious has the wasp plague been this year that I think the principle of a little remuneration both for queens and nests should be enforced in every garden throughout the kingdom.

RED SPIDER.—As in the case of earwigs and wasps, this pest has been exceedingly troublesome, and from the season when the leaf of the Gooseberry was just bursting from the bud up to the present time an incessant war has had to be waged against it; nothing in the way of foliage at all susceptible to its attack seems to have escaped. As recorded in fruit report note, one particular stretch of old Peach wall at the back of a Strawberry plantation was very bad, and no ordinary method of occasional syringings with an insecticide seemed to have the slightest effect in reducing the numerical strength of the enemy. So soon, however, as I was able to get rid of the Strawberries, the desired end was effected by mixing on the first dull cloudy day a strong solution of paraffin oil insecticide, rather over half a pint to two gallons of water, and giving the worst trees repeated doses at intervals during the day; literally, in fact, keeping them dripping all day and finishing in the evening with a vigorous application of clear water. What with the spider and the continued drought, a considerable portion of the foliage went wrong, but I saved the greater part of the crop, and the trees are now healthy and clean. Perhaps healthy is hardly the term to apply; what I mean is that the foliage is clean, and the growth now being made indicates a healthier state of things. Peaches, dessert Cherries and all Plums on walls with a southerly aspect have had several soakings of water. Our old walls are answerable in a great measure for the difficulty in dealing with spider unless they get a thorough dressing at least every third year.

BLACK OR CHERRY FLY.—In a note arising from a short paragraph that treated of the liking of the wasp for the substance exuded by this aphid, a correspondent was answerable for the opinion that it was very easily dislodged. Is it so? "Not in a season like this," I fancy, will be the verdict of the great majority of gardeners. The great difficulty has been the necessity for an early covering with nets to protect from birds consequent on the very early ripening of the fruit. Several good drenchings were given prior to this, but we have had to partially remove the nets and continue the dose on two occasions, so persistent was the attack of this particular form of aphid, and I do not know if its cousin, that displays a marked partiality for Plum and Apricot foliage, is dislodged much more easily than black fly. Pear foliage has suffered considerably from the voracious appetite of the Pear slug or leach, as it is occasionally called. The Pear sawfly, which is answerable for the appearance of this slimy insect, would seem to be partial to the foliage of particular varieties, as I find some appear peculiarly subject to its attack. The grub wants checking as soon as seen, or it will quickly spoil the appearance of the foliage. Powder insecticides, as tobacco and Hellebore powders, will effect its destruction, so will a pinch of finely powdered salt. Speaking of Pears, it is time to keep a sharp look out for the attack of birds; they had started tapping Louise Bonne, Marie Louise, and Clapp's Favourite, so these sorts with others have been already netted.

Claremont.

E. BURRELL.

Shrubby Spiræas in clumps.—How well these plants have bloomed this season, and though the later growth is less than usual, owing to drought, there will be no lack of bloom next season if the plants are not starved by being

planted in poor soil. Of late years I have tried various kinds which are often given pot culture, and with excellent results. For instance, *S. media* or *confusa* is a lovely object when planted in clumps. *S. prunifolia* fl.-pl. is also beautiful when a whole bed is devoted to it. This we have with an edging of a dwarfer form, *S. decumbens*, the latter giving a nice finish to the group. *S. Thunbergi* is a choice plant and looks well edged with a small-leaved variety of Ivy. As single specimens, *S. arizæfolia*, *S. discolor arizæfolia*, *S. Lindleyana*, *S. lobata*, and the taller species are charming objects. They never fail to bloom profusely, and well repay good culture. When mixed in shrubberies they only present a one-sided appearance, but given room they are much more effective.—G. WYTHES.

GARDEN FLORA.

PLATE 925.

CHIRONIA PEDUNCULARIS.

(WITH A COLOURED PLATE.*)

THE Chironias, of which fourteen species have been described, may aptly be called Cape Gentians, as they are the representatives of the Gentian family in South Africa, to which region the genus is restricted. About half of them have been in cultivation, and two of them, viz., *C. ixifera* and *C. Fischeri*, are still—or were a few years ago—included among choice greenhouse plants in England. I think we may call the species here figured the best of them; at any rate, I have seen it grown into a much handsomer pot shrub than any of the others. It is widely distributed over the eastern side of South Africa, forming a trailing or spreading bush and preferring moist, sandy ground. It was introduced into English gardens many years ago. Dr. Lindley described it in 1835, stating then that it was a garden plant known as *C. trinervis*, and that its native country was unknown. It does not appear to have remained in cultivation long after Lindley drew attention to it, which is all the more curious from the fact that, as he stated, nothing could be more easily grown, for it will grow in any kind of soil, thrive out of doors in summer, and survive the winter without suffering in an ordinary greenhouse; also that it is easily propagated from cuttings, and that it is covered with a succession of purple flowers from July to October. It was again introduced in 1887, when I brought seeds of it from Algoa Bay to Kew, where it has since been grown as a greenhouse plant, flowering most freely in autumn. In a wild state it grows amongst Grass and small Sedges wherever there is water, and usually close to the sea. The rosy purple, star-like flowers, mixed with the Grasses, looked very pretty, and they were as abundant in some places as its British relation, the yellow Centaury (*Chlora perfoliata*), is in our chalk pastures. Grown in pots and kept stubby by pinching and tying the stouter shoots to a stake, it

* Drawn for THE GARDEN in the Royal Gardens, Kew, by Champion Jones, August 26, 1892. Lithographed and printed by Guillaume Severeys.

VERBENA FIDICULIFLORA



forms a bush 18 inches high, with rich green leaves and long stalked flowers of a bright rosy purple colour, the largest being fully $1\frac{1}{2}$ inches across. Planted on a sunny border in summer and kept watered in dry weather, it forms a loose trailing shrub a yard across and flowers freely in August and September.

Growing along with *Chironia peduncularis* and almost as effective in flower, I found a second species, of which I gathered good seeds and afterwards raised plants at at Kew, which flowered and were named *C. palustris* by Sir Joseph Hooker, who described it as a handsome addition to cultivated *Chironias*, adding that, although the district where I had seen this plant had been well explored, it had never been found so far southward by several hundred miles. *C. palustris* differs from that figured, and indeed from all the others of the genus, by its tufted habit, long spatulate, fleshy green leaves and fleshy roots. It grows to a height of 18 inches, with erect branching cymes, bearing numerous bright rose-red star-shaped flowers, each 2 inches across. It blooms in autumn and remains in beauty several weeks. We have not had much success in propagating this plant, cuttings of it having always failed, and when the tufts have been carefully divided, the pieces are not easily established. This and *C. peduncularis* deserve to rank with first-rate greenhouse plants and ought to find favour with anyone who can admire other plants than those that have flowers as big as *Dalhias* or as numerous as tuberous *Begonias*. Other species of *Chironias* cultivated at Kew are *C. ixifera*, *C. Fischeri* and *C. dianthiflora*.

W. W.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

LETTUCE FOR SPRING.—The earliest Lettuces from the open air during the spring are secured from a sowing made in the early part of September, but whether these will eventually become too large to winter safely will depend upon the state of the weather, as if the autumn should turn out very mild the plants from the seed sown now will grow very rapidly, and if the winter should prove severe they will be killed. To guard against this, two sowings should be made, the first now and the second in about a fortnight. Directly the plants are large enough prick them out on rather firm ground, the position being open and sunny. As a safeguard against frost in case this should be exceptionally severe, plant a portion on a west border, this position not catching the early morning sun after a severe night's frost. Hick's Hardy White and Black-seeded Brown Cos are the best of the Cos section, the former turning in quite a fortnight earlier than the Brown Cos. Of the Cabbage section, All the Year Round, Hammersmith Hardy Green and Stanstead Park are the best. This last is a very hardy Lettuce, and if the winter should prove mild it keeps on growing and turns in very early.

CARDOONS—There is no necessity to commence blanching Cardoons thus early in the season, as the flavour is not nearly so good as when this operation is performed a month hence. The blanching is done all at one time. Altogether this has not been a good season for the perfect growth of Cardoons, that is unless planted on deep and rich soil and kept well watered. Any that have run

to seed should be pulled up, the remainder being kept well watered and fed up with liquid manure in which a little salt has been dissolved. Feeding will prevent the plants running to seed.

CHARDS.—Some time since I drew attention to Chards, these being simply the blanched growth of Globe Artichokes, and if the Cardoons have partially failed through running to seed, Chards may be used to fill the gap. All that is necessary to secure Chards is to clear away all small suckers and old flower stems, leaving two or three of the stronger growths. To further assist a rapid growth, these should have a good soaking of liquid manure, when they will be fit for blanching at the same time as Cardoons.

EARTHING UP CELERY.—Although the season has been so hot, yet where the trenches were well prepared and the soil about the roots kept in a well moistened state, the growth has been very satisfactory. In all cases where Celery is sufficiently advanced in growth, excepting, of course, the later supplies, the first earthing may now take place. Where the growth is still backward, excepting a top-dressing to further encourage growth and to prevent the leaves from spreading out, earthing up is better left alone, and growth encouraged by keeping the soil in a well-moistened state, as it must be understood that to secure a free growth and plants that will eventually become solid-hearted, a good foundation must be laid before earthing commences. Before earthing up is attempted see that the soil is in a thoroughly moistened state. The soil must not be thrown roughly against the plants, for if so it will most likely get into the centres, which must be avoided, or early decay will be engendered. To prevent this, each plant should be drawn up with the hands and tied with a piece of matting. Afterwards clear away any sucker growths, also any small outer leaves. A little salt sprinkled on the surface will be of value, as besides being a stimulant, it will assist in keeping away slugs. The soil should be well broken up, as if at all lumpy the stems are apt to become bruised. A heavy earthing is not needed, about 3 inches being quite sufficient for the time being, as it will be another three weeks before earthing is again necessary. In all cases the hearts of the plants must be in advance of the soil. Directly the soil is added, cut away the matting or the hearts will be crippled.

GARDEN REFUSE.—At this season of the year rubbish is apt to accumulate rapidly. Leaving vegetable refuse on the ground to be dug in is very well in principle, as some soils are undoubtedly benefited by its application, but on the other hand it is a harbour for slugs and other root-eating insects. All vegetable refuse I burn, the ashes proving very valuable for many crops.

A. YOUNG.

HARDY FRUITS.

APPLES.—At present there are extra large quantities of fruit on the orchard trees, but the ripening period of very many of the varieties is far earlier than usual, and there is every likelihood of Apples being scarce when most wanted. Garden trees are more variable, the crops in some instances being anything but satisfactory. The fruit on the garden trees also appears to be the most preyed on by birds and wasps, the latter following upon attacks of the former. Not a fruit that has had a small hole pecked in it by birds will keep long after it is gathered, and all such ought, therefore, to be kept apart from that which is sound and good, being also used very soon after gathering. It would be a mistake to drag Apples from the trees before the pips are nearly brown or the fruit comes away somewhat readily, but, all the same, there must be no undue delay in gathering, and no waiting for the usual time to come round. All the trees should be frequently gone over, and the varieties that are fit for storing be unhesitatingly gathered. The longer they are left for the birds and wasps to prey on, the less there will be fit for storing. After they are gathered, and all unsound or damaged fruit separated from that which is

good, store the latter in a cool, sweet-smelling dark place with a view to retarding ripening as long as possible. If stored in a warm, dry room there is every likelihood of maturation taking place rapidly—Cox's Orange Pippin, for instance, being fit to eat early in October instead of a month or six weeks later.

PEARS.—Much that has been advanced concerning Apples also applies with equal force to Pears. Now that Plums and other fruit are getting scarce, wasps will be even more troublesome than formerly. As a rule, however, they do not start on a fruit that is unripe unless birds have previously made small holes in it, and the precaution should have been taken ere this of netting over the trees to keep away the tomits, these being the worst offenders. In some instances it may be found necessary to double the nets, nothing short of this deterring the bold little tits. What fruits have had holes picked in them should be left on the trees. They are of no value for storing, premature decay being inevitable, and left hanging they may be the means of saving sound fruit from being also eaten. Pitmaston Duchess, Beurré Superfin, Louise Bonne of Jersey, Marie Louise, Doyenné du Comice and Conseiller de la Cour already give signs of very early maturation, and in the more southern counties, at any rate, will need to be very carefully gathered and stored by the end of August, if not still sooner. Duchesse d'Angoulême, Beurré Diel, Beurré Clairgeau, Knight's Monarch, Glou Morceau, Beurré Rance and other late or comparatively late varieties look green enough at present and are not fit for gathering; but these also should be watched closely, not leaving them on the trees till dropping commences. Heat, accompanied by a fair amount of moisture, has had the effect of considerably increasing the size of some varieties, and if the trees of the later sorts are kept constantly moist at the roots, the fruit may be both finer and better in quality than usual. While there is yet time, take particular note of the qualities of different varieties, with a view to weeding out any that scarcely pay for the room they occupy. There is a fair number of good varieties that ought to be grown in most orchards and gardens, and if any trees are found to be either unproductive or the variety valueless, then should these be either re-grafted with a superior sort, or else fresh trees of better varieties be planted next season to replace those to be cut out as being no longer worth retaining.

PLUMS.—The sunshine has been too strong for some of the late-ripening varieties, shrivelling taking place accordingly. On cool walls Coe's Golden Drop promises to be fairly late in ripening and extra fine. This season enemies to the fruit crops, and Plums in particular, appear to be extra troublesome. Rats, squirrels, birds, wasps and slugs have all to be reckoned with in some gardens. The gun and trapping are the best remedies for the two first-named, while birds and wasps can be kept out by means of wasp-proof netting, common scrim canvas answering very well. Slugs collect on both sides of a wall, and are quick to discover the whereabouts of Plums. Hunting for them after dark with the aid of a candle is advisable, and they can also be caught in great numbers on heaps of brewers' grains, or anything else saturated with beer. If Golden Drop is gathered when fully ripe, all the sound fruit wrapped separately in squares of tissue paper, and then packed away in a drawer in a cool, dry place, it will keep much longer than if exposed to light and air.

STRAWBERRIES.—Young plants are growing strongly this season, and if kept free of runners, the ground about them also being lightly hoed occasionally, they will attain a size and strength equal almost to what happens in other years to spring-planted stuff. Strong plants, well rooted in pots or else lifted from the open ground, may yet be put out with a prospect of their fruiting fairly well next season, and even should newer varieties not grow very strongly, they will yet do good service next summer in the way of producing early runners in quantity. Runners from such late sorts as Lex-

ford Hall Seedling and Latest of All are naturally late in attaining a size fit for planting where they are to fruit, but it is astonishing what good clusters of fruit are produced by quite small plants put out late on cool borders. Forced plants of Vicomtesse Héricart de Thury and Noble duly turned out or plunged in the open and kept well supplied with moisture during the summer are now producing fruit freely. The fruit, however, keeps badly, and is with difficulty saved from birds, wasps, and slugs. It pays well to prop up the clusters of fruit with crutches made from either Birch or Hazel spray, as thus treated ripening of the later fruit takes place more surely, and slugs do not get at it so easily. Birds must be kept away by means of fish nets, and wasps are not very troublesome if either Davis' or Scott's wasp-killer is used. Fruits that have already been partially eaten should have a little of the poisonous syrup dropped on them and be placed where children cannot get at them. Those plants still in flower or with only green fruit on them can be readily lifted and potted before cold weather sets in and the crops ripened under glass.

W. IGGULDEN.

PLANT HOUSES.

GREENHOUSE PLANTS OUT OF DOORS.—In all cases avoid by every means that can be devised the too common evil of overcrowding plants when stood out of doors. They are frequently dropped down, as it were, at random and allowed to stand thus to their evident injury, if looked at in the proper light. Added to overcrowding is that of not being stood upright; this in itself is a decided evil, causing more watering, with the top of the ball much moister than the bottom thereby. Worms must also be guarded against; these after the rains will be nearer the surface, being also at all times attracted to the bottoms of pots by reason of the moisture found there. In the case of permanent plants, each of the foregoing mistakes in cultural detail should at once be looked to and remedied. In special cases it will be found better to stand the plants upon bricks or slates rather than trust to a bed of cinder ashes, although these are good.

ERICAS AND EPACRISSES FOR WINTER FLOWERING.—These should now be fully exposed to light and air, shading in no case being entertained for one moment. In the case of the *Ericas* there may be a disposition to mildew with the rains and heavy dews, but it may be easily stopped with sulphur. Look well to the watering and do not let the plants suffer from drought at the roots. If permitted to get dry only a few times, the earlier kinds will inevitably lose their first flowers either by deformity or blindness. Where no potting has this year been done, an inspection should be made as to the state of the plants. Probably a few may be sour-looking upon the surface. This inert soil should be removed lightly and some sand and peat be used to take its place, this being pressed down firmly. It is not advisable to pot now unless compelled to do so in extreme cases; the time has gone by when any appreciable gain would be manifest.

OTHER CAPE AND NEW HOLLAND PLANTS.—These on the whole require a similar treatment. Of course in all cases the locality must be duly considered. In the north, for instance, these plants would not in some gardens be allowed to stand out of doors at all. If the plants be specimens, some considerable amount of care will now be needed in the case of a heavy rainfall to see that they are not too wet at the roots, more particularly those that have been but recently repotted. Where there are any symptoms of red spider, as in the *Pimeleas*, the *Chorozemas* and plants of similar texture in the foliage, the syringe should be plied freely until it is exterminated. Thrips in some cases will give trouble, particularly to Indian *Azaleas*; these will not be dislodged by heavy rains. In any case where the plants stand

in such a way as to grow in a one-sided manner, turning should be resorted to.

CARNATIONS FOR THE AUTUMN AND WINTER.—These invaluable plants must receive every attention needful to their successful flowering in due course. I have just noted that a few plants have been attacked by caterpillars rather badly. As soon as this was seen the plants were closely examined, and then removed to a more open position. Other growers may have been troubled in the same way; it will be well, therefore, to keep an eye on the plants about now, for they are too good to lose just for want of an inspection or two. I find that the caterpillars eat through the flower-spikes just as they commence to push up; this of course throws the plants back. A dusting of soot was also given; it is hoped, therefore, that no more trouble will be caused. The earliest of the spring-struck Winter Cheer are already opening a few of their flowers; these must be housed soon in case of injury from rain. In any case where another shift is needed from a 4½-inch to a 6-inch pot, it may yet be done with advantage; it will, however, benefit those the most that are not too much advanced.

BOUVARDIAS IN POTS AND PLANTED OUT.—The young stock of the former has just got the last shift into 6-inch pots; these will make useful plants in due course. I hope to keep them outside yet for a week or two with a slight protection on cold nights. If housed too soon they come on very rapidly. The last stopping for later flowering should now be given. Where planted out this same advice applies; this stock should be potted up by the end of the next week, or at the most by the middle of the month. Owing to the long drought the growth of these has not been so vigorous as usual, nor have the plants, on the whole, done so well. Where there is any difficulty in striking cuttings early in the spring, I would advise that an experiment be now made instead. I am disposed to think it would be found an advantage.

CALLAS.—These if not yet potted after a resting period should have attention as soon as possible. I do not consider it a good plan to be constantly pulling such a stock to pieces every season; a part one season and a part another will be found better. This will give different sizes of plants as well as (in all probability) a difference in the season of flowering. Planted-out Callas should be lifted soon, even if they afterwards stand outside for a time with a trifle shading when it is needed. It is never advisable to transfer a stock immediately after potting to a close and damp house; it has a tendency to draw the foliage up too tall with no corresponding advantage in its favour. More exposure and a free use of the water-can are better.

JAMES HUDSON.

ORCHIDS.

I WROTE a good deal about the cool Orchids last week, and need not say more except that we seem now to have passed through the hottest month of August I ever remember. Brilliant sunshine and high winds followed towards the end of the month, with much calmer weather and refreshing showers. The cool Orchids have not suffered in the least, but I fancy this is owing to our being careful not to allow the east winds to blow through the house, for instead of opening the ventilators wide and shading heavily, we do not open the ventilators at all in the front, not even at night unless the weather is cool, with the air calm and moist. Owing to the change in the temperature it has been found necessary to start the fires again for the warmest house, for as soon as the rain came I noted the temperature early in the morning, and the warmest house had fallen to 60°. This is too low, and although no harm would accrue to the plants for a few nights, it is better to keep the minimum temperature to 70°. We seldom let our fires go out even in hot weather, but this season has been an exception. As a rule it is better to keep up a little heat in the hot-water pipes both in the Cattleya house and the warmest divi-

sion all through the summer months. Where *Phalænopsis* are grown, they require a high temperature at this season of the year and a moderate degree of moisture. Many cultivators seem to have an idea that *Phalænopsis* require a very moist as well as a very high temperature, and they keep the ventilators shut, so that the temperature may be kept up at night to 70° or 75°. An over-close and over-moist atmosphere is positively injurious to the *Phalænopsis* family. If the above temperatures can be maintained all night, with a little air on in favourable weather and the hot-water pipes not over-heated, no harm will be done; but if the conditions are such that the leaves do not develop healthily, the probabilities are that there will be losses in the winter of many back leaves, and, what is worse, spot may develop amongst the plants. When Mr. Searing grew the *Phalænopsis* so well in the late Mr. Partington's garden at Cheshunt, I frequently saw them, and always found the atmosphere rather on the dry side and the house never close and even stifling, as it sometimes is in places where these plants are grown. Twice a year in the spring and autumn Mr. Searing used to give the stages and the floor of the house a good salting. The stages as well as the floor were covered over with clean gravel. The salt was also supposed to have some beneficial effect upon the plants. The well-known *Phalænopsis amabilis* is always found growing close to the seashore, sometimes high on tall trees, and also in low positions almost within reach of the salt spray. The knowledge of its habitat might have given the idea of salting down the floors, stages, &c., but chemists would tell us that salt would have no effect upon the plants one way or the other applied in this manner. It would kill slugs and other depredators, and where it is used the gravel is kept very clean; and certainly if it does no good it is evident that it does no harm. The collectors also tell us that the temperature is seldom below 70° and 75°. There is also much moisture, but the plants must have plenty of fresh air around them. The *Cattleya* house may now have as much sunlight as the plants will stand, and they enjoy an airy atmosphere at this season. The house should be well damped down in the morning and again in the afternoon; that will be enough at this season, besides what moisture is obtained from the watering of the plants. When the plants are freely exposed to the sunshine it may be necessary to look over them daily. It will still be necessary to shade in the hottest part of the day, and care must be taken not to let any of the plants get burned owing to bad places in the glass. Scalded leaves have a very unsightly appearance, and the marks are there year after year, bearing witness to our carelessness. Plants in flower should be shaded well, as the blossoms should be kept perfect for as long a period as possible. *Odontoglossum grande* is a useful Orchid in the *Cattleya* house in September. The plants which have been kept rather dry during the resting period should now have a good supply of water to sustain the massive spikes of bloom. They must have sufficient ventilation to correspond with the sun-heat, as well as water. *Vanda cœrulea* should also at this season be placed where the spikes now showing get enough sunlight to bring out the colour in the flowers. The plants can stand as much sunlight at this season as any *Cattleyas*.

The majority of the *Dendrobiums* have now completed their growth, and at that stage they are likely to start away into growth again unless they are removed into a cooler house with a drier atmosphere. Our latest plants of *D. Wardianum* have just finished their growth, and as these have a greater tendency to start a second time than any others, they are carefully watched and gradually inured to quite a cool dry atmosphere. Some varieties or species have not this tendency to make a second start; indeed, it takes all the season with as high a temperature as we can maintain to complete their growth. The tall-growing species, such as *D. moschatum* and *D. Dalhousianum*, do not complete their growths until October; indeed, in some late seasons they have been kept growing in

a high temperature until November and have flowered superbly the following season. It has been difficult to keep some of the small-growing species, such as *D. Devonianum* and *D. Falconeri*, free from red spider. The use of the syringe has not been spared, and our plants are clean and have made good growth. They, like the others, require a rather cool decided rest in winter. *D. chrysotis* is not often seen in collections, but it is a splendid species to produce its large golden flowers in September on spikes a yard or more in length. I grew it for years in a rather shady part of the intermediate house. The *Dendrobiums* will stand fumigating with tobacco smoke, and they should be kept quite free from the aphid tribe and thrips by this means. I need not say more about the temperatures of the various houses. It does not take much artificial heat to keep the temperatures up to the higher summer minimum.

J. DOUGLAS.

FLOWER GARDEN.

HARDY WATER LILIES.

WITH the advent of so many fine hybrid Water Lilies to supplement the few, but good kinds long known, but more or less existing in obscurity, a new era dawns in water gardening, offering glorious possibilities to all who have water at command. From henceforth *Nymphaeas* must be the centre of attraction—the chief feature wherever water is present and permits of their culture. In fact, they need no culture but to be planted. It is hardly possible to name another flower, or family of flowers, that will give so much enjoyment. The newer kinds are becoming better known, and I hope public gardens will lead the way in showing what splendid pictures may be made.

A visitor calling recently noticed the beauty and size of the flowers of *N. Laydekeri rosea*, and at once remarked that the flowers were larger than those of the same kind in the Lily house at Kew. This brings me to the point that rather astonishes me in "F. W. B.'s" interesting article on page 153 in *THE GARDEN* of August 19. He speaks of *N. Laydekeri rosea* as "the finest in colour of all the pigmy *Nymphaeas*." Is it a pigmy kind at all? I have grown the little white *Nymphaea pygmaea*, but its flowers are scarcely larger than a half-crown. It is a pretty gem in its way, but one needs to see it near at hand on the margin of the pond. Not so with *N. Laydekeri rosea*. I only planted it this spring. There are two plants, and the flowers certainly are not smaller than those of our own common white Water Lily. All the coloured kinds that I have hitherto seen are of pale, though distinct shades, and are rather for close inspection, but the kind in question is simply brilliant, whether looked at from the shores of the lake or seen, as is quite possible, nearly half a mile away. I planted a whole collection this spring. They were put into flat hampers and tubs filled with soil, and now the lake is full there is at least 2 feet of water over the crowns of them all. As "F. W. B." says, *N. Laydekeri rosea* can be grown in a tub or large bowl with a foot of water and 6 inches of mud; it is evidently regarded as quite a pigmy kind. The flourishing condition of my plants, their vigour, and abundant succession of blooms prove beyond doubt that the right thing to do with it is to put it into a good depth of water. It is then no

pigmy, but a sterling kind, which when plentiful will make a brilliant effect such as we never expected to see and enjoy on water in the open air. "F. W. B." mentions many kinds, but not all. There is another of the *Marliacea* series named *N. Marliacea rosea* of the same character and line form as *albida* and *carnea*, though, as the name implies, deeper in tint. A plant and flowers of it recently were sent by M. Marliac, but I planted it and all the others at Shrubland two years ago, and noted its merits last year. Then in the *odorata* series there is *roseacea*, which should not be confounded with the Cape Cod form of *odorata*, as they are distinct. It is a charming kind with full starry flowers, and possessed of a delicious odour. Then there is *odorata sulphurea*, another yellow, and distinct from *Chromatella*, a little deeper in tint, having a very long bud, and when fully out often 8 inches across. *N. odorata exquisita*, too, is another kind not mentioned, but having had weak plants of this, I have not been able to form a decided opinion as to its merits. It is very deeply coloured.

Possibly, as "F. W. B." says, Water Lilies are slow in establishing themselves without a deep rich bottom. A great many plants we grow are the same. I have had some Tea Roses taken up to ascertain the cause of their stunted habit, and find them in barely a foot of soil with their roots trying to penetrate the inert sub-soil below. So with Water Lilies; it is not enough to give them water alone, and a pond with a stony or gravel bottom will hardly support them, much less be adorned with flowers. But give them soil of some sort—the mud deposit will do if there is any—and no hardy flower that I have ever dealt with gives so good a return the same season. I have had them all flower within three months of planting with the exception of the variety *Chromatella*, and this, though growing as strongly as the rest, did not flower till the second season. I had this experience with this particular kind three times. After it once begins, however, it flowers as freely as the others.

As to the enemies of Water Lilies, I unfortunately made the acquaintance of another this season, and one capable of much mischief when plants are newly put out. Of the collection I put out in April of this year, three parts of the plants fell a prey to this new enemy, and I thought they might possibly be even killed. Fortunately, they have grown up again, but the check they had was so great, that whilst those that escaped, as *Laydekeri rosea* and *Marliacea albida* and *carnea* have been giving flowers for a long time, many of the injured ones have only recently thrown up leaves to the surface. All the plants had leaves upon them when planted, and my suspicions were aroused by seeing leaves detached and floating. On the water becoming clearer, I could see what appeared like small bits of stick an inch or so long attached in numbers to the leaf-stalk. It was the grub of the caddis fly, with its house upon its back. In the hollow stick it was safe from the fish, and, fastening itself upon the young and tender leaf-stalk, it fed away, or rather several of them did, till the stalk was eaten asunder, and away went the leaf. This was quite a new experience and, happily, of temporary duration, for the grub has changed its state and is now no trouble. I think strong established plants will hardly suffer in this way, but it is well to know what may happen to those newly planted. Water rats must be kept down, or they will have half the flowers. I do not think they touch the leaves. I notice with special satisfaction that these fine hybrid Lilies are becoming cheaper, and therefore

within the means of all who wish for them. Some of them are less than one-fourth what they were three years ago. A. H.

Fuchsias.—The hardy Fuchsias are this season very fine and are all flowering in the greatest profusion. That new dwarf variety, *Dunrobin Bedder*, has proved itself to be a decided acquisition among the smallest members of the genus. The different Fuchsias of this class certainly show signs of becoming more popular than they were a few years ago, and this is not to be wondered at, as with very little trouble they will yield such a display of bloom as to be equalled by but few other classes of plants. Some of the original species, too, that cannot be classed with the hardy varieties are also very showy, notably *F. fulgens*, noted in *THE GARDEN* as recently as August 12; *F. corymbiflora*, a tall-growing species with large pendulous clusters of bright-coloured blossoms; *F. boliviana*, a good deal in the same way, but dwarfed. Of this there are some examples flowering freely in pots in the temperate house at Kew. *F. triphylla*, that requires nearly the heat of a stove to get it at its best, must always be included in any selection of the different species; while the tiny-flowered *F. microphylla* and *F. thymifolia* are both very pretty.—T.

The dwarf Antirrhinum.—Several fields crowded with the yellow *Antirrhinum* predispose me to write in support of Mr. R. Dean's advocacy of the great merits of some of the improved strains. For wild gardens, rock gardens, and masses in woods or meadows, there are few more striking than the common yellow, the single white, the double white (now comparatively rare); the crimson, scarlet, purple, sulphur, and variegated are also striking. The small double white that I used to bed out years ago had, of course, to be propagated annually, and was kept in store in quantity with *Verbenas* and other bedding plants of the period, including a *Bouvardia* now seldom seen and quantities of Fuchsias, such as *F. microphylla*, *globosa*, *fulgens*, and others.—D. T. F.

Lilium superbum.—This is one of the most beautiful of all Lilies. We recently noticed it very charming in a Surrey garden, where it was planted amongst *Rhododendrons*, which are in perfect harmony with the tall stately stems, that rise over 5 feet in height when in a suitable soil and position. Those who have large gardens and woodlands should make good use of this lovely species and plant it in colonies. We should like to see such Lilies planted more freely in gardens, but one rarely sees much of them, although very hardy. The secret of success with this kind is to choose a moist, partially shaded spot, such as in a clearing amongst trees. These positions are most suitable and the profusion of bold flowers is in contrast to the green colouring of the leaves. The flowers vary in colour from brilliant crimson, and in some there is a larger proportion of orange enriched with numerous shades.

African Marigolds in beds.—These are flowering fairly well this season, and we like them when a small bed can be devoted to the two chief varieties, *Prince of Orange* and *Lemon Queen*. One gets a very poor idea of these showy autumn flowers from their aspect in the exhibition, where they are treated similarly to the show *Carnation* the flowers gathered with little stem and stuck on the box. *Prince of Orange* has bold, intense orange flowers, while these of *Lemon Queen* are soft lemon-yellow, a peculiarly refined and pleasing shade.

Herbaceous Phloxes at Broxbourne.—A very fine collection of herbaceous Phloxes is grown in Messrs. Paul and Son's nursery at Broxbourne. When there recently we made note of a few of the best varieties. One can judge of their fine aspect in gardens when grouped boldly, as in this nursery, and the great point is to reject those kinds having flowers of dull or uninteresting colours—purple

magenta, and so forth. The following are in every respect first-rate, and should be noted by those who require only a small collection: Avalanche and Amazon are two beautiful white-flowered kinds, quite the best of this class. The plants are dwarf, compact, and bear large heads of pure white flowers. Flambeau, Le Soleil, Hironnelle, Henry Murger, Eclairer, Etna, Neptune, Boule de Feu, Eugène Dangainvilliers, one of the finest of all Phloxes; Eclatant, and John Forbes, pink, the eye crimson, are all of much merit.

SEASONABLE NOTES ON FAVOURITE GARDEN FLOWERS.

THE AURICULA.—I wrote a few remarks for THE GARDEN upon this favourite old flower, which were published in the number for April 29, 1893; since that time the plants have passed through the hottest summer they have ever experienced. I made an experiment this year with the repotting of the show Auriculas. A frame full of plants was repotted in May and an equal number was reserved to be transferred to new flower-pots in August. They were repotted in the first week of that month, and at that time the plants that had not been repotted were much stronger and had produced a greater number of offsets than those that had been repotted. This might have been expected, as the repotting of the plants in May would be sure to give them a check, from which they would take three weeks or more to recover. Now the others will be thrown back a little, and it is possible that the plants repotted in spring may not overtake those which have just been done. One point I have found out this season worth noting is, that the plants stood upon an ash bottom were much freer from the woolly aphid (*Trama auriculae*) than those placed upon staging or inverted flower-pots. I had not observed this before, but the reason is obvious. The insect does not seem able to exist unless the air can reach it. It does not like moisture and detests soot, which we also mixed amongst the ashes. We sowed the seed saved this year early in July, and already there is a very numerous progeny of fine young plants. Some of them are already large enough to be picked off into small pots. We plant a dozen or so into a 3-inch pot, and when the leaves touch each other, it will be time to replant them again; three this time in a 3 inch pot. I see some amateurs plant a considerable number of seedlings in pans or boxes; they are planted 3 inches or 4 inches asunder and are allowed to flower there. By this system much labour is saved and the plants are put into less space. The Rev. F. D. Horner plants out his seedlings in the open garden during the summer months and lifts them about the middle or towards the end of the month of September, each plant being large enough for a 4-inch or 5-inch flower-pot. They get established in the Auricula house and are strong enough to flower the following season. I grow all my seedling Auriculas and flower them singly in 3-inch or 4½-inch flower-pots, for I find that the seedling plant is more likely to produce a finer truss the first season than it will afterwards.

The alpine Auriculas are generally left to be repotted last. I like to see them finished in August, but more often our plants have been repotted in September, and they generally flower very well the following spring. Except that they are more hardy than the show Auriculas, the treatment they need is much the same, and they may be left freely exposed to rain during the summer months.

CARNATIONS AND PICOTÉES.—Layering has been completed for some time, and the favourable weather has caused the layers to form roots very freely. As soon as the plants have become sufficiently rooted they may be removed from the parent plants, and should be planted out where they are to flower. The soil ought to be well prepared previously by trenching it, adding some rich manure, and if the ground has grown Carnations previously it should have an addition of good loam added to it. I place a layer of manure about 6

inches under the surface, and over the manure a layer of virgin loam; it must be free from wire-worms, for this voracious pest will soon destroy the finest specimens. We have planted out the principal lot of seedlings which have been produced from seed sown the first week in April. They are growing very freely, but have needed a good deal of attention as regards watering. A considerable number have not yet been planted out, but they have twice been planted in boxes, and are now stronger than those put out two months ago. We are now preparing ground for them, and they will be planted out probably before this is in print. The plants have been checked in their growth this year by thrips, the Carnation maggot, and green-fly. All these depredators have had to be disposed of one after the other, but the plants were much crippled, and have now only started into good growth. I like to see good strong specimens, so that the layers may be abundant the year following. We have layered seedling plants this year with as many as sixty strong layers upon them, which gives one a good start for next season. Weakly plants will sometimes give less than a dozen layers.

PINKS.—These are very choice garden flowers, and much valued by those who are unable to purchase glass frames or build greenhouses. Pinks may be grown in the garden of the cottager, and are so sweet and lovely, that the wealthiest amateur should not lack a bed of them in the flower garden, or a colony of plants in the pleasure grounds. To have Pinks in a high state of perfection with perfect lacing, they ought to be grown on rich deep well manured soil. This ought to be prepared at once, and much in the same way as I have advised for Carnations. I observed when travelling in the north that some of the growers layered the Pinks in the same way as Carnations. I never take the trouble to do this, but merely slip off the growths and plant them in a moist shady place out of doors or under hand-glasses, as being safer if these are available. The plants should be ready to set out where they are to flower by the middle or end of September. The earlier they are planted out the better chance have they to stand the winter. When planted late, alternate frosts and thaws throw them out of the ground to their serious injury. If the flowers are intended for exhibition, it is best to plant them together in a prepared bed or border. Plant them in rows about 9 in. asunder, and allow the same space between the plants. A light mulch of decayed manure should be spread over the surface of the ground, especially if the weather continues hot and dry. This admits of water being freely applied without causing a hard surface almost impervious to the air.

FORCING PINKS should now be strong specimens if the slips were taken off and planted in March or April as I have advised to be done. They should grow into clumps large enough to fill 6-inch or 7-inch flower-pots by the end of September, which is a good time to lift them, to be planted in the flower-pots. The plants form each a mass of fibrous roots, and if carefully lifted from the ground, planted in flower-pots at once and stood in a close garden frame for a time, they soon become established and are ready to be placed in the forcing houses in December. The forcing Pinks are quite distinct from the laced or florists' Pink; the latter when forced is mostly out of character, the lacing gone, and the flowers of poor quality. The white Pinks are all excellent for forcing, as also are the coloured ones of the old Anne Boleyn type.

PANSIES.—Notwithstanding the excessively hot weather our Pansy bloom has been altogether very satisfactory, and where good growers have exhibited their flowers the standard of excellence has been very high. I think I never saw a better lot of fancy Pansies than those exhibited in July at the great show of plants and flowers at Newcastle-on-Tyne. Our own have continued to flower freely since early in the year until now, but it is time to put in the cuttings for next year, as the ground is wanted for the seedling Carnations. We are putting in the Pansy cuttings and removing the old plants; as they have flowered so long the flowers

are necessarily of poor quality, and it will be more interesting to watch the progress of the young Carnations than to note the gradual decline of the Pansies. The cuttings have been planted in boxes of fine soil, and will be placed under a north wall until they have formed roots. When they are well rooted they will be planted out a few inches asunder in fine soil. We do not plant them out where they are to flower until the spring.

THE HOLLYHOCK.—This stately plant has flowered admirably this season, but the plants have been very dwarf. No disease was apparent until the end of July when it appeared, and has spread rapidly since that time. This insidious parasite seems to lie in wait for suitable weather, when it spreads over the plants, destroying the leaves very rapidly. Condy's fluid applied to the affected part will destroy it. See that the young plants propagated from eyes or cuttings are kept clean, and replant each when well rooted in a 3-inch flower-pot. Remove all decaying flowers, else they will cause the seed-pods to decay. Plants for late flowering should be freely watered and syringed if the weather continues hot and dry.

JAMES DOUGLAS.

Abutilon chrysostephanus grandiflorum is planted out in a bed in the Chiswick gardens. The plant is vigorous in growth, the leaves deep green and the flowers rich yellow, whilst they are produced with great freedom. It seems to be especially suitable for planting out.

Marguerite Carnations.—From seed sown in the spring Mr. Burrell has now at Claremont two or three beds filled with Marguerite Carnations, which are about to bloom profusely. One admirable feature of these Carnations is that they run so even in height; also they have stiff, erect stems and do not want to be tied up. The chief objection to Carnations in the mass is that they must have supports and, of course, be tied, thus giving at once an artificial or formal aspect to the plants. That objection does not apply to these Marguerite Carnations, and it is thus negatively a great recommendation. I expect that these plants will supply flowers in great abundance up to the end of October. Only apparently 5 per cent. produce single flowers. These are, however, not altogether objected to and may be tolerated. It is a good plan to have a successional sowing of these so-called annual Carnations planted out later in the summer for lifting into pots in September, allowing them to bloom all the winter in gentle warmth. They do not of necessity displace the true winter-blooming Carnations, but those who cannot have good stocks of these will find that it is very easy to have a good quantity of Marguerite Carnations from late sowings as advised. Some few may be so good as to be worth propagation, but plants either from pipings or layers will hardly give the same floral results as seedling-raised plants. After all, with seed so cheap and the product so reliable, it seems hardly worth while to trouble about other means of propagation. In such case a sowing may be made in a pan in September, housing the seedlings during the winter and planting out early. One or two sowings may also be made in the spring.—A. D.

Nymphæa odorata gigantea.—Mr. J. L. Childs, of New York, sent us recently plants of the above Lily, and they are already well established in the lake. A large form of the American Sweet Water Lily will be an acquisition even with the splendid hybrids we already have. Little attention has hitherto been given to these flowers, but this will all be altered now, and we hope those who have Water Lilies will observe them closely and select distinct forms.

White Tobacco (*Nicotiana glauca*).—Very disappointing is *Nicotiana glauca* as a sunshine flower; indeed, it wears then almost a repelling appearance, especially when in the brilliant sunlight all other flowers seem to be so bright and beautiful. But let the sunshine become shade, the

daylight change to the softer glamour of evening, then is a transformation wrought; the masses of greenish white tubes with petals closed up come nearly erect, the flowers expand and exhibit their snowy whiteness, the rich perfume is liberated, and anything sweeter or more lovely than a mass of the white Tobacco can hardly be found.—A. D.

—E. Burrell, in his remarks on this sweet-scented Tobacco, mentions that it has not stood the winter with him in the open (except under a south wall) as well this season as in previous years. He may be interested to know that in our garden it has stood just as well this year. We have a good-sized bed of hardy Fuchsias, and among these we grow some of this white Tobacco. Every autumn we cover this bed with rotten leaves to protect the Fuchsias, allowing the roots of the Tobacco to remain, and every year we get a large number to live through the winter. I have observed that plants put out in the spring do not come into bloom so early by several weeks as those that have lived through the winter. I grow a good quantity of this under a south wall in front of the abbey. In this position it stands through the winter without the least protection, and comes very early into bloom.—J. Crook, *Forde Abbey, Chard*.

A SKETCH OF AMERICAN WILD FLOWERS

THE Pines are lovely now with great masses of Partridge-berry, often several yards in extent, starred thickly with delicately perfumed flowers, and matted so thickly over the ground that it is difficult to find places for one's feet without stepping on the pretty blossoms and the scarlet berries which still cling among the shining evergreen leaves from last year's setting. The luxuriant growth of this handsome plant in its native wilds is a puzzle and mystery which I cannot understand. Like the trailing Arbutus and our charming Pyxie, it languishes amid civilised surroundings. Pyxie and the Arbutus are out of flower, but their thick masses of foliage are always suggestive and attractive. Large beds of both the Chimaphilas here in the woods are putting to shame my efforts to establish them in the garden; still I succeed better with these plants than with the other trailers I have named, but, after all, they do not compare with those in the Pines, which have much larger umbels of waxy, fragrant flowers. All of these little evergreen trailers are handsome in the Pines the whole year through.

The airy Columbine is scattered among the Partridge-berries, and gracefully nods its scarlet flowers over the white and green carpet beneath; and this, too, is much more delicate and handsome here than in our gardens. In a damp place is a great mass of the Lizard's-tail (*Saururus cernuus*) standing so thickly that it excludes almost everything else. The small white flowers are crowded in long, slender, terminal spikes. These spikes are not stiffly erect, but they nod gracefully under the swaying of the breeze. In striking contrast is *Aletris farinosa*, or Star Grass, which stands erect and unbending, with a naked flower-stem 2 feet or 3 feet high, terminated by a spike of tubular white flowers, rough on the outside. The roughness is caused by numerous small mealy points or prominences, which, with a low magnifying power, assume quite gigantic proportions. And here is *Coreopsis auriculata*, with handsome yellow flowers on long peduncles, and also two or three species of Rudbeckia, our bright Coneflowers, lighting up the waste places with brilliant yellow rays and purple cones. A good many Orchids abound in the Pines. The handsome *Arethusa*, with its fragrant rose-coloured flower, has passed away, and so have the pink and white flowers of the Lady's Slipper (*Cypripedium acaule*), but there still remain *Listera australis*, with a single pair of leaves and a spike of purplish flowers; *Microstylis ophioglossoides*, with only one leaf and a raceme of small greenish flowers, and *Liparis lilifolia*, with two root-leaves, which are large compared with the

small bulb that produces them. Between the two leaves arises a small scape of purple flowers. The Coral Root (*Corallorhiza multiflora*) grows in the dry woods. It has a purple stem, which arises from a cluster of coral-like roots, without any leaf whatever, and yet it supports quite a long spike of small, pretty, light-coloured flowers, the lips of which are spotted with crimson. In more damp, rich soil is the Rattlesnake Plantain (*Goodyera pubescens*), with its tuft of white-veined thickish leaves lying snug to the ground, and from the midst of the little rosette of foliage arises a flower-stalk with numerous small white blossoms. Two or three species of Ladies' Tresses (*Spiranthes*) are also in bloom, some of them with flowers deliciously scented. *Pogonia divaricata* is now blooming in wet places, and *P. verticillata* as well. *P. ophioglossoides* is almost everywhere in the damp Pines, with its ever-present companion, *Calopogon pulchellus*.



Ursinia pulchra (*Sphenogyne speciosa*).

And the charming fringed Orchids are just coming into bloom. The white fringed *Habenaria blephariglottis* is strikingly handsome, with its scape of pure milk-white fringed flowers; and the yellow fringed *H. ciliaris* is very abundant; the flowers, however, are more orange than yellow. The pale yellow *H. cristata* is here, too, with smaller flowers than those of the other two. Some of the *Asclepias*, or Milk-weeds, are beautiful now, especially *A. rubra*, with umbels of rose-coloured flowers, and *A. pauperula*, with long slender stems terminating in small umbels of large, bright orange flowers. Both of these species grow in the wet woods and are more abundant quite near to the coast. *A. tuberosa* is almost everywhere in the more dry Pines. The Meadow Beauty (*Rhexia virginica*) is brightening up all the moist places with its purple flowers, while the *Roses* are everywhere, and such *Roses* as one never sees further inland. Near the coast they are much more thrifty and far more handsome than the same species a few miles from the shore. When the salt spray can reach them,

the foliage is perfect and of the deepest richest green. May not this give a hint for the treatment of our *Roses* at home?—MARY TREAT, *Finland, N.J.*, in *Garden and Forest*.

URSINIA PULCHRA.

U. PULCHRA, better known, perhaps, under its old name of *Sphenogyne speciosa*, is a very charming hardy annual, introduced, it is said, about 1836, and ever since it has been a general favourite in gardens. It seems to have been almost unknown to botanists, having been first described and figured by Knowles and Westcott in the "Floral Cabinet," 1838, vol. ii., p. 131, fig. 77, and by Paxton, "Magazine of Botany," 1839, vol. vi., p. 77, both of which works give the name of *Sphenogyne*. It is, perhaps, a pity that botanists did eventually find it, as it has had to go through the fire, and have the name changed from *Sphenogyne speciosa* to *Ursinia pulchra*. Its native country is not known with any certainty. It is not mentioned in Harvey and Sonder's "Flora Capensis." Paxton states that it is asserted by some to have been introduced from South America, and by others from South Africa; the latter is doubtless nearest the mark. The plant under cultivation proves one of the prettiest and most useful of border flowers. Paxton in his remarks, 1839, says that "it cannot prove otherwise than an acquisition to any collection; whether in its finely cut foliage, graceful and undulating, or its large and handsome blossoms, it is eminently worthy of admission to all well-arranged flower borders." It fully merits now all that may be said in its favour, standing out, as it does, conspicuously amongst all the later introductions. The flowers of the type are of a rich orange, with a circle of black at the base, and a dark purple disc. *U. anthemoides*, introduced in 1795, and figured in the *Botanical Magazine*, t. 544, as *Arctotis anthemoides*, differs from *U. pulchra* in having the under side of the florets purplish instead of yellow. Though an exceedingly large and varied genus, these are the only species to our knowledge in cultivation at present. D. K.

ORNAMENTAL GOURDS.

IT is a matter for wonder that some of the handsome small-fruited varieties of the Pumpkin Gourd are not more grown for garden decoration. They are mainly of moderate growth, and if planted out and supported by means of a few branches, upon which their trailing shoots can rest, they are uncommon and full of interest, the fruit lasting for a long time when fully ripe. One peculiar form is known as the Warty-skinned, the shape of a small Melon, the creamy skin covered with warts; the seeds are small. The white egg-shaped is a very distinct variety, the fruit resembling a large white egg, and if the shoots can be trained along some branches at a height of 4 feet or 5 feet, the fruit hanging down from the stem is highly ornamental. The seeds of this also are quite small, smaller than those of the preceding. Another is the Orange Gourd, the fruit when ripe being so like an Orange, that a pleasant practical joke can be played in the family circle at Christmas by placing one or two among some Oranges in a dish and handing them round to the company. The puzzled look which follows the taking of one of the Gourds is quite diverting. The seeds of this

variety are rather larger than those of the two already mentioned. The Pear-shaped bicolor is in the form of a small shapely Pear, dark green in colour, with longitudinal bands of very pale whitish green running longitudinally, the seeds quite small; and so are those of the Pear-shaped Striped, a singularly handsome form, green near the stem, the thicker part striped with yellow and green, but the marking varies somewhat upon the fruits. The Pear-shaped varieties are among the prettiest which can be grown. The Flat Striped is in the form of a small flattish Melon, the fruit deep green, banded with white, and quite distinct; the seeds also small. The season having proved so dry has not been favourable to these Gourds, but they have all fruited and the fruits have proved very true to character. Seeds should be sown in early spring, and the plants grown on and hardened off so as to be planted in the open as soon as the weather permits. R. D.

FLOWER GARDEN NOTES.

THE spell of exceptional heat we have just experienced dealt rather severely with many inmates of the herbaceous borders, especially those things that were moved early in 1893. This late moving is always bad policy; all work of this description should be finished by the end of November before there is any danger of continued frost, but in this particular case we were not able to do it until the breaking up of the frost in January. With the view, therefore, of rendering a little assistance to many such sufferers, various members of the Phlox, Pyrethrum, Lychnis, Veronica, and Spirea families, we shall get around them towards the latter end of September as deeply as may be consistent with non-interference with good roots, and remove a portion of the soil, substituting for the same a compost consisting of a bit of good loam and well decayed rather holding manure in equal proportions. This work, if finished before the heavy rains of autumn are over, should benefit the plants wonderfully and set them up for another season.

Violas on our rather light soil have cut up badly the last week, bright sheets of colour being transformed into rather unsightly patches; the only remedy is to remove all seed-pods as quickly as possible. A soaking of water may encourage growth, but is hardly likely to be productive of any further bright floral display so far as this season is concerned. Among the best dry-weather plants, the varieties of Japanese Anemone and most of the Starworts stand out very prominently; they go deep and wide in search of moisture, and consequently are less affected by prolonged drought and intense heat than almost any border plants. An extremely good hot-weather, dwarf plant is the old double Chamomile. I saw a charming bed the other day in which it was used as a carpet to a dark, free-flowering Fuchsia, possibly Abundance. The Chamomile had completely covered the bed and was quite at its best, and in addition to showing off the Fuchsias to the best advantage, was a decided help because of the effectual manner in which, with its dense carpet of foliage, it kept the sun from penetrating the soil. Succulents are revelling in the hot, dry summer and are flowering finely.

Except in very favourable cases, this has been an exceptionally poor season for the trial of novelties. Many things, especially somewhat tender annuals, succumbed quite early in the season, and in no case has anything shown its true form unless special facilities have been afforded in the way of heavy waterings and mulchings. It will soon be time to think about the winter housing of Violets, and preparations for the same, so far as the plants are concerned, may be put in progress early in September, viz., to run the spade round the roots to ensure lifting with a ball. I like to do this work at twice, at intervals of a week. If Violets for lifting were planted on any southerly aspect, they will have required a considerable amount of attention through the summer in the way of mulching and watering, and even with this, al-

though they may have made good growth, they will likely be suffering from the attacks of red spider, as this pest is more than usually troublesome, and very partial to Violet foliage. With buds beginning to show prominently some insecticides are hardly safe; probably one of the safest would be quassia extract in the proportion of half a pint to four gallons of water. All foliage may be safely soured in this, and it will effectually settle most of the spider if the operation is thoroughly performed. The pit or frame should be prepared for the reception of the plants as soon as possible; a good heap of road sidings will furnish a suitable compost.

The nice rain of the 23rd has enabled us to break down and pulverise the quarter intended for border Carnations, and as these with early layering are making nice plants we shall be able to get them out early in September. The prolonged drought seemed to have no prejudicial effect on Carnations except that the flowering season was nearly three weeks earlier than usual, nor did the intense heat seem to limit its duration so much as one would have supposed. Of the varieties grown, Ketton Rose has this year made least grass, and as strong rooted layers of this variety (ready October 1) have been advertised in THE GARDEN at the decidedly high, I had almost written prohibitive, price of one guinea per dozen, it would seem that others have had a similar experience to myself in securing a stock of this particular sort. Beds of pompon Dahlias are now good, and furnishing a plentiful supply of cut bloom. Nearly all varieties of recent introduction throw the flowers well above the foliage and may be cut if required with quite 1 foot of stem, a decided boon for tall vases. Achilles, Catharine, Darkness, E. F. Jungker, Martial and Camelliaeflora are a useful half-dozen in various shades of colour.

Claremont.

E. BURRELL.

SALPIGLOSSIS GRANDIFLORA.

THE *Daily News*, in alluding to the co-operative flower show at the Crystal Palace on the 19th last, mentions the Salpiglossis as representing some of the highest achievements on the part of the working man exhibitor, and states that "flowers of this kind were objects of general admiration on Saturday," and it was remarkable how often the question was asked, "But what are they? Their fame is not equal to their deserts." It may be stated that the Salpiglossis is a native of Chili, introduced about three quarters of a century ago. By some termed a herbaceous perennial, by others biennial, the Salpiglossis is now regarded and treated as an annual, as it is found plants come readily from seeds sown in the open and flower finely the same season. Our popular strain is known as Salpiglossis grandiflora, in all probability a large-flowered improvement of *S. variabilis*; the flowers white, rose, crimson, lilac, violet, maroon, yellow, orange, &c., or more generally some combination of these colours, and in not a few cases they are conspicuously veined with some striking tint. The flowers, borne on terminal panicles, are generally very viscid. The forms of Salpiglossis may be regarded as the Orchids among hardy annuals, as there is no annual which presents to view such rare and striking combinations of colour—rich, indeed, and startling in regard to their unusual beauty. Of late years considerable improvement has been made, and yet the possibilities of further development are unlimited.

They, Phlox Drummondii and Sweet Peas were shown in fine bunches from many parts of the country, and they formed the most effective of the many varieties submitted for competition. In the case of light, warm sandy soils the seeds of Salpiglossis can be safely sown in the open ground in March and April when the weather is favourable. In the case of heavier soils, it is perhaps best to treat this subject as half-hardy, raising the seeds in a cold frame or greenhouse, and planting out in the open as soon as sufficiently hardened off. To have fine flowers handsomely marked the plants

should be grown in somewhat rich, warm or light soil in which they can root freely, and the individual plants should have abundant room. They grow to a height of 18 inches or 2 feet, and need protection from sweeping winds. Judging from what was seen at the Crystal Palace, the flowers stand well in water, as at the close of the show they appeared to be among the freshest of the cut flowers shown in water. The viscid character of the foliage makes the stems a little disagreeable to handle, but this characteristic is more than atoned for by the rare beauty of the blossoms. There seems no reason why the Salpiglossis should not be treated as a biennial, in the same way as the Schizanthus, sowing the seeds at the end of August or early in September, and growing the plants on in pots to flower in the greenhouse in early spring. In this way fine and striking examples could be obtained. R. D.

Crococsmia aurea var. imperialis.—The superiority of this variety over the typical form of the old *Crococsmia* (*Tritonia*) *aurea* is strikingly shown by three or four groups of plants which are growing on one of the side stages of the Cactus house at Kew, and are now beautifully in flower. They are, of course, at the cool end, and are planted in beds of loam where they have been for three years. Some of the plants are nearly 4 feet high, and carry large spikes of flowers, the colour of which is a fiery orange-red. The flowers are also as proportionately large as the plant itself, and are, in fact, about twice as large as those of the commoner forms. This variety was introduced from South Africa about five years ago. The Royal Horticultural Society has recognised its value so far as to give it an award of merit. Another equally fine variety of this species is one named *maculata*, which was introduced from South Africa by Mr. James O'Brien five or six years ago. It also grows to a height of 3 feet to 4 feet, and its flowers are close upon 3 inches in diameter. The distinguishing mark of this variety is a reddish-brown blotch near the base of the three inner petals, which, contrasted with the orange-red, adds greatly to the effect. Both for greenhouse decoration and for autumn flowering out-of-doors these two plants promise to become very useful when more generally distributed.—B.

THE FRUIT CROPS.

SOUTHERN.

Burcombe Place, Lewes.—The fruit crops are very good with me this year. I have had splendid crops of Strawberries where others have failed close by. I have never known the Peaches to ripen so quickly as they have this year. The Currants are rather scarce, especially the Red and White; the Black have turned out very good and are very plentiful in this neighbourhood. There are splendid crops of Apples, especially on such sorts as Lord Suffield and Stirling Castle.

The vegetable crops have done fairly well; the Asparagus and Broad Beans have been the best. Peas have been nearly a failure on account of the long dry season. Beetroot, Carrots and Turnips are looking well.—F. HAYLER.

Caversham Park, Reading.—Apples are most abundant. Pears also a grand crop, fine and clean. Apricots quite a full crop. Peaches and Nectarines, both indoors and out, are a good average crop. Grapes are good, especially Lady Downe's, Gros Maroc, Muscats, and Alicante, but the late Grapes are very forward, it being difficult to keep them back. Strawberries were a very heavy crop, but came in a month earlier than usual, and did not last long. James Veitch, Noble, and President very fine. Black Currants an enormous crop. Red Currants and Gooseberries only half a crop. Raspberries a full crop. Morello Cherries most abundant. Nuts poor. Medlars

most abundant. Plums of many varieties are in clusters; although we thinned a good deal, they are much too thick. Tomatoes are very good.

Peas have not been at all plentiful. Cauliflowers early sown, such as First Crop, Early Forcing and Magnum Bonum, were very good; the later kinds such as Walcheren are not good, and since the rains Scarlet Runners and Vegetable Marrows are good. The dwarf Beans, especially Ne Plus Ultra, are very good and came in early. Onions, Parsnips, Carrots, Shallots, &c., are very good, and all winter Kales and Broccoli are now looking promising. Broad Beans after the first and second crops were quite a failure. The Beet gave us some trouble, but it is now growing fairly well.—C. LOTT.

Aston Clinton, Tring.—Apples and Plums, including Damsons, are the principal fruits grown in this neighbourhood, and the crops of all are heavy. Apples are fairly clean and swelling well, but the Damsons are much blighted. I notice the orchards now have a very sickly look, and much of the fruit is falling. We have had but few showers since early in March, and not a single thunder-storm to cleanse the trees. Filberts are a heavy crop, but badly blighted. Walnuts none. Gooseberries, Red and Black Currants are good crops, the two former slightly blighted. Strawberries at blooming time promised to be heavy, but the extreme heat lessened the crop.

Potatoes are a poor crop; they have been cut down several times by frost, the last time on June 1. Victor suffered more by the last frost than other sorts, and can hardly return the seed. Magnum Bonum is looking the most promising. The rapid growth it makes no doubt has prevented the ground being dried up. Late Peas are very poor, being covered with mildew and thrips. Nearly all vegetables are very poor and a short crop consequent on the severe drought and the multitude of insect pests. There is yet seed in the ground that was sown last March; also Potato sets still dormant.—J. W. SHRIMPTON.

Addington, Winslow.—This certainly has been up to the present time a most exceptional season, one to be long remembered and often referred to in years to come. What with the long continuance of dry weather, the great amount of brilliant sunshine and high average temperature, vegetation of all kinds was brought forward in a rapid manner and everything was very early. Fruit trees of all kinds were covered with fine healthy blossom, and there was a fine set of fruit, but a sharp frost of 11° on May 14 did much damage. The Plum crop was seriously injured even where protected. Pears suffered in like manner. Apples, not being so far advanced, did not suffer and they are a heavy crop. Strawberries were plentiful, early, and very soon over. Gooseberries, Red, Black and White Currants very heavy crops. Raspberries poor.

Owing to the excessive dryness of the surface of the ground, seeds of all kinds came up most irregularly, some lying in the ground so long, that when they did vegetate they were of no use at all, causing much disappointment. Those seeds that did vegetate at the proper time have done very well, and kitchen garden crops as a rule are very good. I never knew such things as Peas, Broad Beans, French Beans, Scarlet Runners come into use so soon. The same may be said of all kinds of bush fruits and Strawberries. The drought that set in on March 3 was not fairly broken until May 15, when we had a heavy rainfall, rather local I believe; after the 20th another long spell of dry weather, with many very high maximum temperatures. Total rainfall from January 1 to July 1, 8.24 inches. That is more than we had during the same period in 1892, which was only 6.40 inches. What made the difference to the dryness of the ground was that in 1891 the last three months (Oct., Nov., and Dec.) gave us 12.26 inches, whereas the same months of 1892 only gave 6.82 inches.—JOHN MATHISON.

Elvetham Park, Winchfield.—In the garden here and surrounding district the fruit crops, generally speaking, are under the average. I never remember to have seen such a profusion of Pear

and Plum blossom. The greater part was, however, destroyed by frost, 13° having been registered during the time the trees were in full bloom; consequently the crops are very light. Apples being later fared somewhat better and will be a fair crop, but small in size owing to the long drought. Peaches and Apricots, where protected with double blinds, are average crops. Cherries, Morello, May Duke, Bigarreau Napoleon, Downton and Emperor Francis, a new late variety of great excellence, are good. Strawberries under average, good in quality, but soon over, President being the most reliable kind grown here. Raspberries and bush fruits average crop of fine fruit.

Potatoes light crop, plenty in number, but small, quality, good and so far free from disease. The past spring has been the most trying in my experience; fortunately, we are well supplied with water, and it is needless to say it has been liberally made use of.—T. JONES.

Fulham Palace, London, S.W.—Apples set remarkably well, and held on for some time, but with the continuous heat and dry weather, both leaves and fruit began to fall, leaving only a poor crop. Pears blossomed and set very well; the excessive dry weather not taking much effect on them, there is a fair average crop. Plums flowered well, but did not set freely. Peaches blossomed very well, but did not set. Some very sharp frosts occurred about the time of setting. Only a fair crop on some late kinds. Bush fruits, such as Black Currants and Gooseberries, set remarkably well, and have been a very good crop, large and clean, with the exception of some trained bushes on walls. Some fruits were left to get ripe, and these were, you may say, roasted; the leaves on these trained bushes dropped also very much. Strawberries were a good crop, very clean, but not quite so large as in past years. By the time the picking of the fruit was finished the plants were almost burnt up. Tomatoes were planted out very early; the fruit set well up to the time of the change in the weather, but now, with occasional rain and cold nights they are not setting at all well, and the growth is now getting sappy.

Potatoes show every signs of an excellent crop. Early Puritan stands first on the list as a good early, being a good cropper, the tubers of good size and colour, and excellent quality.—A. J. BALL-HATCHET.

Ham House, Richmond.—Apples and Pears are a fair crop, especially on old trees, young trees on the Paradise having suffered very much from the extreme drought. Morello Cherries promised fine crops, but dropped wholesale at stoning time. Plums are thin, especially on standards. Green Gages are good crops on walls. Strawberries were not up to the average. Red Currants and Raspberries plentiful. Black Currants none, flowers killed by frost. Peaches and Nectarines in the open, good crops and very early.—G. H. SAGE.

Betteshanger Rectory.—Fruit of all kinds is plentiful and good, except Black Currants. Red Currants in the market gardens have been almost given away. Standard Pear and Plum trees and many of the Apples are bent down with the weight of the fruit. A small Morello Cherry which grows here freely has a splendid crop. The crop of Apples promises to be exceptionally heavy.—W. HERRINGTON.

Mereworth Castle.—Considering the long spell of drought the fruit crop generally is very satisfactory. Strawberries were among the worst; although plentiful, the berries were small and soon over. To secure a fair crop next year heavy mulching and an abundant supply of water to build up strong fruitful crowns must be given, otherwise next season there will be a great percentage blind. Noble was fine, but wanting in flavour; Vicomtesse Héricart de Thury good, and for many purposes one of the best, while the plants stood the drought better than some others; Sir C. Napier fruited well, but being later than the two kinds above noted, did not ripen at the tips. Raspberries good. Black and Red Currants fair. Gooseberries heavy, but smaller than usual, while red spider did much harm to the leaves, and the caterpillar was also very destruc-

tive. Stone fruits are good, and I think Apricots are better than I have ever seen them, plenty of fruit and fairly good in size. The old Moorpark, still one of the very best to crop, has been very good. Peaches and Nectarines very fine indeed; Waterloo, Alexander, Amsden June are over, the fruits of fair size and better in flavour than usual. The best way to get flavour in these early kinds is to gather the fruits a few days before they are ripe and put them in the fruit room; this gives more time and the flesh gets ripe through. Later sorts are looking well; all are three weeks earlier than in previous years. Black-fly appeared early in the season, but with a few dressings of quassia and soft soap matters were quickly put right. Cherries good. The wasps are very numerous; we have destroyed 120 nests within half a mile radius, and still they come. The queens came out early, and the weather was dry and warm, so that they (up till now) had matters their own way. Pears of some sorts good and plentiful, others thinly cropped. Apples very good, and although in some instances the fruit has dropped, there will be a good average crop. Plums and Damsons are fair, but the trees were fairly crippled with aphids and red spider. Nuts the best and heaviest crop we have had for years, while the clusters are marvels in size. Newly-planted trees have made very scanty growth.—H. MARKHAM.

Moor Park, Rickmansworth.—Apricots, Apples, Pears, Cherries are heavy crops in these gardens. Peaches, Nectarines, and Plums heavy crops on walls. We escaped the sharp June frosts. Much of the fruit, also Potatoes, suffered very much in the low districts. Bush fruits have been plentiful. Raspberries lasted but a very short time, and much under the average yield. Strawberries that were well supplied with water have been good. Oxonian has proved one of, if not the best late Strawberry we grow. We never had such a crop of Apricots as this year; after two or three severe thinnings the trees are crowded with fruit. I should think we shall be able to gather a quarter of a ton.

On trenched ground Peas have done well through the hot weather. Carrots and Onions are a failure in many places. Vegetables have improved very much since the rain. We have lifted all the early Potatoes; the yield has been good, but tubers rather small. The flavour is splendid. The Ashleaf, Sharp's Victor, and Early Puritan are the best earlies; the late varieties are promising.—J. C. MUNDELL.

Roehampton House, Roehampton.—The fruit crop in this neighbourhood taken as a whole is very good. Apples and Pears are very promising. Plums are abundant. Peaches, Nectarines, Apricots, and Green Gages on walls are very good. Bush fruits were plentiful, but small and dirty. Morello Cherries are almost a failure; they fell off in stoning, and those left on are dirty. The Strawberries with us were very good, and we had a fairly long season. We began picking Noble on May 30, and left off with Waterloo on July 14.

All sorts of vegetables with us are below the average both in quantity and quality.—EDWARD BERRY.

Aldenham, Elstree.—Generally speaking the fruit crops in this district may be said to be satisfactory. The most important of all, the Apples, are quite an average crop, and in most cases the trees are quite free from the caterpillar that has done so much damage during the last five or six years. The fruit is of good size and very promising. Pears a good crop. Plums average, but fruit small. Cherries of all kinds abundant. Apricots good, but ripened very early. Gooseberries and Currants of all kinds very fine, also Filberts and Cob Nuts. The most disappointing of all are Raspberries and Strawberries; fortunately we had a number of the latter on a north border which did well, and kept us supplied for a long time. Our principal beds, in spite of heavy mulching and watering, were completely scorched up. Never in my experience have I seen such quantities of wasps. We have destroyed considerably over 100 nests within a small radius here, using cyanide of potassium, the best

and simplest of all methods for destroying them I am acquainted with.

All kinds of kitchen garden crops, except Turnips, are excellent. Potatoes quite free from disease and of first-rate quality.—E. BECKETT.

Titness Park, Sunninghill.—In the early spring all fruit trees and bushes were well furnished with bloom-buds, and the blossoms expanded from a fortnight to three weeks earlier than usual and were healthy and vigorous. On April 13 we had 6° of frost, on the 14th 11°, and on the 15th 6°. These frosts did great damage to the Pear and Apple blossoms, cut off the newly set Plums, and thinned the Gooseberries and Black Currants. Some gardens suffered more than others. Apple blossoms were not expanded and seemed to be all right, but on being examined the centres were found to be blackened. Pears and Green Gages on the walls escaped here and are a good crop, but most of the pyramid and standard trees are blank, or nearly so. Plum and Apple trees have suffered much from blight. Strawberries in general were a short crop, but where they were well watered before the straw was put on the ground they bore a good crop.

Vegetables have been stunted and blighted all the season from lack of moisture. Peas came in three weeks earlier than usual, but have been a very short crop all the season. Where the ground was deeply worked the supply was kept up till the end of the first week in July, but that hot week finished them; on shallow ground they were all dried up before then. Early Cauliflowers turned in fairly well, but all succession crops were and are very unsatisfactory. Broad Beans have been a failure. French Beans are all blighted and of very little value. All sorts of vegetables have been and are scarce.—THOMAS DUNCAN.

Sewardstone Lodge, Chingford.—In this part of West Essex on a clay subsoil the fruit crop is good with the exception of Strawberries, which were only moderate. Gooseberries, Currants and Cherries have been plentiful. Apples good average crop. Blenheim Pippin, Manks Codlin, Alfriston, Stirling Castle, Keswick Codlin, Irish Peach, and Lord Suffield are carrying fine crops. Pears are over average and remarkably clean and well shaped. Louise Bonne of Jersey, Durondeau, Marie Louise, and Beurré d'Amanlis are promising. Peaches and Nectarines on walls are smaller than usual, but the flavour is good. Plums, on the other hand, are not so plentiful. In some neighbouring gardens with a higher level the crop is both plentiful and good.—J. NICHOLSON.

Shirley, Croydon.—In this neighbourhood the soil is mostly of a light gravelly nature; therefore most crops have suffered through the long drought. Fruits of all kinds are hardly up to the average in size. Apples are plentiful. Sorts having good crops are Stirling Castle, Lord Grosvenor, Lord Suffield, Warner's King, Pott's Seedling, King of the Pippins, and Cellini. Pears are a fair crop, but, where the trees have not been watered, small. Plums of all kinds are an excellent crop. Strawberries were plentiful, but the season exceedingly short. Raspberries good. Peaches, Nectarines, and Apricots are capital crops. In one garden here is a tree of Peach Thames Bank, a fine yellow-fleshed variety of good flavour. It is rather late, but has such excellent qualities as an outdoor Peach, that one wonders why it is so seldom met with. Gooseberries were scarce. Currants an average crop, but in all cases much spoiled with aphides. Cherries, especially Morello, are abundant.

It is yet rather early to speak of Potatoes. They appear free from disease, and in regard to other vegetable crops, all that have not been watered are very poor.—H. SHOESMITH.

Albury Park Gardens, Guildford.—All kinds of fruit here and in this locality have been plentiful this season. Apples and Pears are a very fine crop; also all stone fruits. Plums of all kinds are extra fine. Damsons are in my case one of the finest crops I have ever seen. Currants, Raspberries, and Gooseberries have been very fine. Strawberries also were a very fine crop, but owing

to the drought (nearly five months without rain) soon over. I depend on deep cultivation instead of pouring so much cold water on plants in hot weather; besides, gardeners in nine cases out of ten have no water laid on in the garden, and cannot find labour to carry water for growing crops.

In spite of the drought I have had vegetables in quantity and of the highest quality. Potatoes, Onions, and Carrots are very fine, the last being large and free from grub. There is no trace of disease in Potatoes.—W. C. LEACH.

WESTERN.

Moreton Court, Hereford.—Apples and Pears will be a thin crop. The frost on April 7 did much mischief, and the caterpillar attack on the Apple trees after nearly stripped them of leaves in some places. The trees have withstood the drought on deep land, and since the rain both trees and fruit have improved very much, although Apples and Pears will be this year smaller than usual. Peaches, Plums, and Apricots on walls with me are a very poor crop, fruit small and of poor flavour. The Peach and Nectarine has suffered more than any other from the attacks of red spider. Small bush fruit and Strawberries are a plentiful crop, fruit small and of poor flavour.

Peas are good. Broad Beans a failure here from want of rain. Onions, Parsnips, and Carrots where watered are looking well.—THOS. PARKER.

Hardwick Hall, Chesterfield.—Apples and Pears abundant. Plums exceptionally heavy. Damsons heavy crop. Cherries good crop. Abundance of small fruit except Strawberries, which suffered from the drought. Cob Nuts light. Walnuts good crop.

Early Potatoes abundant and good; late Potatoes are promising. All kitchen garden crops doing well after the rains.—E. WILSON.

Wilton House, Salisbury.—Apples fair crop, trees much infested by insects and the fruit by maggot. The crop of Apricots is the best I have had during the past thirty years, the fruit unusually large, exquisite in flavour and brilliant in colour. Cherries moderate crop, trees much blighted. Currants heavy crop. Gooseberries abundant crop. Peaches and Nectarines good crops, trees much infested by aphids and red spider. Alexander Peach ripe on south wall with glass coping only June 25, Early Louise July 15, Hale's Early July 20; the two latter varieties large in size and exquisite in colour and flavour. Nuts heavy crop. Pears medium crop, Doyenné d'Été ripe June 30, Citron des Carmes July 10, Jargonelle July 20. Plums good crop on walls, poor crop in the open garden, except Rivers' Prolific, on which there are heavy crops. Raspberries heavy crop, fruit small. Strawberries poor crop, especially Noble, Auguste Nicaise, Sir Joseph Paxton, and President.

Potatoes, early, light crop; many of the sets did not commence growth in consequence of the lengthened drought till the end of May, and the late varieties suffered severely, making but little progress till the first week in July, when rainfall sufficient to penetrate the ground produced a marvellous change. Should the autumn prove favourable there will be excellent crops. Very little disease has shown itself up to the present time. Cauliflowers and all the Brassica tribe were with difficulty kept alive. All bulbous and tuberous-rooted crops suffered from attacks of wireworm and grub except where heavy dressings of soot had been applied in the previous autumn. Peas, especially the first crops, were a failure except in deep, rich ground; no amount of watering seemed to benefit them during the extreme heat and drought. Total rainfall for four months 2.895 inches, equal to one month's fall on an average of thirty years. The average temperature during these four months was unusually high. In April the thermometer in the shade indicated 70° and over on thirteen occasions, and on two days it indicated 82° and 83°. In May it exceeded 70° on twenty days, and on two days it reached 80°. In

June it indicated 70° and over on twenty-six days, 80° and over on eight days, and 90° and 91° on two days.—T. CHALLIS.

Glewston Court, Hereford.—In this neighbourhood Apples are about one-fourth of a crop, much of the fruit having fallen from the drought. Lane's Prince Albert, Yorkshire Beauty, Frogmore Prolific, and Worcester Pearmain are bearing the heaviest crops. Many of the cider Apple trees are heavily laden with fruit. Pears in the open quarters are a failure; on walls they are a fair crop. Flemish Beauty, Clapp's Favourite and Beurré Superfin are the best. Plums on walls are a very good crop. Out in the open, bush and standard trees are half a crop. Strawberries have not done well this season. Sir Joseph Paxton and Commander produced the heaviest crops and finest berries; Waterloo has been a complete failure. Sweet Cherries were a fair crop; Morellos are a good crop and the fruit fine. Apricots are the heaviest crops we have ever had, Musch Musch being particularly good. Peaches and Nectarines are excellent in every way, fruit being plentiful, large, and highly coloured. Nuts promise a heavy crop. Raspberries have been a comparative failure, the fruit being small and dry. Currants of all kinds have been an average crop. Gooseberries a very heavy crop, but the fruit is a little smaller than usual. Medlars are an average crop, and the same may be said of Damsons, but red spider has made sad havoc with the trees.

Owing to our system of deep cultivation, the drought has not seriously affected our vegetable crops, with the exception of Peas. These have not been a good crop, and the pods quickly became too old. Cauliflowers have been very good, especially Autumn Mammoth. From seed sown in heat early in January we have been cutting large and tender heads since the middle of June. Cabbages have been much troubled with grubs, otherwise they have done well. Dwarf Beans and Scarlet Runners are excellent crops; of the former Sir Joseph Paxton and of the latter The Czar have been the earliest and most productive. Root crops of all kinds look well, including Onions. Globe Artichokes were seriously crippled by the past winter. Vegetable Marrows have grown vigorously, but so far have not cropped well. Of Lettuces Paris Green and Continuity have succeeded the best, both hearting freely and not running to seed. Celery put out early looks very healthy.—S. T. WRIGHT.

Clarendon Park, Wilts.—The fruit crop in this locality cannot be described as any other than a thoroughly good one. Apples, if not universally abundant, are plentiful in most cases, and the only cases of light crops with us are where the trees were overtaxed last year. Among the kinds of these bearing exceptional crops may be mentioned Stirling Castle, Dumelow's Seedling, Lord Suffield, Worcester Pearmain, Golden Noble, Cellini, Loddington, Keswick Codlin, Cox's Orange Pippin (very heavy), Potts' Seedling, Duchess of Oldenburg, Ecklinville Seedling, King of the Pippins, and Blenheim Pippin. Many of the local kinds, such as Prophet and Ducat, are carrying heavy crops. The fruit of almost all kinds up to the last few days had the appearance of being very small, but thanks to the recent heavy rains things have improved. Pears, again, are all that could be desired, and nothing that I have seen looked happier under the influence of the excessive drought and bright weather. Almost all kinds have set very heavy crops, so that in many cases thinning had to be resorted to somewhat heavily. Amongst others that look exceptionally well may be mentioned Marie Louise, both on walls and in the open; Pitmaston Duchess, Duchesse d'Angoulême, Doyenné d'Été, Doyenné du Comice, and Doyenné Boussoch. Glou Morceau, Williams' Bon Chrétien, Beurré d'Amanlis, Beurré Bosc, Beurré Rance, and Beurré de Capiaumont are all very good, as also are Van Mons, Flemish Beauty, Gratioli of Jersey, and Hacon's Incomparable. Plums are also a full crop both on walls and in the open, and so far as our own garden is concerned, have never been more plentiful for the

past twelve years. Rivers' Early Prolific and The Czar are excellent early Plums, and were they more plentifully grown would prove formidable rivals to the French fruits now having such a run in our towns. Pershore, Victoria, Pond's Seedling, Green Gages of all kinds, Kirke's, and many others are carrying heavy crops, as also are the Farleigh and Shropshire Damsons. Peaches are everywhere abundant, and except for a little red spider where water has been insufficient the trees generally look well. Apricots seem everywhere more than usually abundant, and the trees on all sides are laden with fruit almost to excess. Here it is the best Apricot season I have known for years. Early Moorpark, Moorpark, and Hemskirk are alike heavily cropped, and most of the fruit has swollen to a good average size. Strawberries have not fared so well as some other fruits owing to the excessive heat and drought, but where strong plantations were well mulched early in the season fairly good gatherings have been the result. Cherries have been plentiful and good, May Duke and other early sorts being quite up to the average in quality, and the Morellos with us have not been affected in the least by the drought, and are cleaner and finer than usual. Raspberries have been very plentiful, though the fruit was somewhat smaller, but most of it finished up well. Black Currants have been an enormous crop, while Red and White have been somewhat lighter. Nuts of all kinds, except Walnuts, are plentiful. Gooseberries have been a very heavy crop.—C. WARDEN.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 29, 30, 31 AND SEPT. 1.

ANY doubts that may have existed in the minds of horticulturists in general as to the success of this exhibition, which was held at the Agricultural Hall, would soon be dispelled upon taking even a cursory glance of the products shown. The show, taken as a whole, is an undoubted success; some prominent exhibitors, it is true, are conspicuous by their absence, but others have more than made amends for this by their extra exertions, and to these the Royal Horticultural Society is in a large measure indebted for the fine display on this occasion. One conspicuous feature in this show, as in those held at the Temple, is the large number of miscellaneous exhibits. These occupy of themselves a large amount of space and are thoroughly representative of each branch of the profession. Orchids are proverbially scarce during August and September, whilst after the intense heat of late it is a matter for surprise that any are shown at all. There are, however, a few good things. This is certainly the weakest part of the whole show, affording quite a contrast to the Temple show. Plants in flower are not plentiful, it is true, the chief redeeming features being the groups of Lilies. On the other hand, there is an enormous display of hardy herbaceous flowers, finer than which has very rarely, if ever been seen. These do not, in some quarters at least, appear to have suffered from the drought. The Dahlias also contribute largely to the floral section, these in the various classes being shown extremely fine. The Roses amongst other cut flowers stand out most prominently, and the method of exhibiting them *en masse* in baskets and otherwise is a new and improved idea. Many fine blooms are to be found amongst them, the Tea-scented kinds standing out conspicuously. Groups in the competing and miscellaneous classes are grand features in the show. These have been disposed through the centre of the hall with the best effect. A few breaks occur, which is entirely the fault of the intending exhibitors who did not keep to their promises and fill the spaces allotted to them, otherwise the effect of this part of the show would have been perfect. Fruit, competing and otherwise, is of remarkably even quality, lacking in the

number of collections in the large mixed classes, but otherwise of uniform excellence. The large trade exhibits in this department speak well for the enterprise of our nurserymen who make fruits one of their specialities. Vegetables are likewise shown well, the Tomatoes amongst which are as fine as one could wish. Exhibits of horticultural appliances and sundries are numerous, and will be alluded to next week.

Orchid Committee.

A first-class certificate was awarded to—

HABENARIA CARNEA.—A lovely variety with pale flesh-coloured flowers, which as regards size are three times as large as those of *H. militaris*, so finely shown from the Burford Lodge collection last year. The foliage of *H. carnea* is shorter and more in the form of, and resembling that of an *Anæctochilus*. It is a distinct variety. From Messrs. Sander and Co., St. Albans.

Awards of merit were given to—

CYPRIPEDIUM SANDERIANUM SUPERBIENS.—A lovely hybrid (*C. Sanderianum* × *C. superbiens*); the blooms are large as compared with those of most kinds, and being of a light yellow ground colour, with chocolate veins and blotches, are very distinct. From Mr. N. C. Cookson, Oakwood, Wylam-on-Tyne.

AERIDES BALLANTINIANUM AUREUM.—A very distinct form with the lip and central portion of the flower of a clouded golden yellow colour, the sepals and petals of a pale flesh colour. The spike upon the plant shown was long, and bore very fine flowers. From Messrs. Sander and Co.

CYPRIPEDIUM EDWARDI.—A hybrid which, speaking from memory, has a decided resemblance to the Veitchian Niobe. It is a fine variety, the wings long and drooping, being spotted with chocolate, and the flowers generally suffused with purple. From Mr. T. Statter, Stand Hall, Manchester.

Only two groups of Orchids were exhibited, and to each of these a silver Banksian medal was awarded. One came from Messrs. Sander and Co., and comprised choice and new kinds only. Of these *Aerides Lawrenceæ* was one of the best; the plant bore one spike with immense flowers, which are best described as gigantic ones of the old *Aerides odoratum* in form and colour. Several new *Cypripediums* were also shown, the best of which were *C. picturatum*, extra large, with purplish flowers; *C. radiosum*, with yellowish green flowers, and an extra large dorsal sepal. *C. Maynardi* was also shown again. Another good thing was *Calanthe Sanderiana*, a major form of *C. masuca* in every respect.

The other group was from Messrs. Lewis and Co., of Southgate, and was composed of small fresh looking plants in good condition. *Oncidium Jonesianum* (a fine form), *Cattleya guttata* in several varieties, darker than usual, some bordering upon *C. Leopoldi*; *Cattleya bicolor*, with *Oncidium*s in variety were included. Of these latter *O. prætextum* and *O. tigrinum* were the best. This exhibit was finished off with small plants of Maiden-hair Fern, which always give a finish to a group of small Orchids. A few Orchids included in other groups are noted under the several exhibits in the miscellaneous classes.

Floral Committee.

First-class certificates were awarded to the following:—

WEIGELA EVA RATHKE.—A very decided acquisition to flowering hardy shrubs. Its flowers are of a dark red self colour, of good substance and in large trusses; but its chief value is the fact that it is a perpetual summer-blooming plant. From Mr. Anthony Waterer, Knapp Hill, Woking.

AGAVE LEOPOLD II.—A hybrid raised by the exhibitor. In general appearance and character it is much after *A. filifera*, but quite distinct and in every respect superior; the leaves are narrower, of a dark green shade and very flexible. The chief ornament of the plant is the long hair-like filaments, which are densely set upon the edges of

the leaves; these filaments are of a silvery shade and 3 inches or 4 inches in length. From Mr. Kellock, Stamford Hill.

AGAVE UNIVITTATA.—A variety of Yucca-like growth and of sturdy, compact habit; the leaves have a stripe of yellowish green down the centre, the rest of the leaf a dark green, with a silvery white margin. Also from Mr. Kellock.

LILIUM HENRYI.—This appears to be a distinct species, the nearest to it in the colour of the flowers being *L. tigrinum*, and in form those of *L. pardalinum*. The colour is rather paler than in the former, and a few small spots of a dark orange shade are seen here and there; the foliage is of a dark green shade and lanceolate in shape. Two plants were shown, one taller than the other. From Messrs. Wallace and Co., Colchester.

EXACUM MACRANTHUM.—Not a new plant, but one that is well worthy of the very highest award. The flowers are of a deep rich blue and about 2 inches in diameter; the stamens of a rich golden yellow. The combination and contrast in colour being so decided make it a very showy plant. The example shown bore eight trusses of seven or eight flowers each, and had been grown in a 4½-inch pot. From Sir Trevor Lawrence.

CORNUS BRACHYPODA VARIEGATA.—A fine acquisition to hardy variegated shrubs. The colouring is as in the variegated *Negundo*, but better. A very showy plant. From Messrs. Veitch and Sons.

CLERODENDRON TRICHOTOMUM.—A valuable hardy autumn-flowering species introduced from Japan. It is of free growth, and attains the height of from 8 feet to 10 feet. The foliage is dark green; the flowers of a creamy white, with a purplish calyx, and delightfully fragrant. From Messrs. Veitch and Sons.

Awards of merit were given to—

GLADIOLI BERNICE. pale straw colour with long spike; Gertrude, pale soft blush shade with extra fine flowers suffused with rose; Orlando, dark salmon-red with darker veining; Cassandra, pale creamy yellow, extra fine. These were all from Messrs. Burrell and Co., Cambridge, and are marked advances.

CACTUS DAHLIAS GLORIOSA. bright scarlet with large flowers and twisted petals, a rich colour; Chancellor, dark crimson shaded with purple, an extra fine variety and quite distinct; Lady Penzance, a pale lemon-yellow, unlike any other variety of the true Cactus type, one of the best new kinds. The foregoing were from Messrs. Keynes, Williams and Co., Salisbury.

CACTUS DAHLIA ERNEST CHEAL. a dark orange-crimson, very full, and quite a distinct kind. From Messrs. Cheal and Son, Crawley.

POMPON DAHLIA ROWENA. a dark orange tipped variety with pale yellow base. From Mr. C. Turner, Slough.

FANCY DAHLIA MRS. MORTIMER.—In colour decidedly distinct the flowers large, pale yellow, tipped with pale lilac, which fades to white. From Mr. Mortimer, Rowledge, Farnham, Surrey.

ROSE DUKE OF YORK (China).—A valuable autumnal-flowering variety with some resemblance to the well-known *Homère*, but much deeper and richer in colour. From Messrs. W. Paul and Son, Waltham Cross.

HELIANTHUS RIGIDUS MISS MELLISH.—A fine acquisition to these valuable hardy border flowers. This plant is quite distinct from the ordinary form of *Harpalum rigidum*, which this season is only 2½ feet high, the semi-double form 3½ feet, and Miss Mellish 5½ feet. This new form has a double row of petals, and is a showy kind, possessing good powers of endurance when cut. From Rev W. Wilks, Shirley Vicarage, Croydon.

CARNATION MRS. LEOPOLD DE ROTHSCHILD.—This received an award of merit first at the Chiswick show last year, and which award is now again given, proving its value. It is of free growth and also free-flowering, the colour rather deeper than in Miss Jolliffe, the perfume at the same time being delicious. From Mr. Reynolds, Gunnersbury Park, Acton.

PENTSTEMON CLEVELANDI.—This, if not a distinct species, is nearest in its resemblance to *P.*

barbatus, but the colour is deeper, in this instance a rich orange-scarlet, the flowers being more densely set on the spikes, and rather narrower but longer—a fine border flower. From Sir Trevor Lawrence.

PINK (PERPETUAL) ERNEST LADHAMS.—A profuse flowering variety of vigorous growth with large pale pink flowers and dark bases to the petals—an acquisition to its class. From Mr. B. Ladhams, Shirley Nurseries, Southampton.

Fruit Committee.

There was a very large number of exhibits before this committee, the fruit trees in pots from Messrs. Rivers, Bunyard and W. Paul and Son making a grand display. The very fine fruit from Messrs. Veitch, Bunyard, Paul and Cheal was worth a higher award. Seedling Melons, Apples, Tomatoes, and some of the largest Onions ever staged were shown. Messrs. Rivers, Sawbridge-worth, had an extensive and varied collection of fruit trees in pots. The Vines were a grand feature, being trained flat and laden with bunches of well-finished fruit. The varieties were Dr. Hogg, Black Hamburgh, Gros Maroc, Gros Colman and Golden Queen. Some very fine bushes of Exquisite Peach, a showy yellow-fleshed variety, also Albatross, Princess of Wales and some seedlings were also shown. Souvenir du Congrès, Louise Bonne of Jersey, Williams' Bon Chrétien, Beurré Superfin, Pitmaston Duchess and Conference Pears were also shown in pots. There were some fine Plums and Apples, including Rivers' Codlin, The Queen, Ribston, Emperor Alexander, and Peasgood's Nonsuch (gold medal). Messrs. Bunyard, Maidstone, had a very large group of fruit trees in pots, 150 dishes of fruit, thirty-six flat baskets, also a number of plants of forcing Strawberries and Tomatoes. Apples were fine, the fruits of Worcester Pearmain, Lady Sudeley, The Queen, Baumann's Reinette, and Grenadier being specially good. Some extra fine fruits of Dr. Jules Guyot Pear were staged, and a number of dishes of Melons, Grapes, Damsons, Nuts, Plums and Crabs (silver-gilt Knightian medal). Messrs. Veitch, Royal Exotic Nurseries, Chelsea, had a very large number of dishes of fruit. A few Peaches and Figs in pots formed the centre of their extensive collection. The fruit staged was gathered from pyramids and bush trees in the open. There were some very fine Apples, Warner's King, Cellini, Lord Suffield, Seaton House, Frogmore Prolific, Lane's Prince Albert, Albury Park Nonsuch, Schoolmaster, Bismarck, Ribston, American Mother, Jefferson, King Harry, and Duchess Favourite being grandly coloured and of great size. Pears were also shown well. There were some very good Pitmaston Duchess, Marie Louise, Beurré Superfin, Triomphe de Vienne, and Thomson's Pears, with Plums, Morello Cherries, John Downie and Siberian Crabs, and Raspberry Superlative (silver-gilt Knightian medal). Messrs. Wm. Paul and Son, Waltham Cross, staged a group of fruit trees on the ground, and this is certainly a better way to see fruit in its natural condition, as when raised on stages 4 feet high the pots are the most prominent feature. Some extra good bushes of Figs were staged; also good varieties of Peaches, Pears, Apples, Plums, and 100 dishes of fruit (silver-gilt Knightian medal). Messrs. Cheal, Crawley, had a varied collection of fruit, there being also a nice background of trees in pots, chiefly the best kinds of Apples and Pears, heavily laden with highly coloured fruit. There was also an interesting collection of Gourds, Cobs, and Crabs, and some grand dishes of Apples, Pears, and Plums, the varieties consisting of those named in the preceding collection (silver-gilt Knightian medal). Messrs. Spooner, Hounslow, staged a smaller collection of good fruit in dishes, their dessert Apples being very good, and the Pears large and clear skinned. Some baskets of Tomatoes gave the collection a bright appearance (silver Knightian medal). Mr. Bythway, Llanelli, Carmarthenshire, had a good collection of Apples consisting of well-known varieties (silver Knightian medal). An interesting exhibit was staged by Mr. Trotter, Broomsbarrow Gardens, Ledbury. This consisted of two cases

of dried fruits, one of conserved and one of evaporated fruit, dried by the Mayfarth process; also Apples, Plums, Cherries, Damsons, Apricots, and Pears with a few vegetables (silver Knightian medal).

Messrs. Peed and Sons, Norwood, S.E., had a collection of fruit, chiefly well-known kinds of Apples and Pears (silver Banksian medal). Mr. J. Clarke, Albion Nursery, Farnham, staged thirty-three well-finished bunches of Grapes grown without heat (silver Banksian medal).

Mr. Hudson, Gannersbury House Gardens, Acton, staged the new Lady Hutt and Appley Towers Grapes from Vines irached on Muscat; also Appley Towers on own roots in nice condition. Bunches of Gros Maroc on Muscat stock were also shown. Mr. Fitt, Panshanger Gardens, Herts, had two good clusters of Lady's Finger Banana, a variety certificated recently. Messrs. Carter, Holborn, staged good fruits of Tomatoes in variety. Mr. Thomas, Royal Gardens, Frogmore; Mr. Smith, Fairlawn, Totteridge, and Mr. Gilman, Ingestre, sent seedling Melons. Seedling Peaches came from Messrs. Veitch, Exeter, and Mr. Divers, Ketton Hall, Stamford. Good fruits of Barrington and Chancellor Peaches from open walls came from Mr. Miller, Ruxley Lodge, Esher. The Currant Grape was sent from Chiswick Gardens.

Mr. T. Wilkins, The Gardens, Inwood House, Blandford, staged twelve grand dishes of Onions, the best being Inwood Favourite, a red-skinned variety of great weight (silver Knightian medal). Messrs. Cannell, Swanley, had a varied collection of Onions from the open ground, the best being Anglo Spanish (silver Banksian medal).

Some specially fine clusters of a Tomato named Allsop's Selected came from Mr. Allsop, Dalton Hall Gardens, Yorks. A seedling Potato (George Dickson) came from Mr. Mackereth, Ulverston, and also one from Mr. Young, Barton Court, Kintbury. These two varieties were asked to be sent for trial to Chiswick. Mr. South, Neasdon, sent a new Potato, nearly black, a long tuber, not at all handsome, having a lot of eyes. Messrs. Dobbie, Rothesay, had some grandly grown Leeks, the useful Golden Ball Turnip, Red Celery and Invincible White Celery, good Beet, Parsnips, and Parsley. Messrs. Cross, Glasgow, had some fine bunches of Grapes, Tomatoes, and other fruits, and Messrs. Harrison, Leicester, a representative collection of roots, seeds and vegetables.

A miscellaneous collection of foreign vegetables grown in the open was sent by Mr. Emerson, Broadstairs, the Pe Tsal Cabbage being requested to be sent for trial to Chiswick (bronze Banksian medal).

In the competitive classes there was no really fine indoor fruit, whilst the hardy fruit, Apples, Pears and Peaches, were specially fine. For twelve dishes, amateurs only, one collection was staged, and that a very medium one. The Grapes were poor, and a huge Melon was out of all proportions to the other dishes. The Pears (Beurré d'Amanlis) were good, and there were some nice Brown Turkey Figs. Mr. J. McIndoe, Hutton Hall Gardens, Guisborough, was the exhibitor, and the Veitch Memorial medal was not awarded. For six dishes there were three lots staged, and none remarkably fine. Mr. Ocock, Havering Park, Romford, was first, showing Muscat of Alexandria and Alicante Grapes, a good dish of Osprey Peaches, Elruge Nectarines, and Williams' Bon Chrétien Pears and good Melons. Mr. Masterson, Weston House Gardens, Shipton-on-Stour, was second. He had good Muscats, but poor Madresfield Court Grapes. For three bunches of Muscat of Alexandria Mr. Reynolds, Gunnersbury Park, Acton, was an easy first, having medium-sized bunches, but grandly finished (the Turner Memorial cup was awarded to this exhibit). Mr. Winter, Walk House, Barrow-on-Humber, was second, the berries being small and the bunches thin.

For three bunches of Black Hamburgh, Mr. W. Elphinstone, Shipley Hall, Derby, was first, with good-shaped, grandly coloured bunches, berries being large and even and bunches well shouldered. Mr. Reynolds was second with smaller bunches,

but of perfect finish. For three bunches of any other white variety (Muscat of Alexandria excluded), there were only two exhibitors, Mr. Reynolds being first with medium-sized Buckland Sweetwater, good in berry and very bright; Mr. Osman second, with good bunches of Mrs. Pearson, but hardly ripe. In the class for any other (Black Hamburgh excluded), there were five competitors. In this class were undoubtedly the best Grapes in the show. Mr. S. T. Wright, Glewston Court, Ross, Hereford, had perfect bunches of Alicante of great weight and good finish; the only blemish was a few berries rubbed in travelling. Mr. Howe, Park Hill Gardens, Streatham, was second. For eight varieties of Grapes, distinct, two bunches of each, the first prize went to Mr. Reynolds for large bunches of Trebbiano, Chasselas Napoleon, very good and of taking colour, Mrs. Pearson, Gros Maroc (very good), Alicante, Madresfield Court, Black Hamburgh and nicely finished bunches of Muscat of Alexandria, the second prize going to Mr. Barry, Tewkesbury Lodge, Norwood, Gros Guillaume, Alicante, Alnwick, Gros Maroc, and Trebbiano being remarkably good. For four dishes of Peaches, Mr. Divers was first with large fruit well coloured, but not quite ripe; second, Mr. Woodward, Barham Court, Maidstone, with riper fruit a trifle smaller. For two dishes, Mr. Tidy, Stanmore Hall, Great Stanmore, was first. For four dishes of Nectarines, Mr. McIndoe was first with nice fruit of Byron, Spencer, Humboldt, and Pine-apple; these were evidently orchard house fruit. Mr. Woodward, Barham Court, Maidstone, staged outdoor fruit more highly coloured, larger, but not so ripe. There were grand examples of Stanwick Elruge, Humboldt, Rivers' Orange, and Pine-apple. For two dishes, Mr. Divers was the only competitor. For two Melons, distinct, Mr. Ocock was first with a seedling and Countess; second, Mr. Messenger, Woolverstone Park, Ipswich. For four dishes of Plums, Mr. McIndoe was first. For the larger collection, only Mr. McIndoe staged. In the class for six dishes of Apples there was a spirited competition, and Mr. Woodward was first, having the best dish of Apples in the show—Peasgood's Nonsuch, magnificent fruit, his other fruits being Warner's King, Lord Suffield, New Hawthornden, Washington, and Emperor Alexander. Mr. Chambers, Beech Farm, Mereworth, Maidstone, had smaller fruit, but a good half-dozen dishes. For six dishes of Pears, Mr. Woodward took the second place, the premier award going to Mr. J. Gibson, Draycot House, Chippenham, with very large fruits. For a collection of hardy fruits, the prize being given by Mr. Watkins, Hereford, Mr. Woodward was far ahead of the other two competitors, staging Triomphe de Vienne, Pitmaston, and Jules Guyot Pears in grand condition, good Nectarines, Peaches, Plums, Apples Alexander and Yorkshire Beauty; second, Mr. McIndoe, with smaller fruits, he having Gooseberries, Cherries, Currants, and Nuts in addition to the fruits named in first lot. For a collection of Apples, Mr. Bunyard, Old Nurseries, Maidstone, was first, staging no less than 120 dishes, consisting of leading varieties, large, and of good colour, Messrs. Cranston (Ltd.), King's Acre, Hereford, being second with 100 dishes, little inferior to the first. For Mr. Bunyard's prizes, three dishes dessert and kitchen Apples, to include his Lady Sudeley, Mr. Woodward was first, having Ribston and Washington; second, Mr. Chambers. Messrs. Woodward and Chambers took the awards for three dishes of kitchen Apples in the order named. Mr. McIndoe was first in the collection for orchard house fruit, Peaches and Nectarines excluded, having a splendid dish of Peasgood's Nonsuch Apple, Plums, Figs, Lemons, Passion fruit, Guava, and others. For nine orchard house trees in fruit there was only one lot, Mr. Bunyard taking first with good trees well laden with fruit, Apples, Pears, Plums, and Peaches being staged.

Vegetables

brought out little competition. For the silver cup presented by the Turner Memorial trustees, Mr. Watte, Glenhurst, Esher, was first, having good

Mammoth Cauliflower, Veitch's Early Rose Celery, Scarlet Intermediate Carrot, Silver Ball Turnips, Satisfaction Tomatoes, Pragnell's Beet, Student Parsnip, Ailsa Craig Onion, good Lyon Leeks, Potatoes and Artichokes. Mr. Wilkins, Inwood House, Dorset, was a very close second; indeed, he had a fine collection, but not put up so well, the Potatoes and Onions being superb. For six kinds, Mr. Payne, Neasdon, was first with a moderate half dozen. For Messrs. Carter's prize Mr. Waite would have been easily first, but included Potatoes, which were not allowed. Mr. Payne took second, the only award given. For twelve dishes of Potatoes there was a brisk competition. Mr. Chopping, Sittingbourne, took first with clear even tubers, Mr. Waite second with larger and well-grown tubers. For a collection of salad there was only one exhibitor. This was shown crowded in a round plate by Mr. Waite. Tomatoes were a nice lot and good. Mr. Howe, who was first, had very fine Ladybird, Perfection, and Silver's Invincible. Mr. Ryder, Orpington, Kent, was second with a fine dish of the old, but good Trophy and Ham Green. For Messrs. Deverill's prize for pedigree Onions Mr. Wilkins staged grand Lord Keeper. The competition was spirited for Messrs. Dobbie's prize for Leeks. Mr. Gibson, Lymincton, Ayrshire, staged perfect specimens of Dobbie's Champion. Second, Mr. Watson, Lanark.

Plant Classifier.

These are, as afore stated, chiefly noteworthy for the various groups. Three classes were provided for groups as usually shown, one of 800 square feet, to consist of fine-foliaged plants only, in which Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, alone exhibits; another of 300 square feet, in which Mr. Hudson, of Gunnersbury House, Acton, is likewise the only competitor and another of 150 square feet, in which Mr. Mellis, Sewardstone Lodge, Chingford, occupies the same position. These groups left nothing to be desired as to the plants' general effect, or as to the quality of the material employed in each instance. It is to be regretted that there were not more entries, but the season has been a trying one, more particularly as regards flowering plants; this is to be clearly seen throughout the show in all the miscellaneous groups as well. In the class for a group of Lilies, the only exhibit is that of Messrs. Bunting and Sons, Lexden Road, Colchester, but it is an excellent one both in quality and culture. It is comprised of fine forms of *Lilium auratum*, as *platyphyllum* and *virginale*, of *L. tigrinum splendens*, *L. speciosum album*, and *L. sp. roseum* in the best varieties of each, and very dwarf plants of *L. longiflorum* and *L. Bate-mannianum*. Dwarf growth throughout characterises this exhibit.

Strange to say, no one competed in the class for tuberous Begonias, the well-known exhibitors each being conspicuous by their absence. The same applies to Cannas, to early Chrysanthemums, and to China Asters. In the two first-named classes and that for Begonias this is a matter of surprise and regret. There was only one entry of Pelargoniums (of any class or of various classes); this was from Mr. Hudson, and consisted wholly of sweet-scented kinds, large specimens and otherwise, in twenty varieties. One entry only was made of Coleus; this was from Mr. Mellis, the plants being well coloured, dwarf, and good; larger never need be encouraged. There were two exhibits of two Palms, these were grand plants in each case, the best pair being that from Mr. Howe, Park Hill, Streatham, the kinds *Scaforthia elegans* and *Kentia Fosteriana*, and the other from Messrs. B. S. Williams and Son, Upper Holloway, of *Areca sapida* and a fine *Kentia australis*. In the class for two Tree Ferns, Messrs. B. S. Williams and Son alone competed, and the same exhibitors had the only collection of eight Crotons, well coloured and healthy plants of moderate, but useful size, and of twelve Palms, excellent examples of decorative plants, not too large, but in the best of health.

For twelve exotic Ferns there were two entries. The best of these by far were those from Mr. Howe, who staged really fine plants, all in good

health, the most noteworthy being *Adiantum Weigandi*, *A. concinnum latum*, *A. Williamsi*, *A. tenerum*, *Gymnogramma schizophylla gloriosa*, *Marattia elegans*, a fine plant of *Nephrolepis exaltata* and another of *Goniophlebium subariculatum*. Mr. P. McArthur, Maida Vale, W., was second. In Fuchsias, again, there was no entry. In the classes for zonal and Ivy-leaved Pelargoniums and Achimenes there was no competition.

Miscellaneous Groups of Plants.

The best of these by far, as regards quality and quantity, was that staged by Messrs. B. S. Williams and Son. This group was a fine feature in the centre of the hall. Two grand Tree Ferns and a large *Kentia* were the central objects, around which were arranged other Palms, with *Dracenas*, *Anthuriums* (*A. Warocqueanum* in fine health), *Phylloanthium Lindeni*, well-coloured Crotons and several Orchids at intervals, as well as *Nepenthes*. Among the Orchids were *Cypripedium Morganii*, *Odontoglossum Alexandræ*, *O. vexillarium*, *Oncidium incurvum*, and *Coccyne Massangeana* (silver gilt Flora medal). Messrs. Shuttleworth and Co., Peckham Rye, had also a large group of Palms and other fine-foliaged plants, many of the Palms being of large proportions and in rude health; this group was well finished off at the base (silver-gilt Flora medal). Messrs. Cutbush and Son, Highgate, had a large group. This again consisted largely of Palms, but was brightened up by flowering plants around the front and sides, making altogether a fine feature (silver Flora medal). Mr. Hudson showed scented-leaved Pelargoniums, standard *Aloysia citridorata* (Lemon Plant) and *Campanulas*. Amongst the Pelargoniums were two large specimens of *P. radula* trained as window screens, each one being 7 feet in diameter at the base, forming an exact semi-circle (silver Flora medal). Messrs. Paul and Son, Cheshunt, had an exceedingly interesting and attractive exhibit in Bamboos, large plants in tubs, and other Grasses, as *Eulalia japonica*, *zebrina* and *variegata*, *Typha minor* and a few excellent plants of *Cannas* in flower (silver Flora medal). Mr. P. McArthur had a capital group of decorative Palms and other fine-foliaged plants, with a few cool Orchids intermixed, forming a good bank (silver Flora medal). Messrs. W. and J. Birkenhead, of the Fern Nursery, Sale, Manchester, showed an extensive group of Ferns in great variety, the plants of decorative and medium size, affording practical information as to the many kinds which are suited for culture in a small state other than those usually seen. To enter into names would require much space; the tinted forms of *Adiantums*, however, should be alluded to (silver Flora medal). Messrs. J. Peed and Sons, Roupell Park Nurseries, S.E., had a showy group of small plants of *Caladiums* in the newer varieties, those shown having very novel and distinct variations in the colours of the foliage (silver Banksian medal). For large specimen Tree Ferns and *Dracenas*, Messrs. B. S. Williams received also a silver Banksian medal. Messrs. Cannell and Co., Swanley, had a novel and interesting exhibit of succulent plants, the best kinds for general culture being shown in fine health (silver Banksian medal). Mr. C. Turner showed well-grown *Liliums* and *Hydrangea paniculata*, forming together a capital group (silver Banksian medal). Mr. H. J. Jones, Lewisham, staged a showy group of zonal Pelargoniums, including Mrs. W. Wright, a shade of dark magenta, very distinct; also early Chrysanthemums and a new pompon Dahlia with real pompon flowers, the plants of this in pots showing it to be thus a capital pot plant for the autumn. With these were included well-grown tuberous Begonias from seed sown this past spring (silver Banksian medal). Mr. Anthony Waterer, Woking, showed four fine plants of *Abies* in *A. pungens glauca* and *A. p. argentea*, the former being the more distinct, the glaucous or grey-green shade of which is exceedingly fine. It is a grand conifer without doubt (silver Banksian medal). Messrs. W. Barron and Sons, Borrowash, Derby, showed a large and varied collection of cut specimens of foliage of orna-

mental deciduous trees, affording a good guide to future planters (silver Banksian medal).

Cut Flowers.

These formed, next to the fruit, the most important feature of the exhibition, but, unfortunately, quickly faded. A four-day exhibition is too long where cut flowers are concerned. The classes, as a rule, were remarkably well filled. Dahlias were splendid, and about nine classes were set apart for them. The chief class was for a collection arranged for effect, and there was a sharp contest for the first prize, which went to Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley, for a somewhat flat arrangement, well put together, however, but quite different from the bold style of that of Messrs. Keynes, Williams, and Co., The Nurseries, Salisbury, who were second. In both cases Cactus, show, single, and pompon varieties were freely used, the centre feature in the exhibit from Salisbury being a fine mass of the variety Harry Freeman, which is of purest white. The displays by these firms were a feature of great interest and beauty. Another great class in Dahlias was that for sixty show and fancy kinds in not less than thirty varieties. There was good competition, and the winner of the first prize was Mr. John Walker, Thame, Oxon, who had very fine blooms, smooth, even, and of exceptionally good colour. We picked out a few of the best, and their names are Harry Keith, Prince of Denmark, Burgundy, Mrs. Gladstone, Colonel, Majestic, T. J. Saltmarsh, J. T. West, Wm. Rawlings, James Stephens, Mr. Harris, John Standish, and Walter Campbell. A good second was Mr. G. Mortimer, Rowledge, Farnham, and he showed especially well the kinds Mrs. J. Downie, Rev. J. Good'ay, William Garrett, Mrs. Gladstone, Muriel, Glow-worm, and Rebecca; whilst the third place was occupied by Mr. Charles Turner, Slough.

It is a pleasure to see so much encouragement given to the Cactus or decorative varieties, which are very beautiful when not too coarse, and embrace now a striking variety of colours. The finest eighteen bunches came from Messrs. Keynes, Williams and Co. They were remarkably fresh and of fine colour. Especially worthy of note were Lady Perzance, yellow; Countess of Radnor, Delicata, Countess of Gosford, Chancellor, crimson-purple; Bertha Mawley, and Lady Skelmersdale, primrose. The second prize was won by Messrs. J. Cheal and Sons, who had the crimson coloured Duke of Clarence, Kynereith, one of the brightest of all, scarlet; Robert Cannell, Marchioness of Bute, white tipped with reddish colour; and Duchess of York, rich terra-cotta; Mr. C. Turner, third. The next important class in the open division was for eighteen bunches of pompons. Here the premier place was occupied by Messrs. Keynes, Williams and Co., who had charming varieties, some highly promising seedlings, others being such well-known favourites as White Aster, Bacchus, crimson, &c., whilst Messrs. J. Cheal and Sons were placed second, with Mr. Turner third. The class for single Dahlias brought again into competition those two great Dahlia growers, Messrs. Cheal and Sons and Messrs. Keynes, Williams and Co. In the present instance the former were first, and had a very fine collection of eighteen bunches, the kinds comprising Annie Hughes, rose-purple; Gulielma, white edged with buff; Duchess of York, scarlet; Evelyn, rose; Formosa, crimson; and Miss Glasscock, white edged with pink; Mr. E. F. Such, second.

The Dahlias exhibited by amateurs were remarkably fine. The chief class was for twenty-four show and fancy kinds, not less than twelve to be distinct, in which one of the most successful amateur growers, Mr. West, gardener to Mr. W. Keith, Cornwalls, Brentwood, was first. His flowers were very good, particularly those of Harry Keith, Alice Emily, J. T. West, W. Rawlings, Dorothy, Ethel Britton and Sunbeam, whilst Mr. T. Vagg, gardener to Mr. J. Theobald, M.P., Bedford, Havering, was second. Mr. West was again the principal prizeman for twelve Cactus kinds, many of those exhibited being his own seedlings. They were excellent, especially the flowers of St.

Catherine, Harry Freeman, Duke of Clarence, Glory of Brentwood, Mrs. Keith and Kyneth. Mr. J. Hudson, Gunnersbury House Gardens, Acton, was a good third. Prizes were offered for twelve bunches of this section of Dahlias by Messrs. Keynes, Williams and Co. Mr. J. T. West was also first for twelve bunches of pompons, and we noted that there is less desire to get them of abnormally large size than a few years ago. Very charming were the varieties Eva, Fair Helen, Achilles, Eurydice and Gipsy. A very good second was Mr. Hudson.

The hardy flowers were excellent. They were exhibited in bold masses and, as a rule, in good variety, showing how many beautiful hardy things are in perfection at this season. The principal class was for a collection, distinct, including also bulbs, and the first prize of £5 was given by Messrs. F. D. Shuttleworth and Co., Ltd., Albert Nurseries, Peckham Rye. There were several fine exhibits, and the first prize was well won by a comparative stranger to London shows, Mr. B. Ladhams, Shirley Nurseries, Southampton, who had a mass of *Liatris pycnostachya*, *Rudbeckia purpurea*, *Heliopsis major*, the blue-flowered *Stokesia cyanea*, *Platycodon grandiflorum*, *Phloxes* in variety, *Helenium grandicephalum striatum*, red and yellow striped, *Gaillardias*, *Centaureas* and Pink Ernest Ladhams, which is referred to elsewhere. Messrs. Paul and Son, The Nurseries, Cheshunt, were a good second, and Messrs. Cocker and Son, of Aberdeen, third. Two amateur classes were those for twenty-four bunches and also for twelve bunches respectively. In the first case the winner of the premier award was Mr. Sage, gardener to the Earl of Dysart, Ham House, Twickenham, who had splendid bunches, the chief kinds *Eryngiums*, perennial *Sunflowers* and *Coreopsis lanceolata*; the Rev. F. Page-Roberts, The Rectory, Scole, Norfolk, a good second. For twelve, Mr. Hudson was a good first. We may mention that Messrs. Kelway and Son, Langport, Somerset, offered prizes for a collection of herbaceous plants. Messrs. Paul and Son had the best herbaceous *Phloxes*; bright colour was contributed by the annual and perennial *Sunflowers*. The first place was taken by Messrs. Burrell and Co., whose exhibit comprised also *Rudbeckia purpurea*, *Helenium pumilum* and a great variety of perennial *Helianthus*; Mr. Sage, second. The tufted Pansies look extremely well as sprays. This was shown by the twelve sprays from Mr. A. J. Rowberry, The Crescent, South Woodford.

The Roses were delightful, although they soon faded, this being due to the drought of the present summer. There was good competition in the open class for a collection arranged for effect, and the first prize was awarded to Messrs. Paul and Son for a fine arrangement, but there was some discussion as to whether pot plants were admissible, as the Rose classes were placed in the cut flower section of the schedule. In the first prize collection well shown were the varieties *Augustine Guinoisseau*, *Dowager Duchess of Marlborough*, *l'Idéal*, and *Marie van Houtte*. Messrs. Cocker and Sons were a very close second; in truth, there was little to choose between the two collections. Their finest flowers were those of *Gloire de Dijon* (finely represented), *Alfred Colomb*, and *Viscountess Folkestone*, whilst the third place was occupied by Mr. Geo. Mount, Canterbury. These comprised the chief Roses in competition in the show.

The Gladioli were a feature of much interest. In the competitive open class for twenty-four, the first prize was awarded to Messrs. Burrell and Co., Cambridge, for a splendid collection, many of them seedlings. Two very beautiful varieties were *Cassandra* and *Bernice*. The former has large, light buff flowers, remarkably distinct, and the latter of a paler tint, more of a yellow shade. Many others were shown, but want of space prevents further enumeration.

Stove flowers were well shown by Mr. Gibson, Halstead Place Gardens, Sevenoaks. We noticed a fine bunch of *Dipladenia Brearleyana*.

Amongst miscellaneous exhibits of cut flowers Messrs. Barr and Son, Covent Garden, had a fine collection of hardy perennials, comprising a mass

of the too little seen *Belladonna Lily*, *Colchicums* in variety, *Lilies*, the sweetly-scented *Funkia grandiflora*, *Rudbeckia purpurea*, *Pentstemons* in variety, *Gaillardias*, a large bank of *Gladioli*, and many other things in bloom now (silver medal). Messrs. Cutbush and Son, Highgate, had a splendid collection, and were given a silver medal; whilst from Messrs. Dobbie and Co., Rothesay, Scotland, came one of the largest displays we have ever seen. It was of very large extent, and comprised a large assortment of tufted Pansies, including all the leading varieties, African Marigolds, China Asters, early *Chrysanthemums*, and a collection of every section of *Dahlia* (silver-gilt medal). Another superb exhibit was that from Messrs. Kelway and Son, Langport. It is impossible to deal at length with the various things, but the *Gladioli* were remarkable for beauty, culture, and variety, whilst *Gaillardias*, *Dahlias*, and *Asters* were shown in quantity (silver medal). We may also mention that hardy flowers were shown by Messrs. E. D. Shuttleworth and Co., Peckham Rye (silver medal). *Dahlias* came from Mr. A. Rawlings, Old Church, Romford, Essex, and Mr. E. Such, but want of space prevents mention of the best varieties. Messrs. H. Cannell and Sons, Swanley, had *Begonia* flowers and a large group of *Cactuses*. Of *Roses* special note must be made of the group from Messrs. Wm. Paul and Son, Waltham Cross, which was given a silver medal. The varieties *l'Idéal*, *Grace Darling*, the *Polyanthas*, and such *Teas* as *Ernest Metz* and *Corinna* were well shown; also the *China Rose Laurette de Messimy* and the *H. P.* Mrs. John Laing.

Nerines.—The brilliant umbels of flowers of the different species of *Nerines*, notes on which appeared in THE GARDEN of August 26 (p. 179), are now unfolding, and at this season of the year are invaluable. Those who may be in possession of large specimens know their value, and although when they reach this stage they are rather expensive subjects to purchase, yet this should not deter their being grown, as single bulbs may be purchased at a comparatively cheap rate, and if well cared for, in a few years they increase in size when all the offsets are allowed to develop. The culture of *Nerines* is very simple, yet each detail must be rigorously attended to, as there is both a decided season of rest and of growth, the former being during the summer months. At this time the soil must be kept perfectly dry, or otherwise the roots and bulbs are apt to decay. I find the most successful results follow when either the pots are placed in a sunny part of an airy greenhouse or in a well ventilated, cold frame. This is much better than storing the bulbs away in some shed or out-of-the-way corner, as here they do not receive that thorough rest which is essential to success. As soon as the flower-scapes show, the soil must be just kept slightly moist, the foliage appearing immediately afterwards. At this time the growth is freer if the plants are placed in a little more warmth, a warm greenhouse or intermediate structure fully exposed to the light being just what is needed. Although over-potting must be strictly guarded against, yet I find the bulbs increase more rapidly when repotted about every other season or up till a 7-inch or 8 inch pot is reached. At no time must *Nerines* be repotted unless the roots have taken full possession of the soil. Potting must take place immediately after flowering. The *Guernsey Lily* (*Nerine sarniensis*) is well known, but it is to such beautiful kinds as *Nerine coruscans*, *flexuosa*, *Fothergilli*, and *Fothergilli major* that I wish to draw attention.—A. Y.

How to destroy wasps.—Wasps have been very numerous and troublesome here, but, thanks to a gentleman residing near, Mr. G. F. Lyndon, who set about destroying their scores of nests, we have now scarcely a wasp about. I asked for the recipe and he very kindly gave it me. It is as follows: cyanide of potassium about ten per cent. solution—a gill is enough for a nest—which should be poured in at the mouth of the nest in the daytime. It will not only kill all in the nest, but every

one flying to the hole will drop dead. I thought daytime dangerous, but Mr. G. F. Lyndon considers it the best time, and says wasps will not sting unless disturbed. If a nest be situated in a building, it is without doubt the safest and best form of taking it. Cyanide of potassium being very poisonous, great care is necessary in dealing with it.—W. EARP, *Highbury Gardens, Birmingham*.

Wasps.—In addition to the many complaints that have been made in various parts of this country concerning the prevalence of wasps this summer, it appears that they are not confined to England alone. In France these insects have been exceptionally numerous and have caused much damage to the fruit.

Retirement of Mr. Manning.—Many gardeners and others interested in horticulture will regret to hear that Mr. Thomas Manning is about to retire from the management of the well-known Royal Exotic Nurseries, Chelsea. For some time Mr. Manning's health has been far from satisfactory. We sympathise with him in his trouble and trust retirement and rest will benefit him and that he may long be spared. After between forty and fifty years' faithful service, he leaves, carrying with him the respect of both employers and employés.

The weather in West Herts.—During the past week the weather has been, on the whole cooler than at any previous time this month, and low temperatures were on most nights recorded. On Monday night a thermometer exposed on the lawn fell to within a degree of the freezing point, making this the coldest night since June 3. On the other hand, the maximum reading in shade to-day (Wednesday) has been 74°, which is the highest for ten days. At both 1 foot and 2 feet deep the temperature of the soil now stands at 62°. No measurable quantity of rain water has come through either of the percolation gauges for four days.—E. M., *Berkhamsted*.

Spiranthes Romanzoviana.—Mr. Burbidge in his review of Mons. Correvon's book (p. 173) is wrong in stating that the illustration of this is from a sketch supplied to Dr. Masters. The original sketch is in my possession, and was sent to me from Dublin in 1885.—A. D. WEBSTER.

Names of plants.—J. B.—*Cataglyphis Russellianum*.—T. Ridge.—1, *Cypripedium superbiens*; 2, *Cypripedium Fothergilli*.—J. Scaton.—*Cattleya granulosa*.—J. Fowler.—1, *Ononis arvensis*; 2, *Leonurus cardiaca*; 3, *Salicornia herbacea*.—J. Todd.—All are varieties of *Laelia crispata*; will notice them next week. —J. Phillips.—*Spathoglottis aurea*, sometimes known as *S. Kimballiana*; 2, *Vanda cœrulea*, poor form and out of season.

Names of fruit.—H. Lea.—1, *Winter Hawthornden*; 2, not recognised.

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No. 1138. SATURDAY, September 9, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

KITCHEN GARDEN.

PREVENTION OF THE ONION FLY.

ACCORDING to reports from different parts of the country, the larvæ of the Onion fly have caused much havoc this year. Generally the plot intended for the Onions is that which was previously occupied with Cabbage or some of the Brassica family. Very likely it will have the refuse of the previous crop left on it for the purpose of being dug in. If there has hitherto been a difficulty in securing a clean crop of Onions, this is a very questionable proceeding, as amongst such refuse the pupæ are apt to harbour, and the better method is to clear it off. The soil should be dug deeply with forks and thrown up roughly, and immediately afterwards have a light dressing of gas-lime—not a heavy dressing by any means, as this might have as bad an effect upon the Onions as the grub, but just sufficient to colour the surface. The soil should now be forked over, and if possible again during the winter. This forking over will bring the pupæ to the surface to be acted upon by frost. If gas-lime is not procurable, use freshly slaked lime. More surface will be exposed if the soil is ridged, the frost also working right through it. The fault with trenched soil for Onions is that it is apt to favour thick necks and late maturing, especially if the season should be wet. If trenching is intended, rather depend upon bastard trenching, which should be done in the autumn. The manuring should take place about a month before the time intended for sowing, at which time the spring precautions should commence. These will consist of dressing with wood ashes, soot, and a little salt, each of which, besides being of great value in combating the fly, is also a capital fertiliser. Lime should not be used at this time; not that it would prove injurious, but it would counteract the influences of the soot and salt. Soot undoubtedly appears to be very distasteful to the fly, and I am sure that a freer use of it would prove highly beneficial in those gardens where these insects cause such destruction. With salt more care is needed, but a little used judiciously is of great benefit. Before the soil is broken down after being laid up to the action of frost, the burned refuse should be first spread on and then a good dressing of soot, the whole being now knocked over with a coarse rake, this operation working the ingredients into the top 2 inches of surface. The whole surface having now been equally trodden over, a mere sprinkling, or about an ounce to the square yard, of salt should be applied. The drills having been drawn and the seeds sown, nothing more will be necessary until the young Onions have grown 2 inches or 3 inches. At about this period the fly emerges from its pupa stage, and soon commences to look about for a suitable place to lay its eggs. This is just within the outer edge of the skin of the young Onions and close to the ground. When attacks are known to have previously taken place, it is a very unwise policy to wait until the effects of the injury are visible before applying a remedy.

It is better by far to adopt the same tactics as with Celery, viz., dusting the foliage over with soot, or syringing with well-diluted petroleum. A decoction of quassia and a suitable insecticide mixed with it would also be useful. I have seen gas-lime used for the same purpose, but the other remedies would be the safest, as with these there would not be any likelihood of injury. By syringing the whole quarter over at weekly intervals, the flies would not care to settle. There is no mistaking the presence of the grub when once the work of destruction has begun, for the young Onions take on a yellow cast and the tops fall over. When this occurs, although there is not much likelihood of making a clearance, it may be checked considerably by carefully digging up all affected plants and burning them. If merely pulled, the grubs are apt to be left behind. As there are two or three generations until the season occurs for them to enter the pupa stage, remedial or preventive measures should be persisted in up till midsummer. As the Onions are harvested, take care that all trimmings are cleared away and burnt.

Transplanted Onions are seldom, if ever, affected, and this has led to the plan, where the grub is such a pest, of sowing the seed in a prepared cold frame, and as the plants become large enough they are transplanted. Onions treated in this way are very likely to grow to a large size, and there is also the advantage of their ripening up well. A. YOUNG.

Large Cabbages.—The hot, dry summer has done much to shake general confidence in large varieties of the Cabbage family. Really good ones have been few, and breadths usually grown for a summer supply have been rendered valueless by combination of drought, aphids, and caterpillars, so that they have only furnished food for pigs. I cannot see what good it is to encourage the production of big Cabbages at any time in private gardens. They may do for the market grower, but they are, however produced, strong and gross, and the reverse of nice however cooked. Size has now to give place to quality, and although the progression is slow, it is sure. Very much blame for this, however, is due to the somewhat absurd fondness of judges at vegetable shows for size, and especially so is this noticeable at exhibitions of cottagers' produce. All the same, in a few years we shall see bigness as an element banished, and quality, as marked by beauty, refinement, and moderation in size, made a primary factor in judging.—A. D.

Tall Peas and mildew.—This has been a trying season for Peas. During the seventeen weeks of dry weather I was able to keep up the supply by heavy mulchings and giving them good soakings of liquid manure water. Although the plants never attained their usual height, they kept free from mildew; but as soon as sufficient rain came to soak the ground, the mildew set in. Fortunately, I had sown several rows of my old favourite *Ne Plus Ultra*. This has stood the mildew better than any other kind, has given an unbroken supply, and now (August 20) I can still gather good dishes. Several other kinds have succumbed. Just before the rain came early in July I sowed several rows of different kinds of dwarf-growing sorts; they came up well enough, but will be of little value. The tempts are injuring late Peas very much. So bad were they, that I found it necessary to cover the rows with nets. I have heard the same complaint from neighbouring gardeners.—DORSET.

Autumn Cauliflowers.—I have often found that such early sorts as *Snowball* sown in February has been in before such sorts as the *Early London* sown in August or September. No doubt Mr. Yeung (p. 160) hits off three of the most potent causes of failure with autumn-sown Cauliflowers. They are sown too early, coddled too

much, and pricked out in unsuitable soil. Most of us have grown good Cauliflowers autumn-sown. With infinite patience, care and skill, the result has been satisfactory, but the labour has been out of proportion to the result. I began gardening in November, and one of my duties was to ventilate and cover a plantation of Cauliflowers under handlights, and I will never forget the work and the worry of it, and having saved most of them from frost and fogging off, fully 50 per cent. bolted instead of mellowing into full, sweet flowers. The mixed experience of this partial success has haunted me ever since. I have seen very many worse examples of autumn sowing. It is not necessary either to gain time or quality. It may, if successful, give better results. We can wait till the *Snowball*, *Early Erfurt* and *Early London* sown in succession from January to March will afford a sufficient supply of early Cauliflowers. First sowings of Autumn Giant and Walcheren may also be made under glass in April, to be succeeded by others in the open. By this simple means I shorten the period of Cauliflower care by four or five of the most trying months of the year and may cut just as early and as fine heads, as Mr. A. Young will probably admit.—CALE DONICUS.

BLANCHING CELERY.

IT matters little how well Celery may have been attended to previously if the blanching is not well carried out. It must also be borne in mind that, although blanching is all-important in the production of good edible Celery, yet there must be the foundation laid beforehand to ensure good solid hearts pushing up. It will therefore be seen that if the plants are small or undersized for the variety, however carefully blanching may be done, good solid-hearted Celery will not be obtained. For this reason if the plants should be now undersized, it will be much better to encourage growth as much as possible before any soil is added unless it should be as a top-dressing, by keeping the trench in a well-moistened state with an occasional application of liquid manure or a light sprinkling of salt. Nitrate of soda will also hasten on the growth of backward Celery. With the growth in a free state and well up to time, clear water will be ample, as with a free use of liquid manure or of nitrate of soda the plants become coarse. Over-feeding Celery leads to inferior quality, and is also against its keeping well after earthing up has been completed. Huge sticks may certainly eventually be had, but on the approach of winter they quickly suffer from damp, and when this sets in, the leaf-stalks decay wholesale. Moisture being a necessity for the securing of high quality in Celery whether in a forward or backward condition, this must have attention before earthing commences, for although it is possible to water Celery after the first earthing, yet with the soil in a well moistened condition prior to this operation, it invariably keeps moist enough afterwards to lead to a satisfactory after growth. The first earthing must not be confounded with an ordinary top-dressing, after which water may be applied as often as before. Before blanching proper commences the trenches should be well watered, giving sufficient so that the soil is thoroughly moistened. Earthing up Celery with the soil about the roots in a dry state, if it does not exactly lead to bolting, renders the quality poor, the heads being tough and insipid instead of crisp, sweet, and nutty in flavour. There is also the danger of being in too great a hurry with the blanching. A good guide is to have sufficient well in hand for use, the blanching of what should be needed for the main winter crop being left some time longer. This latter lot I like to have well top-dressed, as this, besides

keeping the outer leaves well up together, encourages a free growth, and there is also the certainty of its receiving the benefit of the rains direct to the roots. Without this top-dressing, the plants, if left to themselves, will, if the growth is free, take on a spreading habit, the outer leaves falling out, when there is a difficulty of forming symmetrical heads.

Some growers have their favourite methods of blanching, such as surrounding the stems with stout brown paper, or collars purchased for the purpose. Others go to the trouble of surrounding the stems with sand, ashes and burnt soil, but whatever advantages these may have, well-worked soil is the most generally used, and, besides being the most convenient, invariably results in securing well-blanching produce. Whatever extraneous aids are used, the brown paper, in conjunction with the soil, will prove the most suitable, but I only recommend its use where hitherto clean Celery has not been secured through the aid of soil alone. Heavy soils are supposed to be the worst to deal with, but with a free use of lime and burnt refuse mixed with the staple in the ordinary course of cropping, I have not had any difficulty in this respect. If, on turning up the soil for earthing, it should prove lumpy, the best addition I find is to wheel some burnt refuse along the sides, this being worked in with the soil as it is being thrown up, of course taking all ordinary precautions to get it as finely divided as possible. As fresh soil is added, the plants should be drawn up together and tied with a piece of matting, as this will prove a much more convenient method than having one person to hold each up separately whilst another adds the soil. Three earthings are generally sufficient, and these at intervals of a fortnight. After each earthing, take care that the matting is cut away, for if this were allowed to remain, the hearts would become crippled. To ensure a clear growth after earthing, the hearts, except at the final earthing, must be kept in advance of the soil added, or there will be danger, if the stems should be heavily weighted with soil and the hearts thereby enclosed, of the stems bulging; consequently the heart growth would be crippled. At the final earthing I like to use plenty of soil as a protection from frost, taking care, however, that the sides of the ridges are brought up sharply and made smooth, this being an excellent protection from wet. It is when the soil is thrown up loosely with a rough outer surface that the wet penetrates. As a safeguard from slugs, I have found salt a good antidote, a little being sprinkled over the soil at the first earthing. Lime may also be used for dusting over the soil at each earthing, or even soot may be used.

A. YOUNG.

Ordinary exhibition Onions.—Whilst there is such a tendency on the part of many persons to favour big Onions simply because they are big and no more, it will not do to lose sight of the fact that under no conditions can bulbs produced under the somewhat artificial system of culture needful to grow them be ever profitable or useful, except where they are either capable of winning valuable prizes, or may be sold to seedsmen for stock or exhibition uses. These big Onions can only be produced on soil that is over-manned, deeply cultivated, are planted very thinly, and are from seed sown quite early in the year under glass. The rule is to put them out into rows 18 inches apart and some 15 inches apart in the rows, so that the average product per rod cannot be high. Then these huge bulbs will not keep. Very often one half of them are rotten by the end of November, and only the very firmest will keep sound in the spring. It would be a good plan to demand of competitors that all Onions exhibited should, like Carrots,

Parsnips, Beet, Turnips, &c., be sown in the open ground. That would help us to get rid of Onion monstrosities, and induce gardeners to take greater interest in the production of profitable and useful crops. There has been a very interesting trial of Onions at Chiswick this year, and we have there seen the numerous varieties sown, grown and displayed in their true form. The result is, therefore, far more instructive as well as useful than would have been growth under the artificial conditions now employed to produce the giant bulbs that are of so little service when obtained.—A. D.

Celeriac blanched or green—"S. H. B." in praising this as a winter vegetable is silent on this vital point. It is only a Turnip-rooted Celery fit for soups if grown on the surface, as it mostly is with half starveling culture, as your correspondent describes, but with good feeding and a final earthing up or blanching, Celeriac may be made tender and nutty, and as useful for salad or cheese as Celery. Neither can there be any doubt of its excellent keeping qualities. Doubtless fish manure, salt, and guano prove valuable stimulants. Celeriac also does well planted in shallow trenches filled with rotten manure exactly in the same way as Celery. In households where there is a great demand for stewed Celery, as well as Celery for soup, Celeriac would prove a most valuable relief. Some also prefer Celeriac to Celery to their cheese, as it is firmer in texture and more nutty.—D. T. F.

The hardest winter Lettuce.—In these days of novelty and change it is refreshing to find "S. H." still recommending the Hardy Hammer-smith as the best winter Cabbage Lettuce, and the Brown Cos as the hardest Cos. I presume he means the Black-seeded Brown Cos, that is the orthodox variety, though I believe this is almost the only known example in which such a quality as increased hardness is associated with the colour of the seeds. In the case of Spinach, for many years a similar quality was associated with the roughness or prickliness of the seeds. But that is now found to have been a fallacy, the smooth-seeded or so-called summer Spinach being proved to be just as hardy as the Flanders or prickly. Has any reader fairly tried the White-seeded Bath Cos Lettuce as against the black for winter?—D. T. F.

SHORT NOTES.—KITCHEN.

Pea Autocrat.—Although the season has been so unfavourable for late Peas, this variety has succeeded the best of any. This being so, we may well look forward to its succeeding grandly under more favourable conditions in future seasons.—A. Y.

French Bean Ne Plus Ultra.—What a splendid Bean this has been this season—in fact, I never remember seeing any variety so free in producing pods. Judging by the reports now appearing in THE GARDEN, French Beans even have not been a success in all cases, whilst with me they have never been better.—A. Y.

Onion Veitch's Main-crop.—When at Taunton show I was pleased to see a splendid dish of this fine main-crop Onion taking first prize, showing it still holds its own. I doubt if many of the large, soft-growing kinds are ever worth the trouble from a keeping point of view. It may be worth while asking how long many of the enormous-sized bulbs will keep.—J. C. F.

Potentilla fruticosa.—We have a plant of this shrubby Cinquefoil which has been in flower for several weeks, but is now, at the beginning of September, brighter in its profusion of yellow flowers than ever it has been. Resting on the deep green foliage they make quite a charming picture. The shrub itself is of neat rounded habit, and is 2 feet high by about 3 feet in diameter. The flower is an inch across. The species is spread over the Northern Hemisphere, and occurs wild in the north of England, in Scotland, and in several localities in Ireland. It is certainly worth growing more extensively than at present it appears to be, especially as it is not very particular as to soil,

one of medium richness being the best for obtaining abundance of bloom. So few shrubs are in flower at this season, that it deserves consideration on that account alone. Two other shrubby Potentillas are in cultivation, *P. Salesovii* and *P. glabra*, both similar in character to *P. fruticosa*, but with white flowers.—B.

ORCHIDS.

LÆLIA CRISPA.

THIS has been grown in our gardens for between sixty and seventy years, and I remember that some thirty years since it was despised on account of the lip being so closed up, that its fine dark purplish colour was completely hidden. I am now in receipt of a dozen flowers of this species from J. Todd, asking me to give him my opinion respecting them. Beautiful although they all are, I do not see anything out of the usual run of varieties, saving in Nos. 3 and 7. There does not appear to be any one of them with the closed lip which I have spoken of, but this may be accounted for by the treatment which the plants now receive, being so much more in accordance with their requirements. No. 3 appears to be the same as the variety known as *purpurea*, having the sepals and petals slightly flushed with rosy purple, the lip wide, open in front, and of a rich deep velvety purple, with radiating veins of a darker hue, which run out on to the white margin. This is a magnificent variety and worthy of all care. No. 7 is also a good form, but nearly all the rich colouring is obliterated. It has broad sepals and petals, the latter undulated at the margins and of the purest white. The lip is longer than in the last-named variety, well open in front, crisped at the edges, throat stained with pale yellow and having straight veins of rosy purple.

These are the only flowers in the batch worth special recognition. The others are all very fair forms, excepting No. 9, which I would advise "J. T." to destroy. *Lælia crispa* was named *Cattleya crispa* by Lindley, but more modern authors, having found that it had eight pollen masses, changed it to *Lælia*. It is, however, best known to Orchid growers as *Cattleya crispa*. The plant appears to be somewhat widely spread in Brazil, mostly in the southern portion. It is found at some 2500 feet to 3500 feet elevation, and consequently should be grown in the cool part of the Cattleya house. It begins to grow in the winter months. Care must be taken not to wet the young growths at this season. In fact it requires exactly the same treatment as *Lælia purpurata*, but it must be borne in mind that this latter plant is finishing up its growths through the winter, while *L. crispa* is just beginning them at the latter end of the dull season. It does not like its roots to be overloaded with soil, which should consist of good brown fibrous peat fibre and chopped Sphagnum Moss, which should be made firm. The pots should be thoroughly well drained, and water to its roots must be given sparingly.

W. HUGH GOWER.

Waillesia paludosa.—"W. T. W." sends me flowers of this plant. They appear to have been open a very long time, but there is sufficient colour left to see that it is the ordinary variety I noted some time back as in flower at Mr. Williams' nursery, Upper Holloway, where it is named *Dipodium paludosum*. I can see nothing to connect this species with that genus at all, for it is not a leafless plant, neither is it terrestrial, and so, follow

ing Lindley and Reichenbach, I must consider this plant a *Wailesia*. Griffith appears to have been the first to discover it in Malacca and named it *Grammatophyllum*, but I cannot see what resemblance there is in this plant at all to that genus. It requires a very moist place, but I do not think so warm as many imagine.—W. H. G.

***Lælia elegans* Turneri.**—T. Jennings sends me a flower of this plant, asking if it is true, and from the spatulate shape of the lip and its rich deep colour, I have not the slightest hesitation in pronouncing it quite the true form. The flower now before me measures fully $6\frac{1}{2}$ inches across; the petals are slightly broader than the sepals, both of a deep purplish rose; lip three-lobed, the side lobes white towards the base, suffused with rose colour at the tips; front lobe spatulate, the entire surface deep purplish maroon; the flower is thick and fleshy in texture and was cut from a scape bearing six blooms. I have seen eight flowers produced from a single peduncle, but in this case the plant was very strong and one growth only was flowering. It requires a good rest through the winter months, but not over-drying, or the bulbs are apt to shrivel, and when this occurs the plant requires a good deal of management to restore it to its accustomed health. Give rest rather by reducing the temperature, only giving enough water to maintain the bulbs in a plump and healthy condition.—W. H. G.

***Miltonia Schröderiana*.**—A very nice flower of this plant comes to me from Mr. Dorman, of Laurie Park, Sydenham, under the name of *Odontoglossum Schröderianum grandiflorum*. The flower is a very fine one, but I and many others appear to have been led astray in some manner with these two plants, and I must confess never to have known, and do not at the present know any other *Odontoglossum Schröderianum* but the plant named above. I first saw it some few years ago, and I then expressed the opinion that the flower more certainly resembled that of a *Miltonia*. I also saw this plant flowering with Mr. Measures at The Woodlands a short time afterwards under the same name, and in several other places, and now this fine form comes from Mr. Dorman. It is a very handsome species, introduced about eight or ten years since by Mr. Sander from Central America. The dorsal sepal and the petals are erect, the lower sepals divergent, white at the base, the rest dark chestnut-brown, tipped with light yellow; lip almost pandurate; the base of the lip is bright rosy purple, the upper portion pure white. The flowers are very fragrant.—W. H. G.

***Cypripedium Sedeni*.**—Mr. Rapley, of the Gardens, Harrow Weald House, Stanmore, sends me a flower of this beautiful hybrid having two distinct lips or pouches. These do not improve either its symmetry or its beauty, and such freaks are not desirable. This plant, which is a cross between *C. Schlubi* and *C. longifolium*, is one of the most lovely Lady's Slippers that I know. When it gains strength, the number of flowers it will carry is quite surprising.—W. H. G.

***Cypripedium spectabile*.**—Noticing in your valuable paper some correspondence concerning the difficulty of growing successfully *Cypripedium spectabile*, leads me to state that it is native here in our shady ravines. The banks of the latter average from 50 feet to 90 feet deep. On slightly shelving spaces, generally 15 feet to 20 feet below the top, the species thrive. The surface soil is, of course, leaf mould, under which lies a rather stiff yellow clay. The situation is rather moist from the time of the April thaws until July 1. By this time the bloom is nearly over. By August the ground is extremely dry, and remains so until the autumn rains in October. I gather plants while in bloom, cutting deeply around them with a spade and thus obtaining blocks of soil some 6 inches square and 8 inches to 10 inches deep. On the upper edge of a ravine bank bordering my summer home I excavate irregular shaped beds to a depth of 18 inches, filling partially with leaf-mould. The blocks containing the plants are then put in closely, like paving bricks; sifted leaf-mould is then worked into the interstices, and a

2-inch layer spread over the whole surface, when a good watering completes the work. After then, no more attention is paid to the group. Being beyond the border of the lawn proper and amid the precincts of Nature's garden, I allow anything to grow up among them, they having to fight for existence, as they did in their habitat. Strong-growing imported weeds are alone demolished. One bed of some thirty plants has held its own for the past three years, and is a marvel of beauty when in bloom; colonies of two or three plants leading to another group planted two years ago do well. No artificial water is given them; no winter protection save what leaves naturally fall from the overhanging boughs. They get the direct sunlight up to 10 a.m.; after then they are in the shade.—W. C. EGAN, *Egandale, Highland Park, Illinois*.

***Oncidium Wheatleyanum*.**—This is one of the most beautiful Orchids I have ever seen. The flowers, thickly set upon the spike, are each nearly 2 inches across. The spike carried upwards of thirty flowers, making a most imposing display; the sepals and petals are spreading, nearly equal, of a rich, bright brownish crimson bordered with yellow; lip somewhat uniform, rich golden yellow, with a marginal border of deep chestnut-brown or crimson, the whole surface regularly and distinctly corrugated; at the base are two golden yellow auricles, and the claw and for some distance upon the blade is a large stain of deep maroon-crimson of a velvety appearance. These flowers were sent to me by Mr. F. Wheatley, of Ringmore, Teignmouth, to whom I have dedicated it, accompanied with the following particulars: "The plant which produced these flowers was purchased as an imported specimen with one or two others as *Oncidium Gardneri*."—W. H. GOWER.

FERNS.

CHOICE STAG'S-TONGUE FERNS.

(ELAPHOGLOSSUMS.)

This family includes many beautiful plants, but I have usually found them ignored because they have simple fronds, many people forgetting the fact that a simple fronded Fern makes an agreeable and effective variation. *Elaphoglossums* are widely distributed throughout tropical countries, and one species extends to Madeira in the northern hemisphere. They are called *Acrostichums* by many authors, but in my estimation they have little in common with these, and their free venation compared with the reticulated veins of *Acrostichum aureum*, the typical plant in that genus, is in itself at once sufficient to distinguish them. These *Elaphoglossums* being all simple fronded, many of the so-called species resemble each other very closely, but the fertile fronds, which are entirely covered with sori on the inside, render them distinguishable. *Elaphoglossums* are easily grown, requiring only a mixture of light turfy loam and peat, the whole made sandy. The drainage, too, must be good, as they like an abundant supply of water through the growing season and a moist atmosphere. I dislike the use of the syringe for overhead watering, for some of the kinds have scaly fronds, and these chaffy scales hold the water, to the great detriment of the plants. To those kinds having smooth and shining fronds, syringing apparently does no harm. I will here mention a few of the most beautiful and distinct kinds which I have myself grown, some as specimens for surmounting a pedestal, some as basket plants, and others in a Wardenian case.

E. CALLIFOLIUM is a fine species, which has been known in English gardens for upwards of

fifty years. It has fronds some 12 inches or 18 long, proceeding from a creeping rhizome; the fertile frond is about 1 foot long, narrower than the barren one, deep shining green above, covered with sori beneath. On account of this being a smooth and shining surfaced plant, it may be syringed with impunity and thrives well in the Wardenian case. It is also known in gardens as *E. brevipes*.

E. CRASSINERVUM.—This is another smooth-fronded form. The fronds attain to 18 inches in length by $2\frac{1}{2}$ inches in breadth, waved and undulated in the way of *Scolopendrium crispum*. The fertile frond is much shorter and also narrower.

E. CONFORME is a dwarfier species, with plain shining green fronds, which are thick and leathery in texture, the barren ones about 1 foot long, the fertile ones about half that size. This plant appears to be widely spread in its native home, and may be used either in the fernery or in the Wardenian case.

E. CUSPIDATUM.—This does not like water overhead. It is a handsome dwarf plant, the fronds from 7 inches to 8 inches in length; the fertile fronds about half the size of the barren ones. It makes a handsome small specimen for the front row in the stove fernery.

E. GARDNERIANUM.—A somewhat rare plant, and I do not remember to have seen more than two specimens. The fertile frond is in some cases longer than the barren one, which is from 7 inches to 8 inches long and about 1 inch broad. The fertile frond is less than a quarter of an inch in breadth, dark green above, clothed with sori on the under side. It makes a handsome specimen.

E. HERMINIERI.—This is a beautiful species, and makes a handsome basket plant. The fronds are from 18 inches to 3 feet or more in length, thick and leathery in texture, the upper side of a bright lustrous blue. The fertile fronds are quite small, never more than 5 inches or 6 inches long, but broad in proportion. The first living plants that came to this country were sent by my friend Mr. Prestoe from Trinidad, and Sir William Hooker told me that it was the first time it had been found in that island. Its bright metallic blue colour renders it very distinct.

E. PILOSELLOIDES.—This is a small, but elegant species. It seldom makes fronds more than about 3 inches high, more than half of which is naked. It is a most interesting plant, but it is also very rare.

E. SCOLOPENDRIFOLIUM is a handsome kind, having fronds some 12 inches or 18 inches long, fringed at the margins with long hairs, the colour pale green. The barren fronds are spreading, the fertile ones small and erect.

E. SQUAMOSUM.—This is a most interesting and remarkable plant, but rare in cultivation, although it grows so near to us as the Azores and Madeira. The fronds are narrow, about 8 inches or 9 inches long, densely covered with large reddish brown scales, and in a specimen which I received from Capt. Toppin gathered in Jamaica the stipes are thickly covered with black scales.

E. UNDULATUM.—The fronds of this are each about a foot or 18 inches long, from $2\frac{1}{2}$ inches to $3\frac{1}{2}$ inches wide, and light green in colour. The fertile frond is much smaller. It comes from the island of Dominica, and makes a remarkably handsome pot specimen in the stove.

WM. HUGH GOWER.

***Hypericum patulum*.**—This species and the now well-known hybrid *H. Moserianum* are amongst the gayest of our outdoor shrubs at present in bloom. *H. patulum* is a native of Japan, where it is said to grow to a height of 6 feet, but I have not heard of it being more than half that height in this country. With us, at any rate near London, the shoots are killed back nearly to the ground in winter, but push up vigorously again the succeeding spring. This year the annual growths are shorter than usual, measuring little more than 1 foot in length; they are quite slender and somewhat arching, bearing ovate-lanceolate leaves which are pale green above and glaucous

underneath. The flowers are produced in terminal cymes, each one measuring nearly 2 inches across, the petals being nearly round and of a bright yellow. The hot summer has no doubt helped to produce an unwonted abundance of bloom this year, more especially in positions where sufficient moisture has been available for the roots. Our plants commenced to bloom early in July, and at present are as bright as ever. For furnishing the front of a border of shrubs, this *Hypericum* planted in groups proves very useful. It should, however, be always given a sunny sheltered position and treated liberally in the matter of soil and moisture. It was from this species crossed with *H. calycinum* that the beautiful hybrid *H. Moserianum* was obtained.

NOTES OF THE WEEK.

Zephyranthes candida.—It is not often one sees this charming flower flourishing in gardens, and many consider it too tender, but in a favourable spot at Kew, warm, sunny and sheltered, it has withstood recent severe winters which have killed many supposed hardier things. It is now in full bloom.

The Colchicums are commencing to bloom freely, and the beautiful *C. autumnale* is very pleasing dotted about the Grass, as on the Cumberland mound at Kew, where the autumn *Crocus* makes a shimmering of soft purple. In a border several kinds are in bloom, comprising *C. autumnale* and its double varieties, *C. byzantinum*, *C. variegatum*, finely marked, and *C. Parkinsoni*.

Solanum Jacquinii.—This is a bold and distinct type for sub-tropical bedding. The leaves are deep green, spiny, and the flowers plentifully produced, whilst individually they are large and tinged with lilac, the stamens rich yellow. It is a very charming kind, but should be either kept by itself or used as a margin, so to say, to beds filled with larger growing things.

A border of the Belladonna Lily.—We have never seen a finer mass of colour than is presented by a border of the familiar Belladonna Lily (*Amaryllis Belladonna*) that skirts the Orchid house in the Royal Gardens, Kew. The specimens are large and the flowers delightful—rich pink—against the chocolate-coloured stems. The position here exactly suits the plant, as it is sunny, sheltered, and the soil light.

Pentstemon barbatus coccineus.—A mass of this is in full bloom near the Palm house at Kew. It is a *Pentstemon* that requires grouping to get the full effect of the graceful spikes of flowers, each of a tubular form and bright scarlet colour. The stems rise quite 3 feet in height, and have a distinct and graceful aspect. A succession of bloom is maintained, so that throughout the autumn this fine plant is attractive. It is fairly hardy, not difficult to grow, and is better known as *Chelone*.

Tea Rose Mme. Joseph Schwartz.—We recently noticed a group of this beautiful Tea-scented Rose in full bloom. It had given handfuls of flowers for many weeks past. One does not hear much of this fine variety, but it is very charming, especially when planted in a good group. The flowers are white, tinged with yellow in the centre, and those much exposed to the sun take on quite a peach shade. They are very strongly scented, full, and well shaped.

The Portulacas enjoy a warm season, and they have certainly had everything in their favour this year, although it has been almost too dry for them, as in the case of annuals in general. A bed of *Portulacas* makes a brilliant display of colour, and at Kew they are in full beauty now, the flowers showing a great range of colour from carmine to crimson, through shades of rose and pink. The seed should be sown in heat and treated as for half-hardy annuals. It is advisable to pot off

the seedlings singly, as then they bloom more quickly, and certainly more strongly. Raise the beds a few inches above the level to throw off rains, as wet is fatal to this brilliant annual.

An Apple from Ireland.—I send you here-with a specimen of a little-known south of Ireland Apple called Gibbon's Russet. About Cappoquin and Lismore in old cider orchards it used to be called Cherry Brandy. It was the favourite Apple of my grandfather. I remember my uncle Richard, long since dead, also prized it for mid winter use above all others. Put this fruit in a drawer for two or three days, close it up, and you will get a whiff of perfume from the fruit or drawer the third day. I should like it known in England.—W. B. HARTLAND.

Aster Amellus.—One of the most beautiful effects in the Royal Gardens, Kew, is got by planting bold groups of this fine Starwort, which is, with *A. acris*, the best of the early-flowering kinds. The flowers are rich violet-purple, large, and produced in great profusion, being in excellent contrast to the Sunflowers and other perennials that are in perfection at this season. One might see still more of the Starworts in gardens and less of the *Helianthus*, which are much alike in colour, and if overdone, the result is a surfeit of yellow.

Hedychium coronarium.—Few stove plants are more beautiful than this old favourite. There are several specimens in bloom in the Water Lily house at Kew, and one in particular is a picture of luxuriant growth and pure white flowers. Each stem bears a large crowded head, the individual flowers of the purest white, except a suffusion of pale lemon-yellow at the base of the upper segments, and they exhale a powerful fragrance like a *Gardenia*. This fine species was introduced from the East Indies as far back as 1791, and *H. flaves-cens*, also in bloom, in 1822. The latter has smaller and yellow flowers. It is not so beautiful as *H. coronarium*.

Lilium speciosum album.—One of the finest masses of this we have seen is in the Royal Gardens, Kew, where it is now in perfection. No other Lily is associated with it, and one sees a mass of purest white, the plants rising from a groundwork of the white Calluna, also in bloom now. This Lily is succeeding remarkably well at Kew, and such bold groups of one distinct kind give much pleasure. It flowers later than the type, which is practically over, although all plants, Lilies included, are blooming very early this year. A delicate fragrance is exhaled from this beautiful white Lily, very agreeable in the cool of the evening.

Dried fruits and vegetables.—The exhibit of dried fruits before the fruit committee of the R.H.S. at the exhibition recently held at the Agricultural Hall, Islington, proved extremely interesting. It must be remembered that this process of preserving fruits and vegetables is only in its initial stage in this country, so I expect we shall progress slowly, for the present at any rate. The only faulty kind amongst several appeared to be the Peas. These certainly had a very discoloured appearance, and the question is, Are these when cooked equal to those which are bottled, as these latter when well done, turn out almost equal to Peas fresh gathered?—A. Y.

Fuchsia gracilis.—Compared with the popular type of *Fuchsia* in regard to size, the individual flowers of this species would be considered poor indeed, yet they are borne in such great profusion and accord so well with the foliage and habit of the plant, that one could not wish them other than they are. This species is of tender growth, and is admirably adapted for covering pillars and rafters in the cool greenhouse. In the conservatory at Kew, as well as in the large temperate house, it is used for this purpose, and just now the plants are very delightful in the remarkable profusion and grace of their blossoms. Some of the plants are 12 feet and 15 feet high, and the flowers being pendulous, such a position above the level of the eye

shows their bright jewel-like character to best advantage. The petals are purple and the sepals scarlet. The leaves of the ordinary form are green, their small size according with the dimensions of the flower, but there is also a variegated form which will be found useful for lighting up shady corners of conservatories, where an unrelieved mass of greenery is often apt to prevail. This plant also flowers quite well in shade. The green form may be used out of doors; it is almost as hardy as *Riccartoni*, and although killed to the ground every winter, sends up during summer luxuriant shoots to a height of 3 feet or more, which, as the season advances, become crowded with flowers. An effective combination may be obtained by planting the white-flowered *Galtonia candicans* in a bed of this *Fuchsia*.

New Water Lilies.—Flowers of more new Water Lilies come to us from M. Latour-Mariac, who evidently has fresh surprises in store. The flowers sent show wonderful advances in colour. *N. Mariacea ignea* is an addition to that remarkable series, and has deep purple-red flowers. Another kind, *N. M. rubra punctata*, is very interesting and striking, the colour, rosy red over a lighter ground, being laid on, as it were, in innumerable little dots. A third kind is very charming, a soft salmon and rose tint with a rich yellow centre. These Water Lilies are by far the most important things that have been raised in latter days, and henceforth water gardens may be very delightful and beautiful.

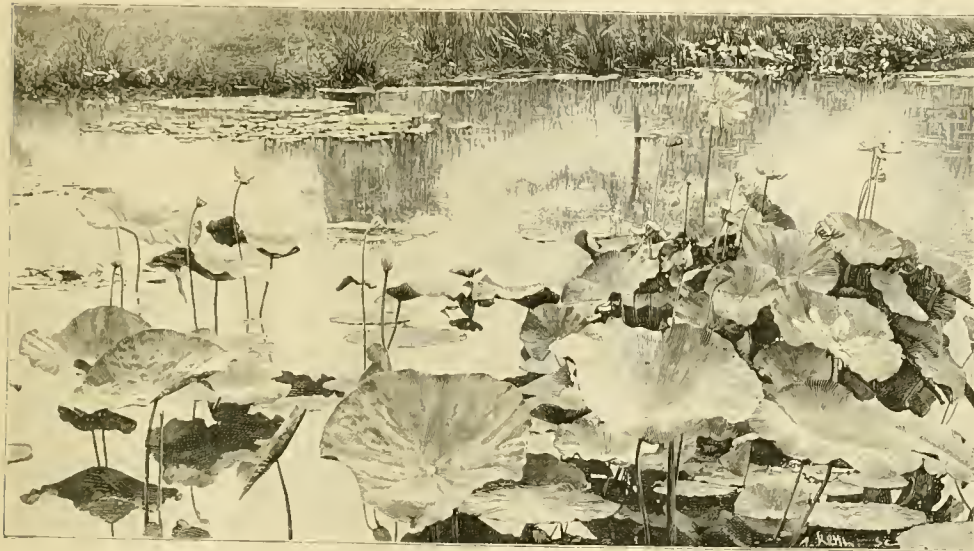
Nerines.—I hope that "Grower" will allow me to rectify a slight mistake in his statement about *N. Manselli*, but which error is likely to cause confusion. The raiser of this variety is Mr. O'Brien, who was at the time with Messrs. E. G. Henderson and Son. He raised several fine varieties. Among his seedlings was a special batch, which looked all alike, and a bulb or two having flowered, it was sent out as *Nerine atrosanguinea*. Mr. Mansell, as he himself in a letter to myself stated, ordered a bulb of this, and hereafter it turned out a very distinct late-flowering *Nerine*, which, as he was a great amateur, and by the help of his gardener, Mr. Peters, an excellent cultivator of the genus, very appropriately had his name. The colour of the flowers is not a deeper shade of *Fothergilli*, but a bright, deep rose colour. My statement is based on a bulb which was presented to me by Mr. Mansell at a time when it was still extremely rare.—MAX LEICHTLIN, *Baden-Baden*.

Tecoma radicans (the Trumpet Flower).—The other day at Hampton Court I noticed a fine old example of this North American climber growing against a wall and flowering very beautifully. Although it is always best when given a place in full sunshine on a south wall, it is hardy enough to dispense with even that protection. For the sake of greater freedom in flowering, the former position should, if possible, be selected; we have, however, a plant growing in an open border without shelter or other support than a stout stake, which is now very nicely in flower. In the matter of sunshine, the past summer has been one that especially suited it, approximating more nearly what it obtains in its native home in the States of Carolina, Florida, &c., than it will very frequently experience in this country. I am told by a friend who has just returned from a visit there that, as seen in its native condition growing over trees, the long festoon-like shoots, with their terminal clusters of orange and scarlet flowers, make a marvellously brilliant sight, the beauty of which is heightened by the crowds of humming-birds that flock to the plants when in bloom. When grown on a wall, the shoots should be allowed to assume their natural mode of growth as much as is convenient; when closely nailed in, the grace of its pendent habit is destroyed. Our plant is cut hard back each winter, its main stem being now as thick as a man's arm. The flowers are of the shape suggested by the popular name of Trumpet Flower, the tube being 3 inches in length, the mouth of the corolla expanded and recurved. The species is said to have been in cultivation in England 250 years ago.—B.

FLOWER GARDEN.

THE SACRED BEAN IN NEW JERSEY.

THE engraving here given illustrates more clearly than the recent woodcut in *THE GARDEN* the habit of *Nelumbium speciosum*. This plant is a rambler, and except when the runners are confined or have become much intercrossed on an old plantation, it does not form the compact mass as figured. It will be noticed that there is a clump in this picture, this being formed by the confinement of the plants in a sunken frame in which the tubers were originally planted. At the base of the clump may be noted the floating leaves, which are the first expanded on the commencement of growth. The various other growths show clearly the habit when unconfined. These proceed from underground runners or stolons, which are round and



The ways of growth of the Sacred Bean. Engraved for *THE GARDEN* from a photograph sent by Mr. J. N. Gerard, Elizabeth, New Jersey, U.S.A., August 7, 1893.

tipped by the immature leaf enclosed in a spathe and curled to form a conical point enabling it to pierce the loose soil. When the stolon has advanced a foot or more, a cluster of roots is formed, the point turns upward, and a stem expands carrying the gradually maturing leaf. Another stem and leaf will follow, and usually two flowers in succession, while from the base one or two new stolons will soon proceed, and later on tubers form.

This picture, which represents a plant in a pond of my friend, S. C. Nash, Clifton, N.J., clearly shows it in all stages, and illustrates also the charm of its foliage and the decorative value of one of the noblest of hardy plants.

J. N. GERARD.

Elizabeth, N.J.

Cockscombs and Celosias in Regent's Park.—Very beautiful just now are these flowers in Regent's Park, and many good contrasts are got by judicious association. A bed of crimson Cockscomb and the same coloured kind of Celosia is

remarkably rich, the latter breaking the flatness of the arrangement. In another bed three things are mixed together, a Cockscomb with flowers of a pinkish shade, a yellow-coloured Celosia, and the familiar *Verbena venosa*. The three subjects mentioned make a distinct and beautiful bed, very free, not to say graceful.

Helianthus rigidus Miss Mellish, shown by the Rev. W. Wilks at the recent Royal Horticultural show, is a distinct and very handsome form of this well-known species. It is distinct from the ordinary semi-double form of *H. rigidus*, taller in growth and with richer coloured flowers. They are broad, intense yellow in colour and remarkably showy, with blackish centres. A good group of this fine kind in the garden would make a splendid break of colour. There are a large number of *Helianthus*es, and, unfortunately, the more weedy varieties are most common.

A note on Cactus Dahlias.—It is evident that the Cactus Dahlia is getting more popular each year, and it is important that encouragement should be given to varieties of the Cactus type—not the coarse blooms represented by the so called decorative section. At the recent show at Islington we made note of a few of the best Cactus

course they do not represent the many beautiful shades in the flowers of this firm, but were as distinct and pleasing as any exhibited. Duchess of Edinburgh has a bold bloom, the colour delicate rose, with a central line of white down each segment; Princess Beatrice, white, crimson at the base; Maid of Orleans, white, striped and blotched with rose; Herkomer, crimson; and James Kelway, crimson, passing to white, with a white line down the centre of each segment.

THE ROCK GARDEN.

GENERAL HINTS ON PLANTING.—I.

I NOW come to the most important part of these articles, viz., the adornment of the rock garden with suitable plants. In my opinion it is most essential that the planting of the principal part—if not of the whole of the rock garden—should be done, or at least supervised, by the same person who designed and constructed the rocks. Not only for the sake of particular effects, but also for the well-being of the plants, it is of the utmost importance that the person entrusted with the planting should know exactly how the rocks were composed. Whether there are narrow crevices formed below the surface of the soil, whether the stones mixed with the soil are limestone, granite, or any other kind, whether the place is well drained, and whether the situation is dry or wet—all these are vital questions, which can be solved satisfactorily only by the person who has carefully watched every inch of the work during its progress, and who, perhaps, even when building this or that particular rock made special preparations to suit the requirements of certain kinds of plants. I have frequently constructed rocks and prepared them with the greatest possible care for the reception of the choicest alpine, but at the special request of the owner left the planting to be done later on. When visiting the same spot a year or two later, I was horrified to find the places that I had taken such great pains to prepare for choice alpine occupied by some coarse weedy-looking plants altogether out of place, and for which all the special preparation of crevices, &c., would have been quite unnecessary, and was, therefore, only so much time and labour wasted. Nothing is easier than the spoiling of a rock garden by bad and unsuitable planting, and nothing is more difficult than remedying the evil effects thus produced.

I have in an earlier chapter on the requirements of alpine plants pointed out the desirability of setting apart at least a portion of the rock garden to the almost exclusive use of the smallest and choicest kinds of mountain plants, which might for many years occupy the same position without overcrowding and killing each other. This select part of the rock garden should be the portion which is most easily reached and admits of access to every plant. Unless the work should be of very small proportions indeed, there would probably be also parts devoted to larger plants, and the portion of the work requiring the most knowledge of plants and at the same time the most artistic taste is the effective blending and amalgamating of groups of plants of a different character, so as to be practical, i.e., suited to the requirements of the plants and also perfectly careless and natural in appearance. The system of putting plants of the same kind together so as to form large or small irregular groups is much to be preferred to the system (if such it can be called) of letting all the plants in the rock garden form a sort of general mixture. In a

kinds, in which the flowers resemble the old Juarezi and are of refined aspect. The following were shown by Messrs. Keynes, Williams and Co., and are well worth a place in the garden: Lady Penzance is a neat, shapely flower, rich self yellow, and of much beauty; Countess of Radnor, salmon-rose, the centre yellow; Chancellor, crimson-purple; Bertha Mawley, crimson, shot with magenta, a very distinct kind; and Countess of Gosford, one of the most distinct of the section, the flowers comparatively small, reddish brown in colour, the centre yellow. We hope to see more kinds of this character raised, as here we get the true shape.

Rudbeckia purpurea.—It was interesting to note at the recent R.H.S. show how often this fine hardy perennial was exhibited. It is welcome as much as anything for its colour, which is very distinct, and a relief to the preponderance of yellow from the perennial Sunflowers at this season. A good break of *R. purpurea* in the garden makes an interesting feature throughout the autumn months.

Good varieties of Gladioli.—In looking through the remarkably fine collection from Messrs. Kelway and Son at the recent exhibition of the Royal Horticultural Society, we made note of the following Gladioli for their colour. Of

well-arranged rock garden, however, this planting in groups requires the greatest care and circumspection, as the plants must be judged by what they will be, and not by what they are when planted. If the sizes and shapes of the groups do not vary sufficiently, or if the outlines are too stiff, the arrangement will look more like a nursery garden than like a piece of idealised Nature. When, therefore, groups of plants are of considerable size, it would, I think, be well to keep the irregular outlines so loose that plants of adjoining groups can protrude here and there, or, in other words, to amalgamate one group of plants with another so gradually, that no discernible line of separation exists between the two, which is exactly as we would find them in Nature. Thus we may join a group of *Gentians* to a group of *Edelweiss*, a group of *Androsaces* to a group of the neatest gems among *Saxifrages*, and so on. Or between taller plants in the bolder part of the rock garden we might form a carpet with *Aubrietia*, *Arabis* and *Alyssum*, or with *Sedums* and mossy *Saxifrages* covering the ground in irregular groups, without detracting in any way from the beauty of the taller plants forming the principal feature of such groups.

The question of arranging the plants with a view to successive blooming and harmony of colour, too, is a most important one. Late-flowering as well as midseason and early-flowering plants would have to be distributed with the greatest care if we would prevent certain parts of the work from looking dull and uninteresting during the greater part of the year. Sometimes plants flowering at different periods of the season can be grouped together with good effect, not only on the rocks themselves, but also where comparatively level places suitable for large irregular beds or groups occur between the rocks at intervals. We might, for instance, plant a large group of *Primula Sieboldi* or other spring-flowering plants and intermix them with *Spiraea filipendula*, which would bloom in summer, introducing into the same group also a few late-flowering plants like *Plumbago Larpentæ*, or others. The result of such an arrangement would be that we would have a gay and cheerful looking group of plants blooming from early spring till late in autumn.

I will now discuss the operation of

PLANTING CHOICE ALPINES.

By choice alpine I mean the neatest and smallest kinds of mountain plants, mostly from high altitudes, which are suitable for the select part of the rock garden and require being planted more carefully than plants of coarser growth. If at all possible, only well acclimatised and established plants in pots should be used for this purpose. I find it an excellent plan to have all plants available close at hand and plunged with their pots into a bed of ashes, sand or soil until wanted, keeping not only all the sorts distinct, but separating also the shade-loving plants from those requiring a sunny position. When thus brought together, the plants can be easily selected as most suitable for the various situations. Plants in pots have another advantage, and that is, that they can be planted at almost any time of the year, though early autumn and spring are, of course, the best time of all, as the plants would probably have the chance of being benefited by more rain.

The planting operations in the select part of the rock garden may be divided into three parts, viz.—

- (1) *Planting choice alpine on elevated level spots,*

- (2) *Planting on gently sloping ground,*
- (3) *Planting abruptly sloping or vertical fissures,*

and in this succession I will now discuss the best methods to be employed.

(1) PLANTING CHOICE ALPINES ON ELEVATED LEVEL SPOTS.

Level spots among the rocks are generally devoted to plants requiring a considerable degree of moisture; but it is absolutely necessary that such spots should be well drained. I cannot here enlarge on the formation of proper crevices, but if these were made on the principle explained and recommended in the chapter entitled "Construction of rocks for choice alpine" (see *THE GARDEN* of April 1, pp. 253 and 254, where my method is fully described and illustrated by sketches), there could be no doubt about the drainage being perfect. My plan is not to fill up the crevices entirely with stones and soil during the work of construction, but to leave the upper part open, so as to be able to fill this during the operation of planting with any particular soil that may be required. If the rocks were built during dry weather, I always find it an excellent plan to pour an abundance of water into these crevices several days before planting. The projecting stones will help to keep in the water, and enable us to give the ground such a soaking as it could never receive after the completion of the work. This watering has the additional advantage of causing all stones to settle firmly to their proper bearing, and also of causing the mixture of small stones and soil with which the crevice was filled to settle firmly against the sides of the stones and fill out any vacant spaces that might have been left during the general construction of the work.

The hints here given can apply, of course, only in a general sense to the planting of the select part of the rock garden, and any particular treatment of the plants will be considered in a later chapter, when the plants themselves will be enumerated. Generally speaking then, the plants are knocked out of the pots, the roots are loosened, and the plant is then inserted in the crevice. If this crevice should be too wide to enable the roots of the plant to "feel the stone," more stones must be added and pressed edgewise into the soil. In surrounding the roots of the plants with the mixture of small stones and soil prepared for them, a small stick will be found most useful for ramming the mixture firmly around the roots and making sure that no hollow spaces are left, as probably would be the case if the planting were done with a trowel in the ordinary way. When the crevice has been thus filled up, a little *Sphagnum Moss* might be spread around the plant, and the ground is then covered with small stones, which would not only prevent a too rapid evaporation of moisture from the ground, but would also help to surround the plants with a damp atmosphere by evaporating, especially on sunny days, the moisture previously accumulated. These small stones are best pressed firmly into the ground if this can be done without injury to the roots.

If the plants used are from very high altitudes, they would in some cases require to be kept cool at the roots, and though we cannot give them the cool streams flowing from the glaciers of their native mountains, we can at least protect their roots from the influence of such scorching rays of sunshine as we have had in this country during the present summer by covering the ground around the plants with white silver sand or very light-coloured stone chippings or gravel. It is a well-known fact

that white or very light colours repel the rays of sunshine whose heat would penetrate all substances of darker colour. *Gentiana bavarica* and other plants accustomed to have their roots immersed in the icy cold liquid that saturates their native haunts may thus be protected successfully in this country. A year or two after planting, when the roots have penetrated so deeply into the crevices as to be out of harm's way, this protection can be dispensed with, but until the plants have become established, this method of protecting the soil around them against drought and heat cannot be too strongly recommended.

Delicate plants which are exposed to a hot sun immediately after planting may be slightly shaded by putting a loose stone on the south side in such a way that its shadow would fall on the plant at least during the middle part of the day. As soon as the plant begins to feel at home, this stone would be, of course, removed, for abundance of light is in most cases absolutely necessary. F. W. MEYER.

Exeter.

(To be continued.)

CARNATION NOTES.

It seems clear, from the persistent way that "A. H." continues to advocate the growing of self-coloured Carnations, that there is likely to be a large demand this season for varieties of that description. I cannot say that I quite agree with him myself. I admit that masses of colour are always more beautiful and more effective than spots, but we most of us have to put up with what room our garden affords, and have not the space to set out 100 plants of one variety in a single border. If that is so, and you cannot plant in masses, what becomes of the supreme advantage of the self-Carnation?

I am glad to see that this well-known authority agrees with what I have so often endeavoured to impress upon amateurs of Carnations, that many of the French varieties exceed in strength and vigour of constitution anything that we have in this country. He refers to Countess of Paris and Carolus Duran. To these two first-class French selfs I should like to be permitted to add the names of a few more equally good, thereby making up the dozen, any of which will grow well in the open air from Land's End to John o' Groats, as I have good reason to know from the reports of the last six years given me by my numerous correspondents. I am now only treating of selfs, but I have grown hundreds of others, all French, bizarres, flakes, fancies, yellow grounds, &c., all equally good and strong growers in the open air all the year round. The dozen is as follows:—

Countess of Paris	creamy white
Carolus Duran	orange
L'Eden	heliotrope
Merveille des Roses	immense, rose
Baron von Thuyll	violet
Lord Simorel	crushed strawberry
Eliason	pink
Centenaire de Bergeman	rich plum
Duchesse de Lavalière	pure white, fringed
Du Roi	bright scarlet
Mme. de Senevière	dark red
Député Rambourgt.	yellow

Sha'don, Teignmouth. H. W. WEGUELAN.

Varieties of Montbretia.—We are pleased to see in our visits to nurseries and gardens that the Montbretias are grown well in several places and in good variety. When at Long Ditton recently we made note of several excellent kinds, the colours rich, distinct, and the plants very free. One of the most conspicuous was *Gerbe d'Or*, which has a small yellow flower of much beauty, a change from those in which orange-scarlet enters largely. *Pyramidalis* is worthy of mention, the flowers rich

orange-scarlet; and also of note is Fiery Star, the flowers not large, but very bright. The Montbretias are not only valuable for massing boldly in the garden, but also for cutting. The graceful spikes last well in water, even during very hot weather.

Tiger Lily in the London parks.—Lilies are not good town flowers, but they make very fine beds when they can be coaxed into respectable growth. In Regent's Park one of the finest beds at the present time is planted in the centre with *L. tigrinum splendens*, *Asparagus plumosus* and *Verbena venosa*. We do not remember to have seen such a combination before, but it is extremely happy.

Aster acris.—This is one of the best early-flowering Asters, but little is seen of it in private gardens. Few things are more interesting in the garden in September than a bed of this form mixed with the *Chrysanthemum Mme. Desgrange*. They are of similar height, the Aster being very dwarf, compact, bushy and smothered with pale purple flowers. It would be worth while to make a bed of it even, or of that charming kind named *linariifolius*, also in bloom, which has flowers of a similar shade of colour, but the petals droop in a characteristic way.

WAYS WITH WATER LILIES.

THE present season with its sub-tropical heat and sunshine has, indeed, been an ideal one for these lovely flowers. Never before have they bloomed so vigorously and continuously with us as this year, a fact largely to be attributed to suitable atmospheric conditions, but partly to the rhizomes being now well established in deep rich mud, leaf soil and cow manure. Another little secret in the culture of all the *Nymphæas*, so far as a long and continuous season of flowering is concerned, is the constant removal of all flowers when they close on the evening of, say, the fourth day after the bud opens. I have this year pulled or cut off all the old flowers, and as one result of this practice there has been a constant supply of fine flowers every day for over twelve weeks from the date the first blossoms opened (about the middle of May) until the present time.

In removing old Water Lily flowers, I have learned how to distinguish the old flowers from the newly-opening buds, which is not quite so easy in practice as in the case of other flowers. The old flowers close up for the last time on the third to the fourth day, and the plan in case of doubt is to pinch the closed flower, and if it really is a faded one, some discoloured water will be pressed out and the flower may be cut away; but if, perchance, it should prove to be an unopened flower-bud, then there is no water inside to be squeezed out, and, of course, it is left on the plant to open.

A practical word to intending *Nymphæa* planters and beginners in their culture may well be given here. The best time to start these flowers is in April and May, and April is by far the best month in which to divide old plants. Shallow water answers very well at first to start new rhizomes, and they are best planted in loosely-woven Osier hamper or wicker flats. In order to succeed with Water Lilies generally in a cold water pond, the water should never be less than 3 feet deep in the winter, but in summer such a depth is not so necessary even if desirable. If the water is shallow during severe and protracted frosts, there is danger of the growing points of the rhizomes becoming frost-bitten, in which case they will rot away, and the subsequent breaks are weak and do not flower well. When *Nymphæas* are well established it is almost impossible to give them too much cow manure,

and guano mixed with rich mud may be thrown amongst the clumps with advantage after the leaves appear.

As cut flowers these Water Lilies are very lovely, but they require a little special management. The flower-buds should be cut just as the perianth segments begin to open in the sunshine for the first time, and may be arranged three, five, or more together in a shallow bowl, tray, or tazza of water and placed in full sunshine if possible near an open window. So treated, they will open for two or three successive days just as they would do upon the plants. In this way bowls of the different species and varieties are most attractive. I have tried both the pigmy varieties as well as the larger kinds in this way, and they were much admired. Most of the hardy Water Lilies, however, are essentially flowers of the hottest and brightest hours of the day, opening at ten or eleven and closing about three or four in the afternoon. On very hot, sunny days they have opened at eight in the morning and did not close until nearly six in the evening; but, on the other hand, on dull, rainy days or on dull, windy days they scarcely unfold their petals at all. They close so early, that many have been disappointed with them as flowers for the dinner-table, but they may be used for night effects if opened mechanically with the fingers before they are floated in clear fresh water amongst their own exquisite leaves. This must be done gently, turning each segment of the perianth from its naturally concave to a convex position, beginning at the sepals and turning each segment inside outwards as it were in turn. Some large bowls of *N. candidissima* (pure white) and of *N. Mariacea alba* so treated quite puzzled some friends, who persisted in mistaking them for night-blossoming Cacti, notwithstanding that they were floating amongst their own great pads or leaves.

I can quite believe the prophetic drift of "W. R.'s" recent note in THE GARDEN about these most exquisite flowers and the fertile potentialities of the water garden. But we are never satisfied. Some of us are now longing for M. B. Latour-Marliac to give us a hardy blue Water Lily. He has done much for us all, but "much would have more."

F. W. BURBIDGE.

NOTES ON HARDY PLANTS.

Veronica Hectori.—This is at once one of the rarest, hardiest, most distinct and beautiful of the new and peculiar shrubby species. These pretty little shrubs have curious ways. If you change them about in different soils and positions and temperatures, as you are apt to do when propagating and trying to afford them the best accommodation, you will get foliar developments so varied, that you can hardly believe the specimens are all of one stock. The general effect of this species has a resemblance to *Andromeda tetragona* and *A. fastigiata*, only that the arrangement of rudimentary foliage is without angles. This has now stood with me fully exposed and without the least protection at any time of the year unharmed for three years.

Daffodils.—It is true that to the eyes of the ordinary gardener scores of separately named kinds are very similar, practically the same for garden effect. It has been said by a Daffodil authority that not only are the Daffodils as distinct as kinds in other large families, but that were one to seek to reduce the numbers, it would be hard to know which should be more fittingly discarded, or even where to begin. It may be so, but I rather imagine that practically the questions will be depth of

purse and garden space. My own view is that those who become enthusiastic may grow large collections or selections and find few flowers to afford more pleasure and interest. But that the generality of gardeners might well reduce the number of varieties, including even the poetical section, to say a score kinds, and these might be selected to represent the more distinct types. I consider that the greatest mistake of the Daffodil grower or planter is in leaving the planting undone until the cold and wet season sets in, and the one and most common excuse made for the delay is a very sorry one at the most, viz., that the planter has a few flowers in his borders and does not like to disturb them yet to plant Daffodils. In many ways an objection of this kind might be obviated, and the Daffodils would then have a full and fair chance of doing their best.

Brachycome Sinclairi.—This little beauty sustains our interest in it in the best possible way by keeping on flowering all summer till quite late. It seems to be tender, and yet I have kept it without any effort at all for many years, or, in other words, it takes care of itself. Its earlier flowers produce good seed, which sows itself and comes up freely about the old plants. Nothing can be more dainty than its tiny Daisy-like beads, and still it makes itself attractive as an uncommon form of a common order. I think very sandy soil is best for it, because I never fail to find seedlings where there is plenty of sand and sunshine.

Lotus peltiorrhynchus.—I would simply notice this plant at present, as I have grown it but one winter. I believe, however, it is hardy if a place somewhat dry is selected for it. Its slender branching habit is most striking, and the silvery foliage even more so. Without its flowers it might almost be described by comparison as a silvery *Asparagus*. For stony ledges in a sunny aspect it is likely to do well as a permanent plant.

Onosma albo-rosea.—The propagation of the woody Borageworts is a pleasing and edifying study. It is delightful to see how some will root in just their one particular way, and how others resist with deadly stubbornness every form of coaxing, unless it be that the one mode or set of conditions is adopted to suit them. The "how to do it" with these subjects has special reference, I think, to quality of material or stock, season of operation, and especially position and subsequent treatment of the cuttings. Much indeed could be said about this matter generally by taking note of the different species in the relative sense, but the present note must deal only with the plant named. Having a strong plant to deal with that had previously had its points picked out, I got rather long branches, each with a number of laterals of a year's growth, consequently woody at their junction with the main branch. The whole of the main branch had been layered for a year, simply pegged to the surface. This, I supposed, would so tone the wood as to make it callus quickly and surely when made into cuttings. Each lateral was so cut as to take the inch or so of the older wood, and the older wood in its turn nicked on the underside so as to open up more callus surface. I had tried for several years to root cuttings without some such preparation of the wood, but never seemed to be successful. In this way the cuttings taken in early summer and placed in a bed of moist sand in full sunshine made long roots and plenty of them in a fortnight. I find it much easier to deal with such things when the days are longest and warmest, and the Borageworts especially resent being what we usually term "kept close." It seems as if their glandular surfaces become disarranged or destroyed when subjected to a sweating process, and it is important, I think, that every leaf should be retained as long as possible, as doubtless the foliage facilitates root-formation. When placed in exposed situations as here advised, the cuttings may sometimes seem shrivelled and doubtful, but as soon as a little root has been developed, it is pleasing to see how the leaves begin to prick up, and in a very short time most of them near the apex assume the normal state. This somewhat rare and beautiful plant is worth

more than ordinary care. A word of caution may here be given: do not let down the constitution of young plants by making their little branches into cuttings, or you may lose all. Only strong specimens should be cut from, and besides it is the larger specimens alone which are capable of giving an idea of the beauty of the plant when in flower.

Woodville, Kirkstall.

J. Wood.

FLOWER GARDEN NOTES.

WE have taken advantage of a little spare time to overhaul and thoroughly reconstruct where necessary those home-made frames that come in so handy for hardening off plants in spring, and which are now filled with pot Strawberries, Viola cuttings, and a good batch of potted-up border Carnations. They are 2 feet high at back and 18 inches in front, giving just sufficient slope to throw off the rain, and are formed, as stated in a previous note, by fastening boards on either side uprights of 4-inch quartering. I find an application of gas tar to both posts and boards more than pays for the time and labour bestowed. The woodwork lasts sound much longer, especially if the space between the boards is packed with Fern, straw, or Heather. Continuing the short list of good dry-weather plants mentioned in last week's notes, I find *Tropæolum Vesuvianum* an extremely good thing, as it flowers with great freedom, and the season has been all against an undue development of foliage. Associated with plants of silvery foliage, as *Centaureas*, *Gnaphalium*, with a groundwork of *Veronica incana*, or as a broad band to a centre of white Snapdragon, it is very pretty and effective. It is a variety of close, compact habit, not a trailer, and should be planted thickly if a mass of colour is required. Cannell's dwarf *Ageratum*, little more than 3 inches in height and throwing large trusses of flower, forms just now a very bright bed associated with clumps of Chelsea Gem *Pelargonium*, a variety with bright variegation and double dark pink flowers. These things are good despite the difficulties of the season, and without having received any aid in the way of watering and mulching. Perhaps some correspondents who have grown tuberous *Begonias* rather largely and were unable to lend them a helping hand through the drought will say how they have fared. They are certainly not generally up to their usual form by a long way where they have had to weather the drought without help, but I think extra good where they were well mulched and received for some time after planting liberal supplies of water. Seed of East Lothian Stock must be sown at once if an early supply is required for another season, and the plants, so soon as they can be handled, be pricked out into a frame or into boxes and receive the shelter of a frame with the advent of bad weather. Such autumn-sown plants have been a great success this year; they were early planted, and consequently were well established by the time the effects of the dry weather were beginning to tell on more susceptible things. Borders or beds that are to be occupied by these Stocks another season will pay for doing well, for the Stock is a gross feeder, and not only gets a very firm grip of the ground, but draws therefrom every atom of goodness.

If more Carnations were layered than are likely to be required for beds, it is a good plan to pot up a few in 6-inch pots unless there are ample facilities for a plentiful supply of Tree Carnations, and even then the experiment can be tried, for these border varieties give no trouble all through the winter months, except an occasional supply of water and the protection of pots from frost. If transferred to a cool, airy house so soon as signs of growth are apparent in spring, the flowers will come in very useful for cutting before they are available out of doors. Only a word of caution: if the old crimson Clove is included, a sharp look-out must be kept on the foliage to see that the disease to which it is so susceptible does not make its appearance. We are quite free from the pest this year at present, and I hope shall remain so; but potting up the old Clove is a risky business, and so that par-

ticular colour must be represented (as near as we can get it) by Murillo. From more than one source I hear that batches of Margaret Carnation potted up in the autumn of 1892 were very quickly badly affected by the fungus, mildew, or blight. What is the proper term for the mysterious visitation?

The same cause which rendered most of our summer flowers stunted in growth and sickly in appearance has told heavily on ornamental trees and shrubs, especially 1892 transplanted stuff; many failures are noticeable, and we shall have a very early ripening of foliage and leaf-shedding. We have not as yet, I fancy, seen or realised the full effect of the drought, for looking through a large collection of shrubs the other day on a south hill, I found in many cases not only this early ripening of foliage, but a general absence of the plump, firm wood and buds one usually finds at this season. *Kalmias* and *Andromedas* with many Belgian *Azaleas*, and among deciduous shrubs *Hydrangea paniculata*, show in wood and bark what may be termed a drawn-up, shrivelled appearance. A few of these plants were mulched with short lawn Grass, but it proved of little use, being little better than powder after a couple of hot days. Among the different things used for special situations in autumn planting operations the ornamental Grasses *Glycerium* and *Arundo* often find a place. From one point of view, that of grace and elegance in the plume, the *Arundo* claims pride of place, but I should like to specially note as a warning to intending planters that the Pampas Grass is a long way the harder of the two. I should never in fact again plant *Arundo* conspicuous in any special position, for although not actually killed, severe winters have reduced fine plants to little more than skeletons, although after a first experience they have been brought up and tied to rods and protected. The Pampas Grass, on the other hand, passes unharmed through the most severe weather. Other work of the week has been the overhauling of winter window and balcony boxes which will be required about the end of the month. There is nothing better for such boxes than small conifers with an outer edging of *Periwinkle*. I have tried several evergreen shrubs with either green or variegated foliage, but, with the exception of *Aucubas*, the majority succumb in sharp winters, leaving gaps in the boxes. The inmates of the boxes want cutting over slightly to keep them within bounds, surface soil pricked over and removed, and a bit of good stuff substituted if such work, by the way, was not performed in spring. That is really the better time to do it, as it leads to density of growth and bright rich foliage.

Claremont.

E. BURRELL.

TREES AND SHRUBS.

SUMMER TRANSPLANTING OF CONIFERS.

ON September 11 of last year, when visiting for the first time the celebrated nurseries of MM. Honoré Defresne et fils at Vitry-sur-Seine, and more particularly inspecting that part of their grounds which lies near Villejuif, and is specially devoted to the culture of conifers, I was surprised to find that the transplanting, or, more properly speaking, the tubbing of these trees had just been completed.

Now, the period which has always been recommended as the best for transplanting conifers is during autumn (October and November) in the case of light soils, and during spring (April and May) in the case of heavy soils. The latter period is that which is most usually selected, for the reason that, as growth is then commencing and the sap circulating actively, the trees are less likely to suffer from being removed from the soil. It is undoubtedly an ascertained fact that the success of a plantation

of evergreen trees is more certain when the sap is actively at work than when it is at rest or dormant. But, as one can never be sure how the weather may turn out afterwards in the course of the spring, it is easy to comprehend that if a spring planting is succeeded by a mild, moist time, all will go well; but if, on the contrary, a dry, scorching season sets in, as happened this year, everything will be in jeopardy.

From these considerations I must say that the period for transplanting conifers which has been adopted by MM. Defresne appears to me to be in every respect deserving of recommendation. The operation should be commenced during the last fortnight in August, for it will be too late to set about it if this is delayed to the early part of September, and the reason for this is that at the time first mentioned (the last fortnight in August) conifers will have ceased making fresh growth over-ground, but their sap is still sufficiently active, after the main roots have been trimmed or shortened, to produce an unfailing and abundant growth of fibrous roots, by which the trees will be nourished. These new fibrous roots will have taken firm hold of the soil during the succeeding months of September and October, and the trees will thereby be enabled to withstand the rigour of the winter and come out in the following spring equal to subjects that have been transplanted a year previously. I must add that if the weather at and after the indicated time of planting is set fair, as it generally then is, the transplanted trees must be frequently watered either from fine-rosed watering-cans, or, better still, with a garden engine. In watering, care must be taken to give the leaves a thorough drenching, as the main object of the watering is to prevent, or at least to diminish the amount of evaporation from the leaves and thus to powerfully help the trees to strike root. In the morning or the evening is the proper time to administer these waterings, but never in the middle of the day.

This period of transplanting conifers will also be very advantageous to nurserymen in another way, as at that time the operation of shield-grafting with a dormant bud will have been almost completed, and then, being less pressed upon by other work than they would be in spring, they can proceed to the important work of transplanting conifers under the most advantageous conditions.

But as there are conifers for all kinds of soils, and as the most of them succeed well in siliceous-clayey or clayey-siliceous soils, it may be objected that in the latter part of the month of August soils of this kind after a short period of dry weather become so hard, that the work of transplanting or lifting the trees would not be easy. In this particular and very possible case it would be necessary either to wait for a propitious fall of rain, or else, if the means of doing so are available, to water the ground before commencing operations.

The foregoing remarks are especially applicable to conifers raised in the open ground, and which have already attained a sufficient size for planting out at once in parks and pleasure grounds, but they are also applicable to the youngest conifers raised in pots as well as generally to any conifers that are to be transplanted or repotted.

In transplanting conifers in the open ground, it is very essential to avoid a practice which is very commonly followed, namely, that of dipping the roots of the trees in a thick mixture composed of one-half pure loam and one-half cow manure, tempered with water into such a consistence that it will adhere firmly to the

roots. This operation (commonly termed "pralinage") is an excellent one for the deciduous-leaved forest and ornamental trees, but an equally bad one for conifers, which, as well as Rhododendrons, generally speaking, and all peat-loving plants, do not like or thrive on nitrogenous manures. This fact or truth, which was communicated to me by Professor Cornu, of the Muséum, has been proved to me clearly by the fate of a batch of young Yew trees which had had their roots dipped in this mixture at the time when they were transplanted, and made no growth whatever for two years afterwards. This spring they have given the first indication of making any fresh growth, that is, in the third year after they were transplanted.

In conclusion, I will summarise as follows: Plant or transplant conifers during the second fortnight in August, and never give them any kind of nitrogenous manure.—C. GROSDÉMANGE, in *Revue Horticole*.

To the foregoing is appended the following note by M. Edouard André:—

The practice recommended by M. Grosdemange, and which he saw so judiciously carried out in the

enormous crops of fruit nearly every year, and is then a sight well worth seeing.—A. D.

Hypericum Moserianum.—We have previously made note of this hybrid St. John's Wort in THE GARDEN, but it deserves mention again, as it is of great beauty in the Royal Gardens, Kew, where both small and large beds are carpeted with the dwarf growth enriched with yellow flowers. It is a hybrid between *H. calycinum* and *H. patulum*, and is a very useful and ornamental kind for planting in distinct beds, as it blooms from early summer until quite late in autumn, whilst it is in perfection in full summer, when few shrubby things are in bloom.

CISTUS FORMOSUS.

This is an erect, much-branched, bushy shrub, with leaves greenish when old, but covered with a whitish tomentum when young, and large bright yellow flowers with a deep purplish brown blotch near the base of each petal. The species thrives well in any rich, dry soil, but is apt to succumb to the cold and wet of English winters. It is, however, such a beautiful plant, that it is well worth the trouble of putting in a



Cistus formosus (*Helianthemum formosum*).
A. KNEBEL

nurseries of MM. H. Defresne, was many years ago highly recommended by M. André Leroy, the celebrated nurseryman at Angers, where the practice of transplanting conifers in the latter part of August is still carried out, as it has been in other places also for the last thirty or forty years.

In my own practice of forming plantations in parks and gardens, I frequently transplant conifers at the end of summer and always with success. I therefore feel bound to add my testimony to that of M. Grosdemange, and to congratulate him for having so opportunely directed the attention of planters to this admirable practice.

The Siberian Crab.—Mr. Hooper may well express surprise that this beautiful tree is not more frequently found on lawns. There is no more fruitful or handsome deciduous tree in cultivation than is the Siberian Crab when in bloom or in fruit. With this Crab should be planted Quinces, Medlars, Morello Cherries, Duchess of Gloucester Apples, Mulberries, indeed any fruiting tree that gives beautiful bloom in the spring and rich colour when in fruit in the autumn. Mr. Molyneux has at Swanmore a grand Siberian Crab tree that bears

pot of cuttings each autumn in a cold frame, planting these out in the open the following spring. It is one of the largest-flowered species and one of the most distinct and handsome of all the Sun Roses. If raised from seeds, which in ordinary seasons ripen in abundance, a considerable range of variation in the depth of the yellow colour and in the size and intensity of the purplish blotch is obtained. Seedlings also vary a good deal in foliage characters, so that any especially desirable variety should always be increased by cuttings, which root readily if made of half-ripened wood and inserted in a shaded cool frame in autumn.

CONIFERS AND MOISTURE.

In no place that I have visited, where conifers are grown in the most successful manner, have I ever seen them planted upon raised mounds. This system is an utter mistake; of this I am fully convinced, and many will have cause to regret its having been adopted after such a phenomenally dry spring and summer as that of the present year. Not only will this be the case in newly-planted examples, but it will also seriously affect others

which have been planted several years. Where mounded up it will be quite impossible for the rainfall, during many months to come, to thoroughly penetrate the soil. It is not only at the present time, but during another season also, that bad results will ensue, for where there is a semblance of drought at all it is only a question of time, by a process of slow starvation, that those permanently established will quite succumb. I have seen the finest of our imported conifers from Japan, from North and South America, and from other quarters of the globe, thriving amazingly well in different parts of England and Wales, all seeming to be in perfect accord. In each of these places, where found growing most luxuriantly, the rainfall of the district has been above the average. Take, for instance, the lake district of Cumberland and Westmoreland, and that part contiguous to Windermere in particular. Here the rainfall is always noted as being excessive, but conifers of all kinds luxuriate in the district.

They do not show any symptoms of suffering from the effects of the more severe frosts of the winter season. In the south, with several degrees less of frost as a rule, many examples will be found that are not nearly so healthy. One might naturally assume that in the case of the Japanese conifers, which come from a country milder, on the whole, than Great Britain, they would suffer more from frost than anything else. That this is not the case can be abundantly verified in many instances in the localities already quoted. The cause of non-success in several districts must be rather traced to a weakened constitution brought about by want of moisture during the growing season, this being afterwards hastened or made more apparent by the effects of a severe winter and easterly winds. Some might think that, where the rainfall was so excessive, the growth would be too vigorous and that each kind would grow out of character; this, however, is not the case, but rather the reverse follows. I have never seen such compact growth anywhere in the conifers as in the lake district and North Wales, notably the former. There are, I am fully aware, other causes that contribute to the success already indicated. One is the fine quality of the loam, which is sound and enduring, being full of fibre, not of light texture, nor, on the other hand, heavy; another is, without doubt, the rocky character of the subsoil, the rocks cropping up here and there in most of the gardens where these plants thrive so well. This latter fact points undoubtedly to a natural system of drainage. That this is essentially needful cannot be disputed, for, in spite of these conifers thriving so well, they must not be designated marsh or aquatic plants. Herein comes the mistake, on the other hand, of planting upon mounds of raised earth, thinking to avoid the evil of excessive moisture, therefore falling into the opposite evil of drought instead. How, then, it may be asked, is the fact of water-logging the soil around the roots to be overcome upon retentive land in localities where a rocky stratum does not exist near enough to the surface to be of any real service in draining the soil? The answer to this is, provide drainage either by means of pipes, or brick bats, or any suitable refuse to effect this, and then plant upon the natural level of the ground, so that each plant receives its fair share of moisture. Upon what are termed light soils, or where the subsoil is gravelly, these precautions would not be necessary. In these cases, however, artificial watering should be resorted to in all such seasons as the present one, and even in others more favourable to healthy growth. The reason why conifers do not receive attention in the way of watering is without doubt the fact that they do not show signs of distress at the time in such a plain and unmistakable manner as do many other trees and shrubs. In what are termed dry localities, it is incumbent to guard against this suffering in one way or another by watering, and syringing also in the case of newly-planted trees. In doing this it may be urged that labour is scarce and time cannot be spared, or that proper conveniences are not available. Having to purchase and replant fresh examples will in a short time involve more expense,

however, with the same disadvantages to be fought against.

I have furthermore noted that the best results have been apparent where at least a partial shelter has been obtainable from easterly winds. In some districts these prevail more than in others, or, at any rate, are more injurious in some localities than in others. Protection, therefore, from easterly winds as experienced in many parts of this country should be duly considered when fixing upon a spot for fresh planting. I do not for one moment think that an easterly wind in either the lake district or in North Wales, or in some parts of Scotland for all that, would be nearly so injurious as in the more level districts, where it gains force and the atmosphere is less laden with humidity. In the case of conifers in general all due consideration should be given to soils and situations so as to avoid in some measure disappointment in the future. Conifers in general are wind-resisting subjects, but it is the easterly wind that tries them most. On the south-west coast of Anglesea (N.W.), for instance, where fully exposed to the westerly gales, the *Retinosporas* thrive surprisingly well, the moisture of the atmosphere, although largely laden with saline matter, not harming them in the least. On the other hand, where the sooty fogs prevail, the greatest difficulty is experienced in keeping them alive and at all presentable. This, in my opinion, might in some measure be obviated by having recourse to the garden engine more frequently to wash them, and that even in the winter season. In Scotland it is the purity of the atmosphere, combined with the large rainfall, that is so conducive to that splendid growth of the various forms of the *Abies*, of the *Picea*, and of the *Pinus* families. In North Wales the same conditions obtain more or less, the severity of the frosts not appearing to have any effect upon the growth. It is rather from drought, I am fully convinced, that failure to succeed with these splendid subjects in general must be anticipated.—H. G., in *Field*.

THE SELECTION OF RACES OF CULTIVATED PLANTS.*

THE subject on which I intend to address you may seem at first sight to be a rather special and limited one. I trust, however, that upon consideration you will see with me that it is one of great importance and of the deepest interest. I claim for it a constant and all-powerful action in the life of garden plants when we are seeking the most improved races.

It is a well-established fact that the life-work of plants is to make the mineral wealth of the earth fitted for the use of animals and of man. Now it is clear that the plant's work can be done well or ill according to its more or less perfect fitness to its functions. It is, moreover, within the power of man to consider, and to some extent control, the efficiency of plants in regard to their work, to select and to increase the best only, and by continued selection to develop more and more the good qualities of each kind. In this way man raises races and varieties of plants which do their work best and quickest. Heredity is the lever by which the results of the study and care and perseverance of the raiser are fixed, so to say, into the most valuable of the plants grown for man's use or delight. We have no more powerful means of improve-

ment of vegetable forms. All the care, food and protection given to plants may make them larger and finer, but only selection among many of the same kind, with the help of heredity, can fashion an enduring race of plants with special good qualities for our farms, gardens or orchards. Chance seedling may yield some very good finds, as sometimes a good hit is made by shooting at random. But no good marksman will, even after the luckiest of chance shots, dispense with the use of his eyes and judgment for the rest of the day! In the same way no experienced raiser will trust to chance in the choice of the seed from which he expects some precious results. He will gather it from one plant seen among many, and will have good reasons to show for his choice.

It is plain that selection was not at all times done with such thought and skill as it is now; but ever since plants have been cultivated an evident improvement has been going on for our benefit, and fixed and valuable races of field plants, vegetables, flowers and fruits were known to the oldest nations and are mentioned by the oldest writers. Since the settlement of America a new field was opened for good work, which yielded a splendid crop of honour and profit to American as well as to European cultivators, and through them to their respective countries. Let anyone who doubts the high value of selection look at our fine races of Cabbages, Kales, Cauliflowers, Kohl Rabi and Rutabaga and compare them with the wild Cabbage of our western shores of Europe; let him compare our fine garden Beets and our Mangolds to the wild Beet of the Mediterranean shores; let him compare the Tomatoes and Potatoes of to-day with the wild South American plants, and he will see proof that only human thought and skill have brought about such wonderful changes—many of them in our own day, many, on the other hand, some hundreds of years in existence. In the Tomato and Potato we have two distinct examples of garden races, viz., (1) those which are increased from seeds, as the Tomato, and (2) those which are increased by division of a plant, as the Potato. Even where we divide the plant itself, heredity is of some importance, as new varieties can be raised from seed only, and it is by no means indifferent to gather seeds meant for the purpose from one variety of Potato or from another. Distinct groups of races are seen in the Potato, as the Rose tribe, to which the Early Rose, Late Rose, and many more can be referred. Just in the same way a nurseryman who sows Pear pips in search of new varieties will take good care to take them from some old sort the parentage of which gives good hopes of success. It follows then that even where increase by division is the rule, the knowledge of the quality and history of a plant may be of essential importance.

WHAT HEREDITY IS.

Where selection is done with skill and care the improvement of many kinds of cultivated

plants effected by its means is invaluable. The large Pansies, the huge hybrid Gladioli, the large-flowered Cannas were all brought from the state of small flowers to their present excellence in our own day by careful observers, who, watching every variation and keeping an exact record of the descent of all their plants, turn to the best account the wonderful action of heredity.

That plants are endowed with the power of changing to some extent under altered and varying conditions no one will deny who knows even a little natural history. Such changes will occur in wild Nature as well as under cultivation, and by the action of heredity will be transmitted more or less faithfully to the next generation.

But an all-important fact must be recognised and remembered. It is that in the wild state only such variations have a chance of enduring as give the plant in which they occur some advantage in its life. Many variations appear every year which soon disappear, because they are a loss, not a gain to the plant. Suppose in the wild state a Potato plant with short stems and late sprouting tubers in a mass at the base of the stem. Such a plant would not have any chance against rank-growing and early shooting varieties, and it would soon perish. Still, some such characters belong to some of our best Potatoes. This is owing to the action of man, who throws his power into the balance when cultivating plants which are useful or pleasant to him, and who gives the weakest plant, if it is for some reason a favourite with him, all the advantage he can to make it thrive and answer his purpose. Most of the variations induced in our garden plants are not in favour of the plant if in a "free fight" with its kind in Nature. All our improved roots, as Carrots, Turnips, Beets, make an early and succulent growth for our own benefit, but not at all for their own good. If left to their fate to struggle with their own wild forms they would soon have to take a "back seat," and very likely soon perish. It follows then that varieties improved from man's point of view must receive kind treatment and richer food than wild forms of the same plant. The cultivated plant, like the domesticated animal, yields in a measure its powers of self-defence to adapt itself to our service. Man must in return provide for its safety and nourishment. In the improvement of plants the action of man, much like influences which act on plants in the wild state, only brings about slow and gradual changes, often scarcely noticeable at first. But if the efforts towards the desired end be kept on steadily, the changes will soon become greater and greater, and the last stages of the improvement will become much more rapid than the first ones.

I may relate here in a few words an unpublished experiment which I have been conducting for more than twenty years—from 1872 to the present year. It has consisted in cultivating one of our Parsley Worts (*Anthriscus sylvestris*), a European weed, in order to change its slender and

* Paper read by Mons. H. L. de Vilmorin, Paris, before the Seedsman's session of the World's Fair Horticultural Congress, Chicago.

much-forked roots into fleshy, straight, and clean roots, say like those of the Parsnip. Amongst the first batch of roots raised from wild seeds a dozen were selected with a tendency in their roots to larger and straighter bodies. Each root was planted separately and its seed harvested separately. Of the dozen lots obtained, eight or nine were discarded at once, and roots were selected only in such lots as exhibited some trace of variation. Again a dozen roots or so were chosen, a drawing made of each root, which was afterwards planted separately. I have sketches of all the roots selected, so that it is possible to follow all the stages of variation of each plant living at this day. For the first ten years the changes were slight, but now they are more and more marked with every generation, and in some of the lots the straight and smooth roots are the most numerous.

My object was not to create a new vegetable, as the roots of *Anthriscus sylvestris* have such a strong taste of camphor as to be quite uneatable, but simply to show that careful and continuous selection could transform a wild plant in years that do not equal a quarter of the span of many human lives. Like results had been shown by my grandfather with the wild Carrot, only its results were open to controversy as to possible crosses between garden varieties and the wild strain. No such objection can be raised in the case of my wood Parsley Wort.

HOW IT WORKS.

Although heredity is an ever-present and active agent in the transmission of qualities and characteristics in organised beings, its mode of action is not so simple as at a first glance it might seem to be. That like breeds like is a commonly admitted fact, but there like must be taken in a rather broad sense, and the fact that some differences may occur between the parent and the offspring is at the bottom of all improvement of plants by selection.

A being born from one or two of the same kind will be like his parent or parents. But if the parents, although of one kind, were not exactly like one another, how will the descendant look? Will it take after the one or after the other, or blend the features of both? And again, if each of the parents comes from two different ancestors, which of the four will take the lead in the form and character of the new being?

The network of lines of attraction which would induce a living organism, plant or animal, to be like every one of its ancestors can scarcely be unravelled. Still, the consideration of the various influences acting on an incipient organism can be pretty accurately summed up in direct heredity, which tends to make the new plant or animal to resemble its immediate progenitors, and atavism, which induces it to be like the mass of its removed ancestors. I omit for the present the idiosyncrasy, which is the tendency in the new plant to combine the inherited characteristics in some special manner

adapted to its own particular wants. If the parent was like its progenitors, then all the influences work the same way, and there is every chance of perfect fixity in the series of beings born in succession. But if the progenitors for one or more generations has swerved from the characteristics of the ancestors, heredity and atavism will come into conflict, and the outcome cannot be predicted surely.

Some hints on probabilities may be had from an experiment conducted by my father on two varieties of the *Lupinus hirsutus*, the one with blue and the other with pink flowers. The conditions were in this case very well adapted to the study of the action of heredity, the flowers being in the *Lupine* not only hermaphrodite, but also cleistogamous, so that a seed is the produce of only one bloom of one plant. Two lots of seeds were sown to begin with, some of the blue and some of the pink strain. Most plants turned out true; still a few with pink flowers were found in the lot of blue, and conversely some blue amongst the pink ones.

In the following year seeds of the true plants were sown again, and along with them seeds of the "rogues" found in each lot. In the latter the greater proportion of plants followed the colour of the parent plant, but a great many more showed the alternative colour than was the case in the original lots. Seed from blue and pink-flowered plants of the third generation were sown again, every possible combination in the relations of the ancestors as to colour and distance being tried as much as possible and the number of blue and pink-flowered plants being carefully noted in each case, and the experiment was carried on for several years. Though no exact rules can be arrived at from experiments with living things, from the tabulated results of the experiment the following inferences can be drawn:—

1. The tendency to resemble its parents is generally the strongest in any plant.

2. But it is notably impaired if coming into conflict with the tendency to resemble the bulk of the ancestors.

3. This latter tendency (called atavism) is constant, though not very strong, and scarcely becomes impaired by a series of generations passing by without a reversion to the ancestral type having taken place.

4. On the contrary, the tendency to resemble a near progenitor (two or three generations only distant) very soon becomes obliterated if the said progenitor be different from the bulk of the ancestors. From this it will be seen that choice new races can be raised quickest and with the smallest amount of labour where all needless conflict in the hereditary powers is avoided.

HOW THE ACTION OF HEREDITY CAN BEST BE TURNED TO ACCOUNT.

But it may be rightly remarked here that it must be shown how variations can be obtained before we are shown how they can be made permanent.

It is admitted by all observers that plants being immovably fixed in the ground by their roots, and consequently prevented from seeking favourable and from avoiding untoward circumstances, are endowed by way of compensation with the power to adapt themselves to some extent to different conditions as to soil and climate. The manner in which plants so adapt themselves is most admirable, but it is not here the place nor the time to consider it. Suffice it to say that the changes in the size, position, and anatomy of their various organs appear to be much called up by than produced directly by the changed conditions. The important point in the present case is that variations in the special characteristics of a cultivated race may and do occur occasionally, and that such variations can be made permanent and still magnified by the process of selection. To wait for them to appear among seedlings is the simplest and most ordinary process. But their appearance can be hastened and made more probable by the selection of seeds from a plant showing already some trace of variation, or by means of a cross with some other variety of the same species. As soon as a distinct variation has made its appearance, the work of selection begins. The essential thing is to secure a deviation from the old type of the plant under experiment. It matters little whether such deviation takes place in the desired direction or not. Some authors even advise the experimenter to look for any change at the first stage, and at the next one for the greatest possible deviation from the first change in any direction except a reversion to the old type. This may be useful as far as the appearance of new forms is concerned, but if adhered to too long, it might make the fixation of the new forms rather difficult and slow by breeding continuity out of the new race.

Whatever the cause of the original variation was, action of the plant's own tendency to vary, or some external cause, or a cross of pollen, the next thing to be done is to make the variation permanent by selection. This is sometimes very easy, the new form becoming at once perfectly true and fixed. A case in point occurred several years ago in my trial grounds at Verrières. One plant of *Clarkia elegans* with pure white double flowers was discovered among a number of the same species with double purple flowers. It was singled out of the seed sown the next year, when every plant raised gave only double white blooms, and it has never since been known to give any but pure white flowers. If such cases were of common occurrence, they would make the task of the breeder of new varieties a very easy one. Unfortunately, they are very rare exceptions, and the tendency of new seedling forms is rather to revert frequently and rapidly to the original type. Great attention and vigilance must be exerted to counterbalance this tendency to reversion. The best and most useful plan is not to mix together the seeds of the selected plants in case several were singled out, but to sow the seed of each separately, as the several plants selected may

be endowed in a very unequal degree with the power of transmitting their own characteristics to their progeny. Now the principal object and the principal effect of selection if well conducted is to effect a complete transmission of the qualities we seek of any given race. Its aim must be in consequence to eliminate any plant which is not fit to reproduce itself "true."

It is often observed that in such cases when the seeds of several plants selected in the same batch of seedlings are sown side by side and separately, the one will come up true with only a very few or no "rogues" at all, while others will give a very medley of plants. If further selection be made only from the lot that came up true, the new variety may be considered as already fixed; whereas many years of cultivation and "roguing" may be required to bring it to anything like purity if progenitors be taken from the lots in which numerous variations occurred. Fixity of character is of great importance to garden and field plants grown from seed, and the tendency to fixity should be inbred in plants just as the tendency to curliness or to hardness. The power of transmitting their own qualities to their progeny is just as hereditary as any other qualification, and no effort should be spared to make it one of the points of a new race. Breeding from single progenitors appears so far to be the safest and shortest way to the proposed end.

Cross-breeding greatly increases the chance of wide variation, but it makes the task of fixation more difficult. It, however, gives the raiser the only means in his possession to unite in one the qualities of two different plants while discarding their weak points. All the different qualities of the two parents seem to unite in the most varied combinations in the cross-bred products. In this way plants are often found which inherit most of the good points of both parents, while some others sum up the defects of both. This I repeatedly observed in rearing cross-bred Wheats. An occurrence not unfrequently observed in cross-bred plants is that some character belonging to one of the parents is magnified in the progeny. For an instance M. Charles Naudin observed in crossing *Daturas* that the cross of a slightly prickly variety with another kind which had smooth stems resulted in the raising of a decidedly prickly hybrid.

In framing the character of the progeny, the action of each parent is often very unequal, according to the power of each in transmitting its characters. The one that is better endowed in that respect stamps its features more firmly on the cross-bred plant. Discussions have arisen on the influence of the male and of the female progenitor on a cross. I believe that the stronger organism of the two, the one rather which is better endowed with the power to transmit its characters, will predominate in the progeny whether it comes from the male or the female parent.

One trait that makes the fixation of cross-bred plants difficult is in some characters of

both parents breaking out in different parts of one and the same plant, instead of being, as we could wish, blended together. In cross-bred Peas, for instance, which were raised from a white seeded and a green-seeded parent, it often occurs that at the second or third generation pods are produced which contain mixed white and green seeds. In the same manner round and wrinkled seeds are found in the same pod. This is a great difficulty, and an almost sure sign of further variation, as a plant showing such breaks cannot be depended upon to give rise to a uniform progeny. In many similar instances recorded in my books of experiments the green Peas gave plants with white seeds, and the white ones with green. You can scarcely expect a plant which is not constant in its own parts to be constant in its progeny.

The unity in character of any single plant is the main factor in the work of pedigree or grade breeding, and I wish to lay especial stress on that point, which I think of paramount importance. The consideration of the qualities or defects of a plant taken as a whole, not of minor parts, should guide the raiser in his work. Of this I am convinced from experience, and I may be permitted to give a few facts in support of my opinion.

The advice is often given in horticultural books to take the seeds from some particular portion of the seed-bearing plant in order to secure a better result. In German Stocks, for instance, it is a common belief that the seeds of pods taken from the middle or from the base of the main stem will give a larger proportion of plants with double flowers than if taken from the top of the same or from side shoots. I many times tested the idea, and it always proved a fallacy. All the pods on a plant give an almost exactly equal proportion of plants with double and single flowers, no matter what part of the plant they may be gathered from.

A real difference is in the percentage of single and double flowers from various plants of the same variety. In this way very wide differences sometimes occur, but not in the case of seeds taken from various parts of the same plant. I tried an experiment with seeds of *Chrysanthemum carinatum* gathered on double, single, and semi-double heads all growing on one plant, and found no difference whatever in the proportion of single and double-flowered plants. In striped *Verbenas* an unequal distribution of the colour is often noticed; some heads are pure white, some of a self colour, and most are marked with coloured stripes on white ground. I had seeds taken severally from all and tested alongside one another. The result was the same. All the seeds from one plant, whatever the colour of the flower that bore them, gave the same proportion of plain and variegated flowers. No more proof, I think, need be given that selection, which is all-important in the case of seeds from different plants, is of no importance as regards the different parts of any one plant on which seeds may be borne.

No limit can be fixed as to the improvements which may be expected from care, thought and selection. The gains of the last dozen years may usually be taken as the forerunners of better things. It is clear that no very important additions to our cultivated plants are to be expected now from the discovery of new species, but an unlimited field opens before the raiser of new and improved forms in all our garden flowers and in fruits and vegetables. The recent success of European raisers of new *Begonias*, of hybrid *Gladioli*, and of large-flowered *Cannas* are equalled by the gains of the American raisers of *Chrysanthemums*, of garden *Beets*, and of *Tomatoes*. I may add by way of conclusion that much good may be expected from the more and more frequent exchange of strains between the Old and the New World. Such complete changes of soil and of climate frequently give rise to variation, and so, either by subtle changes one cannot see the cause of or by well-considered crosses, American and European varieties of our useful or beautiful plants may give rise in their turn to more numerous and useful variations than would have occurred had these races been confined exclusively to the country of their origin.

GARDEN FLORA.

PLATE 926.

CALANTHES.

(WITH A COLOURED PLATE OF *C. GIGAS*.)

CALANTHE in its natural state is one of the most widely spread genera in the Orchid family, belonging to the few that are represented on both the Eastern and Western Hemispheres. The greater number of its species are concentrated in India and Japan, but others are found in South Africa, in Australia, and in Central America. Sir Joseph Hooker in his "*Flora of British India*" enumerates thirty-four species, so that with the representatives of other regions the genus altogether embraces about forty-five. It is with only a small proportion of these, however, that Orchid growers are concerned; most of them (including the whole of the American species) have never been introduced, so that it is probable scarcely more than a dozen species are at present in cultivation, and some of these are extremely rare.

For garden purposes *Calanthes* may be resolved into two well-marked groups—the evergreen and the deciduous. Numerically, the former is much the larger, but from the horticulturist's point of view the deciduous species are by far the more important. Although not more than three, or perhaps two, species are in cultivation, they and their varieties have been used to such good effect by professional and amateur hybridists, that *Calanthes* may safely be said to include some of the finest work done in this branch of horticulture. Of the two or three deciduous species alluded to, only one is generally cultivated; this is the old and well-known *C. vestita*, perhaps the most popular of

* Drawn for THE GARDEN in Messrs. Veitch's nursery at Chelsea, by Gertrude Hamilton. Lithographed and printed by Ben George, Hatton Garden, London.

all Orchids, taking the country through. This, however, is more especially the case in country gardens, the increasing prevalence of fogs in the neighbourhood of London having in a great measure rendered its cultivation useless there. The fact of its flowering from November onwards makes it exceptionally useful where the atmospheric conditions are favourable, but this, unfortunately, is the time when London fogs are worst, and, so far as I have seen, it is rarely indeed that the flowers escape. This applies more particularly to the typical form of *C. vestita*. The varieties of it known as *C. Regnieri* and *C. Turneri* flower well on into spring and escape, as does also the fine variety known as *gigantea* (or *oculata gigantea*), which is noteworthy because it retains its foliage during the flowering period. Its flowers are very large, the sepals and petals creamy white, and the blotch on the lip of a bright orange-red. Two other varieties which deserve mention are *Sanderiana*, with rosy carmine flowers, and *Williami*, in which the petals are pencilled with rosy pink and the lip is rosy crimson. The characters of *C. vestita* itself are so well known, that a description of them is unnecessary; it will suffice to say that it was first discovered by Dr. Wallich in Tenasserim in 1826, but not introduced to cultivation until twenty-two years after, when it was sent to Messrs. Veitch, of Exeter.

The species next in importance to *vestita* is *C. rosea*, but its importance is chiefly historical, and due more to the hybrids which owe their origin in part to it than to its own intrinsic merit. It was introduced to the Exeter Nursery in 1850 by Thomas Lobbs. As *Calanthes* go now-a-days, it is not a striking plant, its spikes being about 1 foot high and the few flowers generally of a somewhat washed-out rose colour, although occasionally flowers of a brighter and more decided shade may be seen. It is now scarcely grown except in botanical collections. Another species which may be briefly mentioned is *C. labrosa*. It is of about the same size and strength as *C. rosea*, and was introduced by Messrs. Veitch in 1878. They describe the flowers as scarcely an inch in diameter and of a rosy purple colour. Like *C. rosea*, it is chiefly interesting on account of the hybrids raised from it.

The origin of the first hybrid *Calanthe* in the deciduous section dates back to 1856, in which year Dominy crossed *C. vestita* with *C. rosea*. Three years later this cross resulted in the flowering of *C. Veitchi*, which is, so far as general garden purposes are concerned, probably the most valuable and important hybrid ever raised. This is not owing so much to its beauty—for although that is great, there are others which surpass it—but rather to its capability of being rapidly propagated and to the long start it had. It was not until 1878 that the next hybrid *Calanthe* flowered, and by that time *C. Veitchi* had become a common garden Orchid. Since then, however, many more—named and unnamed—have been raised, amongst the most beautiful of which are those of Sir T. Lawrence, who has on several occasions made a most delightful exhibit of them at the Drill Hall.

But the crown of all the hybridist's labours, so far as this genus is concerned, is the beautiful Orchid here portrayed, *C. gigas*. It made its first appearance in public on January 17 of this year at the Drill Hall, when a first-class certificate was awarded to it. It had been raised by Messrs. Veitch, who gave the parentage as *C. Sanderiana* var. *gigantea* × *C. vestita* var. *gigantea*. (The *C. Sanderiana* here mentioned is a Cochin China plant, a variety of *C.*

vestita, and must not be confounded with the new East African species of that name described last year by Mr. Rolfe.) *C. gigas* when exhibited bore a spike which was 4 feet high and carried thirty to forty flowers. The sepals and petals were nearly pure white, whilst the large lip was of a lovely shade of rose, passing into crimson at the base. Of the size of the flowers and the substance of the different segments, the accompanying plate gives sufficient evidence. This hybrid has the additional merit of retaining its foliage in a fresh and healthy condition during the flowering season, a character previously pointed out as belonging to one of its parents, *C. vestita gigantea*. Altogether, it is the finest hybrid *Calanthe* yet raised.

Several very fine hybrids have been raised by using *C. Veitchi* as a parent. From it and *C. vestita rubro-oculata* *C. Sedeni* was obtained, the flowers of which are like those of *C. Veitchi*, but deeper in shade. It was raised by the famous hybridist after whom it is named, and first flowered in 1878. From the same hand came *C. lentiginosa* (*C. labrosa* × *C. Veitchi*). Reichenbach described it as a "lovely thing," with white flowers flushed with rose. Its variety *carminata* has, according to Messrs. Veitch, the richest coloured flowers of all the hybrid *Calanthes*. Amongst the hybrids of more recent origin may be mentioned *C. Mylesi* (*C. Veitchi* × *C. Turneri* var. *nivalis*), with pure white flowers; *C. Veitchi* var. *alba*, also pure white, raised by Sir C. Strickland from the same parents as *C. Veitchi* itself.

THE EVERGREEN SPECIES.

Whilst the flowers in this section of the genus possess the same leading features as those of the previous division, especially in regard to the prominence and distinctive character of the lip—which is attached to the base of the column, and is divided into four conspicuous lobes—the species differ considerably in other respects. The foliage is not only evergreen, but is of stouter texture and of a deeper green; the large variously-shaped pseudo-bulbs of the previous section are wanting, whilst, on the other hand, the flowers are represented in much greater variety of colour. Some of this group flower during the summer, so that by growing them as well as the deciduous species *Calanthes* may be had in flower during every month of the year. Their cultivation in most respects approximates that of the *vestita* group, one important exception being the necessity of keeping them fairly moist during the late winter months, when the others are quite dry. *C. vestita* and its allies are usually grown in a brisk stove heat, but with few exceptions (duly noted below) the evergreen kinds like intermediate temperatures. They require a compost consisting of two parts loam and one of peat (both of the best fibry kind with a large proportion of the loose earthy particles shaken out), lightened by the addition of a little chopped Sphagnum and coarse silver sand. When well established, dry cow manure may be used in the compost for repotting and top-dressing. I have found it a good plan to use broad shallow pans in preference to ordinarily shaped pots. In the former the compost is less liable to become sour, and the roots can push horizontally near the surface, which they prefer.

C. BREVICORNIS.—This is a Himalayan species, and occurs at elevations of 6000 feet to 8000 feet. It was introduced to Kew only a few years ago, although known long previously. As long ago as 1838 a figure of it made from a wild plant appeared in Lindley's *Sertum Orchidacearum*, t. 9. Its flowers are quaintly, yet handsomely coloured, the sepals and petals being brownish

purple with white margins; whilst the lip is of a deeper redder purple, also margined with white. The spikes are erect and carry eight to twelve flowers, each nearly 1½ inches in diameter. It is a rare species and flowers during early summer.

C. CURCULIGOIDES.—I have not seen more than three or four plants of this species altogether, and only one in flower. It is not easy to cultivate, and being a native of the Malacca Straits, requires tropical treatment. Its flowers are small, measuring scarcely more than half an inch in diameter, but they are crowded thickly on the top of a scape 18 inches high. The colour is orange-yellow, and the species is therefore unique amongst cultivated *Calanthes*.

C. MASUCA is a useful and well-known species that has been in cultivation more than fifty years. Its flowers are usually of a purplish mauve and are numerous borne towards the top of a scape 1½ feet to 2 feet high. It is a variable Orchid, some forms having pale purple or pale rose flowers, whilst in a variety known as *fulgens* the sepals are almost crimson and the lip purple. It was originally found in the Himalayas of Nepal and Sikkim, but was later discovered on the mountains of Ceylon.

C. NATALENSIS is undoubtedly one of the most charming of this group. As the name implies, it is a South African species, and it was introduced to Kew eight or ten years ago from King William's Town. The scape is about 1 foot high and carries several extremely pretty flowers, the colour of which is pale lilac on the sepals and petals and deep lilac on the lip. As a rule, it flowers in summer, but sometimes in autumn. It is at present a very scarce species, but with the first-rate communication now existing between this country and Natal, there is no reason why it should not be more plentiful; this, however, applies to several other South African Orchids of equal merit.

C. PLEIOCHROMA.—A Japanese species which, flowering in July and August, makes a succession plant to *C. brevicornis* and *C. natalensis*. The flower-spike is 18 inches high and the flowers are pale mauve, with a spot of violet on the centre of the lip; the flowers are 1½ inches in diameter. This species was introduced by Messrs. Veitch in 1891.

C. STRIATA.—This is a plant of considerable historical interest, having been figured by the naturalist Kämpfer during his stay in Japan, where he went in 1690, but it was not until 150 years after that living plants were introduced. The following description is taken from the last plant I had in bloom. The scape was 15 inches to 18 inches high, and bore on the upper part sixteen flowers, each 1½ inches across. The sepals and petals were brownish red, more or less distinctly striated with yellow; the lip wholly yellow. *C. striata* flowers in February and March, the flower-spike and the new growth pushing simultaneously. When the flowers are past it should be placed in the Cattleya house, removing it to the cool house when growth is completed.

C. VERATRIFOLIA.—Handsome as all the previous species are, there is no question of the superiority of *C. veratrifolia* above all other *Calanthes* of this group. Its foliage alone would entitle it to rank as an ornamental plant, and when this is accompanied by the stout erect scape of pure white flowers, there are few Orchids which surpass it in all-round excellence. The plaited leaves in strong, healthy plants are 1½ feet to 2 feet long and of deep vivid green. The scape is about as much in height, with the flowers crowded in a dense raceme at the top. It has a remarkably wide distribution in its natural state. First met with in Northern India, it stretches through Cochin China and the islands of the far East away to Queensland. It is the one representative of *Calanthe* in Australia.

There is only one hybrid in this section to be mentioned; this is *C. Domini*, which was raised by Mr. Dominy, after whom it was named. It was raised from *C. furcata* (now unknown in cultivation) and *C. masuca*, flowering first in 1856, three years after the seed was sown. It is

like *C. masuca* in habit and shape of flower, the colour of the latter being a light mauve-purple suffused with white. It flowers from June to August.

W. J. B.

THE WEEK'S WORK.

ORCHIDS.

THE present season seems to be quite as exceptional as regards Orchids as it does in reference to most other plants, which are quite three weeks earlier than usual. A striking Orchid now in flower is *Miltonia Moreliana*, a remarkably high-coloured form of *M. spectabilis*. The deep purple-maroon sepals and petals form a striking contrast to the reddish purple lip. The plant was first known under the name of *purpureo-violacea*. The yellowish tinge of the entire plant is not a sign of bad health; it is peculiar to it. The plants succeed best in pans, with an inch or two in depth of peat and Sphagnum. *Cattleya Loddigesi* var. *Harrisoniae* is also to the fore in the *Cattleya* house at this season, and it is interesting in one sense, because *C. Loddigesi* was the first *Cattleya* introduced to European gardens, and was grown under the name of *Epidendrum violaceum* until Lindley founded the genus *Cattleya* upon *C. labiata*. The mention of this species reminds us that it will soon be making a very fine display in the *Cattleya* house, and those who have recently purchased imported plants will be looking out for the development of the flowers. Those who have plants of the distinct little *Cattleya luteola* should now see that the plants, which are usually grown in small teak baskets, do not suffer from want of water, as the flowers may be expected to appear two months hence. We are now finding a good deal of work that wants attending to in the *Cattleya* house. Small seedlings which were repotted in the spring have grown so much, that they need repotting again. They do not grow quite so fast as *Cypripediums* for instance, but when of small size they need repotting every year, and sometimes twice, as in the present instance. I find the small plants which have not yet grown beyond the 2-inch and 2½-inch pots do best if, say, six or a dozen of these small pots each containing a *Cattleya* plant are stood upright in a teak basket and some pots herds put between the pots to keep them in position; I also pack a little freshly gathered Sphagnum over the pots herds. If this is kept in a moist and growing condition the young seedlings generally do well. *Cypripediums* may be treated in the same way. The long-bulbed *Cattleyas* and *Laelias* require some attention at this season; some of them are now making their growths, and care must be taken to keep water from getting into the half-grown sheaths. If water does get in, or it is even suspected of being there, much the best way is to turn the plants upside down, holding the fingers over the surface of the compost, and gently shake the water out. A valuable plant may be much depreciated in value by the loss of its leading growth. Keeping the plants too wet at the roots is also a cause of decay at this season.

Laelia elegans, *L. purpurata* and the numerous distinct varieties nearly allied to the former are not only impatient of too much water at the roots, but they also suffer from a low temperature sooner than the *Cattleyas* of the *C. labiata* section. Some of the *L. elegans* type have passed out of bloom and some are yet in flower. This is a good time to repot any plants that need it, as the roots are either pushing from the base of the flowering growths, or will soon do so if the plants are in good condition. It always pays to do this work carefully. The roots generally cling so tightly to the inner sides of the flower-pots, that to knock the plants out in the usual way, by turning them upside down and tapping the rim on the edge of the potting bench, would wrench the best roots from the plants. I break the flower-pots in pieces gently with a hammer and remove the pieces one

by one carefully with the fingers. It is not necessary to remove every bit of broken flower-pot, as the compost itself will contain a fair proportion. The potting material for these should be the best fibrous Orchid peat and clean chopped-up Sphagnum Moss. The small-sized pots should be filled half full of drainage, and the larger ones rather more than this. I like to use quite fresh Sphagnum, at least for the surface. They seem to do best when the Sphagnum is encouraged to grow between the pieces of peat and potsherds, but not so much as to overspread them. Plants well rooted may not need any support, but any that are inclined to be shaky should have neat sticks placed to the bulbs, for they must be kept firmly in position. These tall-growing species seem to do best on the centre stage of the house, or at least they ought to be where draughts of cold air cannot touch them, for I have seen plants both of the *L. elegans* and *L. purpurata* types much injured by cold winds passing through badly-fitted sashes. The treatment of *L. purpurata* is much the same, except that it makes very much more roots and may have a larger shift. The growths are now starting from the base of the last-formed bulbs. Large specimens have a tendency to become bare at the centre, owing to the bulbs creeping gradually out to the rim of the pots. Back breaks may be obtained by severing the rhizome with a sharp knife at a place where the bulb is likely to break. Some old plants get out of condition and need to be broken up. That may now be done, carefully repotting the portions in suitable sized flower-pots. It is better to take the opportunity to cut off any old yellow bulbs that have lost their leaves, and with them the part of the rhizome to which they are attached; the roots at this part are mostly dead and the compost decayed to a fine black powder. All this must be cleared away and the plants given a good start in the best potting material. No plants better repay the care of the cultivator than this glorious old *Laelia*; it will always be a popular plant in collections. I may also add once more that before repotting, all insect pests should be removed by sponging or fumigating. I have found that plants which have been recently repotted are more easily injured by tobacco smoke than those firmly established. More care must now be taken in watering the occupants of the various houses; shorter days and colder nights must be thoughtfully considered.

J. DOUGLAS.

THE KITCHEN GARDEN.

MAKING UP MUSHROOM BEDS.—To succeed with Mushrooms it is of the greatest importance that the material for forming the beds be in a suitable condition. The preparation of the manure having been referred to in a former calendar, the material should now be in condition for making up. This when ready should be sweet to the smell, and be neither too wet nor too dry. It matters little where the beds are made up at this season, as any position which may not be open to too great fluctuations of temperature caused by draughts or exposed to too much heat is suitable. The position of the beds even very often makes all the difference between success and failure, as a genial atmosphere is of as much importance as the material used for their formation.

FORMATION OF THE BEDS.—The position having been fixed upon, proceed to make up the beds. It is advisable to point out that the more open the position is the greater need is there of not making the beds too small. I do not like to make the beds of a less depth than 20 inches, width 4 feet, length being immaterial. Firmness being another essential detail, this must receive due attention. If the material was in the right condition for making up, the temperature will not rise much above 100°, but if it rises rapidly above this there is danger of the bed becoming spoiled. To obviate this holes should be bored all over the bed. A temperature of 80° or 85° is none too high for inserting the spawn, which should be placed 9 inches apart equally over the bed and be fixed firmly. If there is no likelihood of the tempera-

ture rising above 80° after the spawn has been put in, the bed should be soiled over. In sheds or other not very confined places, a thin covering of hay should be laid over the beds so as to conserve both moisture and warmth. In the Mushroom house an old mat is the most suitable covering.

OPEN-AIR BEDS.—This is a good season for making up a ridge-shaped bed in the open, but a sheltered position is highly essential. The site of the bed should be marked out by inserting corner sticks, so that the bed should be evenly made. The width of the base should be from 3 feet to 4 feet, the sides being brought up to a width of a foot across the top. The material must be well beaten with the back of a fork, so as to secure the requisite degree of firmness. Over-heating is not likely to occur, and the spawn must be inserted equally over the bed, which should be afterwards soiled over. A sprinkling of long litter must be spread over the whole bed. At this season an inch would be sufficient, but later on more will be needed so as to maintain the right temperature. The state of the weather in all cases is the guide, as if too heavy a covering is placed on whilst the temperature of the atmosphere is high, the bed would become much too hot.

TOMATOES FOR WINTER.—Extra care is needed with these, for although good Tomatoes are comparatively easily secured up till Christmas, yet after this time they are more often conspicuous by their absence. If previous instructions have been attended to, the plants will now be established in their fruiting pots, and be growing in a light and airy structure which can be heated during the night. Up till now plants have succeeded well without heat, which now that the nights are cooler and moister is certainly necessary to solidify the growth so as to keep away disease. A good position now for the pots is along the ridges of soil in structures cleared of Melons or Cucumbers, the growth being tied to the trellis. The soil may be levelled down and the pots stood on the surface, or they may be plunged partially in leaves, this keeping up a healthy root-action without causing grossness. The growths must be kept thinly trained, no side shoots being allowed to smother up the main stems, or the flowers will fail to set through exhaustion. As these open attend carefully to the setting. By keeping the plants carefully watered and the atmosphere in a warm and buoyant state through careful ventilation, a good set should be secured.

A. YOUNG.

FRUIT HOUSES.

PINES.—Fruits of Smooth Cayenne or other varieties that are to ripen in October and onwards ought now to be swelling rapidly, and the plants should be kept well supplied with guano water varied with diluted drainings from a farmyard. No strong doses ought to be given, the better plan being to give it them well diluted with water each time. Avoid over-watering, only enough being given to keep the soil uniformly moist. A night temperature of from 70° to 75° is suitable, a bottom-heat of from 85° to 90° being maintained. Close the house early enough on warm days to raise the temperature to 85°. Keep the air well charged with moisture, and on sunny afternoons lightly spray the leaves, but avoid wetting the crowns, especially in the case of Charlotte Rothschild, or otherwise they may become disproportionately large and ugly. Those plants with fruit not far advanced in growth may well have a few of the smaller lower leaves removed and then receive a top-dressing of horse-droppings and turfy loam in equal parts, or the former alone. This will prevent a loss of moisture from the soil and afford some support to the plants. Pines that are colouring should be placed at the driest and airiest end of the house, the flavour not being so good when the ripening takes place in a moist atmosphere and strong heat. Any fruit that is nearly ripe, and which it is desirable should keep for some time longer, may be transferred to cooler, drier quarters, such as a fruit room or a vinery,

and no water be given the plants. The most forward Queens, and which it is intended to fruit early next year, ought now to have less water given them, the atmosphere also being kept drier. Only enough water should be given to prevent the soil becoming excessively dry and the foliage limp. There must be no more overhead syringing and the night temperature should be reduced to about 65°. Plants to afford a succession should be kept growing strongly for another month, the heat and moisture being kept up during that time. Suckers may still be put in, the strongest being given 7-inch pots, and for the rest 6-inch pots are quite large enough. Use fibrous loam and a sprinkling of bone-meal only. Supposing the soil is in a moderately moist state, no water will be needed till roots are forming, and which soon takes place if the pots are plunged in a brisk bottom-heat of from 85° to 95°, the top heat being from 65° to 70°. During hot days very gently spray the plants overhead, ceasing to do this after they have formed roots.

BANANAS.—Late formed clusters of fruit will ripen readily enough in an ordinary stove temperature, and prove very acceptable during November and December. Bananas revel in rich food and plenty of moisture, and they ought always to be fed very highly from the time the clusters first show till near the ripening period. Rich top-dressings are also quickly taken possession of by the coarse hungry roots. Cut off the unsightly ends of the inflorescence just beyond where the last whorl of pods promises to swell to the full size, and remove any scales or dead flowers that are starting to decay. Those fruits that are ripening should, if possible, be subjected to a rather drier atmosphere, and when the uppermost have changed to a yellow colour and commence to crack, cut them and place in the fruit room to further mellow. This will be found a better plan than cutting whole clusters at one time, as any that are cut when quite in a green state and ripened similarly to those imported will not be any better than the latter; whereas they ought to be much superior. Plants that are to fruit early next year ought now to be growing very strongly, being already well established in either large pots, tubs, or small brick pits. Continue to keep them well supplied with water, varied with liquid manure if at all root-bound, the resting during the winter being brought about by the ordinary method of lowering the temperature so as to not greatly exceed 60° by night.

PEACHES AND NECTARINES.—This season the wood has matured very early and the leaves will fall probably three weeks or a month sooner than usual. It is after the wood is fully matured and the buds well plumped up that root-action is briskest, this going on all the while the leaves remain in a green or semi-green state. It is of the greatest importance, therefore, that the borders be kept in a thoroughly moist state, liquid manure being given to those somewhat impoverished, this tending to promote a stronger break next season. Unmulched borders frequently crack badly after overhead syringing ceases, but this must not be allowed to go on, or very many roots will be broken and a severe check be given to the formation of fibres. The surface of hard cracking borders should be lightly broken up, though not to the extent of damaging many surface roots, and a good soaking of water be given for two days in succession. All Peach houses are not favourably situated for the perfect ripening of the wood, and should there be any signs of backward maturation, more especially in the case of strong young trees, fire-heat, where possible, ought to be turned on and a good circulation of warm, dry air be constantly kept up. Continue the cutting out of exhausted wood or any old fruiting shoots that would otherwise have to be cut from the trees at the winter pruning, and the wood reserved will be all the better for the additional light and air that will reach it.

ROOT-LIFTING AND TREE-MOVING.—As root-action is briskest after the crops are cleared from the trees and the wood hardened, any root-lifting and tree-moving that may be thought desirable

should be done, this giving the trees a chance to recover from the check before the leaves all drop. Those trees that are rooting most strongly near the surface prove the most profitable, these also presenting the healthiest appearance throughout the season. Deep root-action is very frequently plainly denoted by the sickly yellow colour of the points of the branches. Now is a good time to open a wide deep trench at a distance of 5 feet or rather less from the stem of the trees, following this up by well underminding so as to reach all the deep running roots. In many instances it is necessary to raise the ball of soil and roots saved considerably, the collar of the stem being brought fully up to or even well above the level of the border. In any case the roots saved, after having their broken ends pruned, should be brought up much nearer the surface than heretofore, and if the old soil is at all exhausted, substitute a good loamy compost. Trees may also be safely transplanted from early houses to successional compartments or *vice versa*. No attempt should be made to save a very large ball of soil with the roots, especially if hot-water pipes are in awkward positions or doorways have to be passed through. Take good care of the best of the roots, and make some allowance for sinking when the trees are replanted. Keep the roots within easy distance of the surface—they will strike downwards readily enough—and well distribute them through the soil. Keep the old ball of soil thoroughly moist, but avoid badly saturating the new soil. Syringe all newly-moved trees very frequently; they must be kept constantly wet in fact if disposed to flag badly, and they should also be shaded from bright sunshine and kept rather close. Partially lifted trees that give signs of flagging should be similarly treated.

PRACTICAL.

PLANT HOUSES.

GREENHOUSE PLANTS PLANTED OUT IN OPEN BORDERS.—**SOLANUMS.**—Those who are short of labour (and they are a good many), and consequently plant out these and other plants which are grown in quantity, must not much longer postpone the potting up. Solanums, when required larger than the trade size of plants in 4½-inch and 6-inch pots, are much easier grown by planting out. These will then later on be first-rate plants for large houses. Any secondary shoots made since the last stopping should be pinched back so as to expose the berries as much as possible and to assist them towards perfect maturation. In any case where the growth has been luxuriant, a spade should be worked round the plants to check the growth and to induce the roots to break afresh in that part of the ball which will be retained when potted. When this is done, a few moistenings overhead should be given, and a good supply at the roots also. Keep down any attacks of spider either by renewed syringings or by the use of sulphur.

SALVIAS.—To these the same remarks mainly apply. The latest stopping of such as *S. Heeri* and *S. gesneræfolia* for early spring flowering should now be given. Both of these sorts are disposed to run away in growth if not stopped a few times, besides which, by stopping now and at the same time checking the root-growth, the plants will lift all the more satisfactorily. Before lifting, the shoots should all be secured by ties to prevent breakage. Other kinds for late autumn and winter flowering, as *S. splendens* and *S. Betheli*, if they have been planted out should be the first to be lifted, and no more stopping should be allowed.

CHRYSANTHEMUMS, &c.—Where these come under this heading it will not be advisable to postpone potting many days longer, otherwise there will not be sufficient time for fresh root-action before the flowering season. If only wanted for cutting, a ready method is to lift with large balls and stand them in cold pits, empty orchard houses and the like, with plenty of covering to the roots for moisture. The late kinds, or at most the mid-season varieties, are the best to plant out for lifting. All other plants upon which any future store is set and which are expected to

retain their foliage and freshness should not be left out in the open ground much longer. The after treatment for a time in all of the foregoing cases must be rational if the best success is to be attained. By this, I mean that a close house or pit is not the right thing; it induces a soft and weakly growth, which is easily encouraged with a close treatment and too much moisture. See to it that the plants do not suffer from want of water, and let them have two or three syringings during the day. In most or even all of the foregoing cases the plants should be able to withstand any serious check without any coddling. If in the worst cases they do suffer more than is desirable, keep them close during bright sunshine, and give air more freely from the afternoon until the following morning.

WINTER-FLOWERING PLANTS IN POTS.—This month should be one of hardening to the growth of such as *Poinsettias*, which ought now to be well established in their flowering pots. Too much heat and moisture only tend to lengthen the stems of the plants to no good purpose. A light, rather dry and more airy house or pit should now be accorded them. With this treatment, however, they must not suffer at the roots. For a few days it may be needful to watch the plants against burning if previously any shading has been in use. *Euphorbia jacquiniæflora*, on the whole, does best with rather more warmth than the *Poinsettia* at this stage. I prefer for my own part to keep this plant in the stove, but fully exposed to the sunshine to ripen its growths. In both instances these plants should have occasional doses of liquid manure when the pots are well filled with roots. If there are any scale or bug on either, use every means to keep the same down and the foliage healthy and clean.

Winter-flowering *Begonias*, as *B. insignis* and its allies, should now be kept cooler and in plenty of light and air. Never mind if the foliage, as compared with plants in heat and moisture, does look less healthy; it may assume a yellowish green, but this is no indication of being out of health. The advantage will be apparent later on when the plants are in flower. *Eranthemum pulchellum* should by this time have made a good growth. This plant can be grown along now with the *Poinsettias*, but I prefer to give it a little more warmth, not so much, however, as that accorded to the *Euphorbia*. A pit to themselves or a shelf near the glass in an intermediate house would suit them. *Centropogon Lucyanus*, *Conoclinium lanthimum*, and *Reinwardtia tetragyna* will each do well treated like the *Begonias* aforesaid, the ripening being favourable to future flowering. *Scutellaria Mocciniana*, *Justicia carnea*, and *Thyracanthus rutilans* will each be at home with the *Poinsettias*; so also will *Plumbago rosea*, *Amasonia punicea*, *Aphelandra aurantiaca* Roezli, and the *Jasminum* ought not to be out of the stove proper. If these are allowed to remain in a temperature much lower than the stove, there will be a risk in their losing their roots or in receiving a check in other ways. Let the watering now in any case be done early in the day, not nearly so much atmospheric moisture being needed.

JAMES HUDSON.

A new China Rose.—An acquisition to a charming class is named *Duke of York*. It is in bloom now in the Waltham Cross nursery of Messrs. Wm. Paul and Son, and deserves mention for its distinctness and bright colour. It reminds one in general aspect of the popular *l'ideal*, the flowers of a crimson shade of colour passing to white towards the base of the petals. We noticed it also in the large collection of Roses from this firm at the recent exhibition of the Royal Horticultural Society at the Agricultural Hall. A good, free, and bright coloured China Rose is always welcome, and we are pleased to see that so much interest is now taken in those classes of Roses that were until comparatively recent times frowned upon. The rosarians of old seemed to have considered the *l'hybrid Perpetual* perfection and alone worth consideration.

ORCHARD AND FRUIT GARDEN.

COARSE FRUIT.

DURING the last six years I have noticed a tendency in judges to favour great size in fruit rather than quality. This has been the guiding principle of fruiterers and market salesmen very much longer, and even owners of large gardens have a similar weakness, so that, all things considered, it is not to be wondered at if gardeners generally adopt the same ideas. What individuals may think and say has little or no effect upon the different classes alluded to. Now-a-days it matters but little how good the quality of the Grapes exhibited at a flower show or displayed in a shop window may be if great size be wanting. Such varieties as Madresfield Court, Black Hamburgh, and Foster's Seedling are frequently so badly treated, that they are fast going out of cultivation, or at any rate the Vines of them are being very greatly reduced in numbers. I have frequently seen the first-named in excellent condition passed over in favour of Alicante, and that, too, in August. Certainly the latter was shown in good style, but it ought to be remembered that it is of easy culture and, as a rule, not of first-rate quality; whereas Madresfield Court requires a lot more doing, and, as far as quality is concerned, is immeasurably superior to the Alicante. So long as a separate class is provided for Black Hamburgh it will be seen at flower shows, but when it has to be pitted against Gros Maroc in good condition, it must be considerably above the average to take a prize. Gros Maroc is even frequently shown in collections of fruit where, if anywhere, we look for good quality, and yet it is only one remove from another coarse, badly flavoured variety—I mean Alnwick Seedling. At Shrewsbury extra fine and very ugly bunches of the latter were shown in a winning stand, but all the while judges favour such monstrosities there will be no attempt made to either select better shaped bunches or else to trim the rough ones into shape. At the same show and, if I remember rightly, on the same stand Alicante was shown equally rough and ugly. I readily admit that the berries were also large and well coloured, but that is no excuse for such unsightly clusters. Vines that produce the latter would also give bunches both large and handsome, and it is these that ought to be saved and the great branching clusters cut away. In another instance, large, though not badly formed, clusters of Gros Guillaume so caught the judges' fancy as to quite drag six other very moderate bunches along with them, yet they were neither ripe nor even well coloured. What will be the consequence of all this? Simply a general resort to the cultivation of varieties and the production of bunches that will best please the judges. The pretty bunches of choicer varieties will not be seen in competition for big prizes, and the scales will decide who shall take the prizes.

It is not black Grapes only that are wrongly judged, and this several exhibitors of Foster's Seedling, as well as disinterested onlookers, must have felt. No matter how well this variety may be shown, very mediocre bunches of Buckland Sweetwater will beat it. At Shrewsbury, for instance, there were three grand bunches of Foster's Seedling shown from South Wales, but they were passed over in favour of second-rate Buckland Sweetwater. Why should looseness of bunch and unevenness of berry be tolerated in Buckland Sweetwater any more than in the case of black Grapes? If only the half of the berries are larger and all

not exactly green in colour the prizes go to them, and the better flavoured and probably more perfectly ripened Foster's Seedling is nowhere. Muscat of Alexandria still holds its own against all comers among white Grapes, but the judges, as a rule, do not seem capable of appraising the merits of this variety properly. In a big class the bunches must be large and the berries of good size or they will not be looked at, some of the best ripened Muscats shown this season not being noticed other than by experienced critics.

Pine-apples are not very numerously shown anywhere, but enough are to be seen to prove my argument that coarseness is the order of the day. All must admit that a well-grown Queen is superior to all other varieties in point of flavour, but unless the fruit is nearly or quite equal in size to Smooth Cayenne it stands a good chance of being beaten. I hold that a well-formed, perfectly ripened Queen shown in August, and weighing say four pounds, should score over, or be considered equal to, a Cayenne or any other variety shown against it, no matter how heavy the latter may be. A Smooth Cayenne weighing six pounds is more easily grown than a Queen weighing four pounds, and there is no comparison as far as quality is concerned. Huge Melons as yet are not in great favour. A fruit weighing four pounds is quite large enough for a collection, and one weighing not more than one pound not unfrequently takes a prize when the fruits are judged by flavour. With Peaches, however, the case is very different. Great size would appear to be all that is necessary, little or no weight being attached either to the form, colour, or known good quality of the varieties staged. Fortunately, Sea Eagle is both large and good, but ought certainly to have some colour when shown. But for the introduction of this variety we should soon see Lord Palmerston, Pavie de Pomponne, Prince of Wales, Exquisite, and such like once more brought into prominence; in fact, unless I am very much mistaken, a "washed-out" dish of Pavie de Pomponne did recently take premier honours in the Peach class at a leading show. I am averse, as a rule, to cutting and hacking exhibition fruit, but would always test coarse Peaches. With such handsome richly-flavoured varieties as Bellegarde, Crimson Galande, Royal George, Grosse Mignonne, Dymond, and Barrington to select from there ought to be no necessity to either award prizes to or cultivate the coarser sorts. With Nectarines there are few or no causes for complaint, good dishes of Pine-apple or Pitmaston Orange being rarely or ever passed over in favour of less richly flavoured varieties.

It is among Plums where the greatest confusion exists, no two sets of judges apparently being able to arrive at similar conclusions. Some give the preference to good dishes of varieties of known excellence, and some cannot get away from great size only. Sometimes we see them compounding, as it were, the first prize going to a dessert variety and the second to a cooking sort. In one instance Jefferson was rightly placed first, but somewhat smaller, though good fruit was passed over in favour of White Magnum Bonum, this being, as a good fruit grower remarked in my hearing, "a descent from the sublime to the ridiculous." Pond's Seedling, Prince Englebert, Diamond, White Magnum Bonum and Goliath are poor, coarse things compared with Jefferson, Oullin's Golden, Transparent Gage, Kirke's and such like; yet at the great Shrewsbury show some of the former were most favoured by the judges. A few years ago medium-sized to small dessert

Apples were preferred, good form, rich colour and known good quality of the varieties most affecting the decisions. Now-a-days dessert varieties cannot well be too large. It is true evenness and colour greatly recommend them, but there is no getting away from the fact that they must be comparatively coarse to win prizes. Are these big fruits most appreciated on the dining-table, or is it not the case that medium-sized, well-coloured Apples still find favour? Pears have been grown to huge proportions of late years, sensational dishes being seen at most autumn shows. Among some judges, however, there is a tendency to favour the less coarse fruit, the preference being rightly given to moderately large, well-matched and brightly coloured Pears. This is as it should be, and it is to be hoped the same rule will be once again applied to the Apple classes.

Not many mistakes are often made with respect to Apricots, the finer varieties, notably Moorpark and Hems Kirk, being also the most richly flavoured. The coarsest Fig I am acquainted with is the Castle Kennedy, but, thanks to the habit this variety has of cracking badly, it is not grown much, and most of the others are of good quality. Very little can be said in favour of the largest varieties of Strawberries; whilst big Gooseberries are poor things compared with the smaller varieties.

FRUIT GROWER.

Deterioration of Melons.—No sooner is a new Melon certificated, than in all directions attempts are made to use it for cross-breeding. It is quite evident that this in-and-out cross-breeding is weakening the constitution of the Melon, and no doubt may be another reason for the early collapse of plants before the fruit is perfected. Considering the number of years that attempts have been made to improve the Melon, the ideal should have been reached long ere this, but instead of going forward, it is just the opposite. In no introduction of late years is the flavour better than in some of the older kinds. The flavour of the Melon depends upon the grower, but for this to be perfect, the plants must be well grown and the fruits ripened on the plant.—A. YOUNG.

Crab trees in fruit.—These are certainly well worth the attention of the planter for their ornamental features alone, but in addition to this the fruits can be made into a very superior jelly. Where hardy fruits are exhibited in quantity, after the fashion so popular at some of the large shows, the different Crabs are very effective, and in this way some of them were especially noticeable at the Agricultural Hall. The variety John Downie, with its bright red and yellow fruits, is, perhaps, the finest of all where there is only space for one, but it by no means stands alone, as there are others that well merit a place. A very distinct form is Dartmouth Crab, a good deal larger than any of the others. This is, when ripe, of a bright purplish crimson tint and covered with a bloom after the manner of a Plum. The Fairy, a small red and yellow form, is very pretty, and so are the Siberian Crabs, some with red and others with yellow fruits, while that known as the Transparent is quite distinct from the others.—T.

Plums on north walls.—As I have previously recommended the growing of some of our choicest Plums against north walls, my reference to them now is to further emphasise the statements then made, from a close observation again this season. This season certainly has been more in favour of the production of good fruit from such a position than some previous years. I never had finer fruit from any position than from the trees against a north wall during the past few weeks. Jefferson, Kirke's and also the Green Gage were very fine. It is surprising how well this last succeeds against a north wall, the fruit this season from trees grow-

ing in the open not being nearly so finely flavoured. It is quite evident that other fruits, as well as Morello Cherries, Currants and Gooseberries, can be grown with advantage on north walls.—Y. A. H.

APPLE LORD SUFFIELD.

GIVEN the right soil and situation, where vigorous growth and freedom from canker can be ensured, this variety should take the lead. As an early cooking Apple and valuable market fruit it cannot well be beaten. Lord Grosvenor, frequently recommended as a substitute, although in some few soils succeeding where Suffield will not, is second to it in earliness and regularity of cropping; at least, that is my experience. Having made the culture of this Apple a speciality both in the form of

my five-year-old bushes, large enough to bear one and a half bushels of fruit each, have not hitherto given a good crop. Although Lord Suffield does not grow into a large tree, owing to its heavy cropping propensities, it is really a vigorous variety; at least, a young tree which will produce a bushel of large fruit and throw up shoots 2 feet in length in a season like the present cannot be called a weak grower. In grafting especially is the vigour of Lord Suffield seen. The grafts take better than those of any other kind; even the smallest wood is certain and soon swells and heals over the stock, so that it is possible to utilise all wood of proper length cut off in pruning. The grafts also keep sound in the soil longer than those of most varieties. Some object to growing these large Apples on standards on account of damage by wind, &c.; but as regards Suffield, not only is

good unless treated better than orchard trees generally. Grass and weeds should be kept clear at the least 2 feet or more round the stems. By grafting on to various stocks, some early and some late, there will be a better chance of some fruit escaping when frost comes with unusual severity. In 1891 my best crop was from grafts put on a tree of a specially early cider kind. Suffield trees generally were just in bloom on that terribly destructive morning of May 17, but on this one the fruit was set and comparatively uninjured. The time the fruit is ready for market does not seem to vary much, whether the stock be early or late. No doubt one chief reason that Lord Suffield is so good and regular a cropper is its tendency to profuse blooming and setting of fruit. The fruit will set in such abundance that even the various forms of blight cannot destroy it all. Kinds that bloom only moderately have stood no chance of a crop, for this has been a particularly trying season for Apple trees. Caterpillars of all kinds were very destructive here, and the Apple crop generally is very light indeed. Drought is one of the chief inducements to blight. When a plant or tree is suffering from want of sufficient moisture at the roots or the reverse, some form of parasite is sure to attack it, and hot weather with the entire absence of cleansing showers exactly suits the progeny of the winter moth, the lackey moth, the small ermine moth, and other caterpillar pests. Caterpillars are to be found every year as sure as the spring comes, and although in some seasons the weather is not favourable to their development, more or less damage is always done. Fruit will not grow without leaves, and the healthier the foliage the larger and more perfect the fruit. There is a marked advance in the size of early Apples on trees where the forward leaves are allowed by unassailed growth to draw a full share of nourishment from the atmosphere. Nitrogen in some form the tree must have, and the broader the leaf the greater its absorptive power.

I am not an advocate for much pruning: the heads of grafted trees will occasionally require thinning, and pruning is beneficial to Lord Suffield to a certain extent. In the case of bush trees on a rich soil, pruning is quite necessary the first few years, or a good deal of propping and tying will be needed. One of the chief objects in pruning these should be to enable the tree to carry a heavy crop without artificial support. This is best done where the annual growth is long by cutting back about one half, though where the shoots can be supported, as in the case of young espaliers or trees trained to a fence or arch, I believe in extension where there is room, and in any case to prune back all the young growth to a stubby head, as is done so frequently in gardens, is not the way to secure a full crop of this or any other Apple. Bushes and espaliers which have been served in this way year after year will generally be improved by cutting right away at least half of the head (and the present is a good time for doing this), thereby letting in more sunlight and allowing more extended growth. A taller and larger bush need not necessarily cause more injury to other garden crops by its shade, for you should be able to see through an Apple tree in the summer, then there is a chance for the direct sunlight to play on the fruit, a matter of the first importance with Red Astrachan, Worcester Pearmain, and other varieties, the chief value of which, as market Apples, lies in their superbly rich colour.

There need be little fear of overcropping Suffield if the tree has plenty of nourishment and the fruit is not too thick to grow to the fullest



A fruiting branch of Apple Lord Suffield.

bush trees and as standards, I can recommend it as the most profitable Apple to grow, and every year I look on it with more favour. Of course, we must have variety. Really good dessert Apples are likely to be always in demand, though the reliable, free-cropping, and profitable early dessert Apple is yet to come.

There are, no doubt, soils on which such varieties as Cox's Orange Pippin succeed well, and we are not likely to be over-done with fruit of that description. Here ten bush trees of Cox's Orange planted five years have not yet produced a peck of fruit. I have found Stirling Castle a heavy cropper and grand for bush culture, but not well adapted for standards. I certainly have young standards which have borne a heavy crop of fine Apples every year since they were planted, but they require propping and tying to save the tree and fruit. Ecklinville Seedling is recommended as a first-class cropper, but

the fruit, as a rule, marketed before rough weather sets in, but the stem sprays have a natural tendency to enlarge and bend to the weight, enabling the fruit to hang on much firmer than that of many kinds, and it is surprising what a weight of fruit a three or four-year-old graft will carry. Only the other day I gathered some fine fruits from grafts put in in April last. At present (weeks after Lord Suffield has been gathered) the ground in the orchards is strewn with late Apples, such as Blenheim and Wellington, though drought and codlin moth are as much the cause this season as the prevalence of high winds.

If for standards on grass land, the young trees after being purchased from the nursery should be grown a few years on some good land, where they can receive special cultivation, for you cannot, as a rule, procure trees of sufficient size and strength to go directly to the orchard. If planted small on turf Suffield will do little

size. The tree has a long season in which the recuperative process is going on to give strength for its next effort in bearing. This is one of the chief reasons no doubt why fruit-buds are so freely produced in this variety. As a rule I do not find thinning the fruit necessary, but this should be attended to where needful.

Holmer, Hereford.

E. W. BEAVEN.

LIFTING PEACH TREES.

THE beginning of September may be considered rather early to lift or transplant Peach or Nectarine trees, but it must be taken into account that we have had a tropical summer, and that most of the trees inside will have finished their growth sufficiently to allow of their being moved with safety. I am aware that this early lifting of trees is not favoured by some, but I am fully alive to its value, as it is useless to wait for the leaves to fall if the best results are expected next season. I do not think any stone fruit repays for lifting better than the Peach and Nectarine. No matter how carefully one plants Peach or Nectarine trees, with good culture gross wood results, and this grossness is better counteracted by lifting than any other plan, that is if due attention is paid to extension. In good loam the trees invariably run to wood, and as one is anxious to fill a large space as early as possible, a check during the growth of the trees is not given by stopping. In such cases lifting may be prescribed as the remedy. I do not advise extreme measures, but care and a certain amount of time to the work. By proceeding cautiously there need be no fear as to loss of crop, and the health of the tree will be assured for the next four or five years. To show the good resulting from lifting, I have for the past three autumns annually moved a Nectarine tree of large size. This tree has borne very fine crops yearly, thus showing that if care is taken to preserve the fibrous roots, no harm will follow. Cherries thrive much better the following season if lifted or planted early in October in ordinary seasons, and in such a one as this I would advise a fortnight earlier. This early lifting or transplanting is more difficult when the trees have to be conveyed some distance, but even then I would prefer to plant early, provided the trees are well furnished with fibrous roots. In lifting, care should be taken to keep at a good distance from the trees, and in the case of Peach trees in early houses lifting should be done early in September. It is a very good plan to damp the lifted trees overhead in the evening, as this keeps the buds plump and enables forcing to be done more readily the next season. With large trees it is not necessary to remove every particle of soil. Allow that adhering to the fibrous roots to remain, provided the weight does not break the latter. The preservation of fibrous roots is an easy matter if there is room allowed at the start to get round them. All large roots may be cut clean off at a fair distance from the tree, and if the roots are inclined to descend, planting higher is beneficial. Manures of any kind should be omitted, good turfy loam well rammed or trodden being essential, and in clayey soil some mortar, brick rubble, or road scrapings is a valuable addition.

By this early lifting, severe cutting back, often the cause of canker later on, is avoided, and the trees can be forced the next season if not subjected to excessive night temperatures at the start. In the case of trees on open walls and that are required to fill up gaps I still advise early lifting, as by so doing the root action continues as long as the leaves remain, if these are assisted by frequent dampings to preserve vitality and encourage new root growth. After lifting no tying should be done till the trees have well settled down.

G. WYTHES.

Frogmore Prolific Apple.—This variety has done wonderfully well this season, and though not so much grown as some large Apples, on a heavy

clay soil in warm seasons it is a first-rate fruit and of high quality. I consider it one of our best flavoured kinds for kitchen use, and it frequently crops when others fail. The tree is very hardy and a constant bearer. In some catalogues it is described as a dessert and cooking variety, but I consider it most suitable for kitchen use. I recently saw some very fine trees in pots, and was informed that this variety never fails to crop when grown thus, and to give fruit of high quality. At the Islington show of the R.H.S. it was staged in fine condition in several collections, some nice trees in pots also being shown.—S. H. B.

THE FRUIT CROPS.

Abberley Hall, Stourport.—This garden is situated at a high elevation; in fact, it is much the highest cultivated point in Worcestershire; therefore one might naturally expect that we should have suffered greatly, but such has not been the case. As regards the fruit crop generally, Apples are abundant, but rather small, the dry weather being answerable for this. Pears are a fair average and clean, and will, no doubt, swell to a fair size. Plums are better than I expected at one time. Victoria and Jefferson are the heaviest cropped; the majority of other kinds are carrying a good half crop, and since the rains they have improved immensely. Damsons, where not attacked by aphides, will bear a crop. Strawberries a very heavy crop, but rather smaller than usual. Cherries of the dessert kinds, both on walls and in the open, a fair average crop and the trees clean. Morellos a very heavy crop, both against north walls and on bush trees in the open. Apricots very good, but the fruits rather small. Peaches and Nectarines are also excellent. Other small fruits have borne heavy crops.

The vegetable crops have also not suffered to such an extent as on lighter and gravelly soils. A fair amount of manure and the surface kept well stirred have assisted crops immensely. Peas have been the quickest over, but we have not been without a gathering a single day. These latter were well mulched and also watered. Except the very earliest crops on south borders, the Potato crop is good, and so far perfectly free from disease. On well-cultivated farms the root and corn crops are very good, the hay crop being the only failure.—A. YOUNG.

Tortworth, Falfield.—Apples in this district set abundantly; the crop is over average and fairly good. Pears are much over average and very fine—better than they have been for at least ten years. Cherries somewhat smaller than usual, but a full crop. Peaches and Nectarines are very good where the trees have been properly cared for. Apricots very abundant. Small bush fruits good, but the caterpillar very troublesome. Raspberries and Strawberries quite an average crop and very good. Nuts abundant.

The early Potatoes are very good and quite free as yet from disease. The later crops look very promising. First early Peas very good, but mid-season crops are the worst ever known. Dwarf, also runner Beans fairly good. Broad Beans poor.—THOMAS SHINGLES.

Witley Court, Stourport.—In this locality vegetation has not suffered from the drought to such an extent as is the case in the more southern and westerly districts. Apples and Pears are fair average crops, the fruit and trees being clean and healthy looking, and much benefited by the recent rains. Stone fruits collectively are above average. Peaches and Nectarines are abundant, so also are Plums and Apricots; Damsons are only partial. Cherries were most abundant, the earlier kinds suffered somewhat from drought, but the Bigarreaux and other late ones came up well. Morellos are full crops of fine fruit. Small and bush fruits of all kinds are, and have been, most abundant. Strawberries suffered the most from want of rain,

but where water was available in quantity the produce was excellent. All kinds of Nuts, especially Walnuts, are plentiful.

Potatoes, early kinds, are on the whole deficient in size and quantity, the exceptions being on previously enriched borders where water could be applied copiously with the hose. Recent rains have ensured the crop of late and field kinds. Hops have been much benefited by refreshing showers, and where washing has been attended to, look remarkably promising. Roots are somewhat patchy, but are growing away luxuriantly, and will soon make up lost time.—J. AUSTEN.

Forde Abbey, Chard.—For upwards of eighteen weeks we had but little rain. We have plenty of water, and things have fared much better. In our case many fruit trees have been greatly benefited by a good watering. Apples bloomed most abundantly and promised a grand lot, but the weather being so dry, the trees became infested with insects. The following are very good: Royal Somerset, Cox's Orange Pippin, several of the Codlin type, King of Pippins, Frogmore Prolific, Lane's Prince Albert, and that valuable late kind Sturmer Pippin. Pears are variable; our best are Marie Louise, Louise Bonne of Jersey, Beurré d'Amanlis, Beurré Diel, Winter Nelis and Jargonelle. The fruit promises to be very early and extra large. Plums are extra good, Victoria, Green Gage, and several of the Gage type, Jefferson, and Golden Drop are all well cropped, the fruit swelling off to a good size. Trees are now clean, the heavy rains of late washing off the fly with which they were badly affected. Strawberries came on very early, and gave us a good crop of extra large fruit, thanks to being mulched early and having plenty of water. Our best kinds were Keens' Seedling, Héricart de Thury, Noble, Unzer Fritz and Elton Pine. Morello Cherries enormous crop and good. Apricots were the heaviest crop I ever had. Some shoots set as many as from thirty to forty fruit on a foot length of wood. To assist this crop we gave good soakings of water after applying guano, and now the trees are looking well. Our garden lying low has not suffered so much as many, and since the rain things have improved immensely.—J. CROOK.

Trelissick, Truro.—The phenomenal season of 1893 will long be remembered in this neighbourhood. From the end of February to the end of June we had scarcely enough rain to lay the dust. Crop after crop was sown both in garden and field, and the seed might just as well have been left in the bag, for it never germinated. Beet, Mangolds, Carrots, &c., sown first week in May only began to appear above the soil beginning of July. Peas and Broad Beans, sown in March and April, made a fair start, but were soon attacked and crippled with aphids and thrips. In many places the ordinary water supply completely failed, as was the case here, the only available water having to be carted from a long distance. Still, all kinds of fruit set well and gave promise of abundant crops. The Strawberries were burnt up before they had attained half their usual size, and thousands of the plants killed. Raspberries were abundant, but very small and poor in quality. Gooseberries and Currants gave exceptionally heavy crops, which matured well, a few syringings of hellebore powder having kept the bushes in perfect health and free from caterpillars. The bush fruits here are all grown under permanent wire netting, which protects them from bullfinches in winter and the ripe fruit from the birds in summer. The present is the sixth season our bush fruits have been so protected, and so far it has proved a perfect success. The trees are in excellent health, heavily laden with splendid fruit, while in the past it was very difficult to protect the berries till they were thoroughly ripe, so that wire netting has proved more satisfactory and cheaper in the long run than fish netting, which rots so quickly and through which the birds often manage to pass. Bush fruits do not appear to have suffered much from the prolonged drought. Apples are a very heavy crop, but will be very small, though the present genial showers will no doubt do much to swell them up before the ripen-

ing period, which will be abnormally early this year. Some of the earliest sorts began to fall quite ripe the last week in June. Apples, however, will be plentiful and cheap. Pears are abundant both on walls and standards. Fruits of Citron des Carmes and other early sorts began to ripen at the end of June. Plums are very plentiful. The extensive Plum orchards in this neighbourhood give promise of heavy crops, though in some the caterpillar has made great havoc. This is not a great district for Cherries, but they have been more plentiful this year than usual. Peach and Nectarine trees are carrying heavy crops. I never remember them cleaner or in better condition. They have, however, been plentifully supplied with water to both roots and foliage. The first Peach to ripen was Early Alexander on June 20, which is nearly a month earlier than our usual time. Tomatoes are doing splendidly both indoors and out, carrying immense crops of very fine fruit. Ornamental trees and shrubs, especially newly-planted ones, have suffered greatly from the drought. Several Rhododendrons and old-established plants of Pernettya have been completely killed, and many gardeners, I fear, will be at their wits' end to keep up their vegetable supplies during the coming winter.—WM. SANGWIN.

Compton Basset.—In these gardens we do not feel the drought as in others; in fact a dry time suits us to perfection, but, of course, not such an exceptionally dry season as the present. Our outlook here in the early part of this season was splendid for everything, and even now we shall get a good and abundant crop of fruit. Vegetables, such as Cauliflowers and Cabbage, &c., have not been very good. Peas have been short-lived. Lettuce have been grown with much difficulty, and until the rain came they were beginning to get mildewed at the roots. Deep-rooted things have done well. We have been obliged to water all growing crops, but latterly we have used up the supply of water after having only watered the small fruit trees. Apples are abundant; the quality will be good, and the fruit will be ready for storing early. We have gathered Red Astrachan and Juneating. Blenheim Orange, King of the Pippins, and Ribston have heavy crops. Pears are very good, the fruit fine and of good colour. We gathered Doyenné d'Été July 2, and Jargonelle on July 10, fully six weeks before its usual time. Marie Louise and Louise Bonne will be ready, I expect, the beginning of September. Gooseberries, Currants, and Raspberries are and have been excellent crops, fruit rather smaller than usual. Strawberries a good crop, but soon over. Peaches, Nectarines, and Apricots are good. I never saw such crops outside before. Had to thin very much. The Shipley Apricot has been excellent. Peach and Nectarine trees have become affected with spider in spite of daily washings with the engine, but have made splendid growth, and the early varieties have been cleared. We gathered Waterloo on June 27. Cherries, both the sweet and Morello, are very good and crops heavy. Plums are unusually heavy crops, and have had to be heavily thinned. Nuts are rather scarce. Medlars and Quinces are full crops.

The Potato crop up to the present is good. Birds have been very troublesome on account of the dry weather, and wasps are everywhere, although just round about the gardens we have destroyed over 100 nests.—W. A. COOK.

Rood Ashton, Trowbridge.—Fruit of all kinds is unusually abundant here, much the scarcest being Strawberries and Raspberries. These, although they were mulched heavily with strawy manure in the early spring months, were very poor. Of Apples, many sorts are so thickly set, that severe thinning was absolutely necessary to relieve the strain on the trees. Such varieties as Golden Noble, New Hawthornden, Lane's Prince Albert, King of the Pippins, Leyden Pippin, Cox's Orange Pippin, Stirling Castle, Rambour Franc, Reinette du Canada, London Pippin, Worcester Pearmain, Adam's Pearmain, Golden Pippin, Peasgood's Nonsuch, Ecklinville, Beauty of Buth, Warner's King, Lord Suffield, and Lord Grosvenor are conspicuous for heavy crops. Orchard trees

are similarly fruitful. Pears are almost as abundant as Apples, and there are but few trees which are not carrying some fruit. The early Citron des Carmes was all gathered by July 17. Williams' Bon Chrétien is extremely fruitful on standards, bush trees, and espaliers on walls. Beurré Clairgeau, Doyenné du Comice, Colmar van Mons, Emile d'Heyst, Comte de Flandre, Bezi d'Héry, Conseiller de la Cour, Délices d'Hardenpont, Andrew Murray, Amandine de Rouen, Gilgil, Dunmore, Beurré Hardy, Thompson's, Marie Louise, Seckle, Althorp Crassane, and Doyenné Boussoch are some among many others bearing full crops. Frosts occurred in this neighbourhood while the trees were in bloom, and although so many of the more forward flowers were killed, yet from their abundance sufficient for a full crop escaped uninjured. Peaches and Nectarines are above the average, but the trees have suffered from attacks of red spider through absence of rain and water to syringe with. Plums are a bountiful crop, and quantities were gathered for cooking as well as preserving in a green state. Apricots, too, are equally fruitful and ripened very early. Cherries, both dessert and Morello, are fine crops, and the fruits, considering the season, are of good size. Bush fruits were small owing to the severe drought, but all were extremely plentiful, as also was the Gooseberry caterpillar, which stripped the trees of their leaves rather freely. Figs have profited by the warm weather, more so than any other fruits, a wonderfully good crop resulting from the moderate growth and early maturity. Filberts and Walnuts are abundant. In the latter case, trees that have not fruited for years are bearing a good crop this season.

Potatoes are variable. In some instances the yield is not good enough for seed; in others a first-rate crop is produced. Early ones, including Sharpe's Victor, Sutton's Ringleader, Veitch's Ashleaf, Snowdrop, and Beauty of Hebron, were good average crops. A few of the midseason sorts had commenced protuberation, and where the tubers were found to be fairly matured the stalks were drawn. Magnum Bonum and other late Potatoes will be benefited by the recent rain, while in many cases I learn that among midseason ones much damage is already reported. Peas have been only half a crop, and the birds have done considerable mischief among these from scarcity of other food. Onions have improved considerably since the rain, and will now reach a good average. No attack of maggot has been experienced, although it is a common cause of complaint locally. Runner Beans have persisted in dropping their flowers, and will be late in consequence. Turnips from north borders very good; from warmer positions useless except for flavouring. On the whole the season has proved a very disappointing one, more particularly as regards vegetables.—W. STRUGNELL.

Pull Court, Tewkesbury.—Apples are extra heavy, fruit a trifle small, but very clean—much improved by late rain, so that we may expect a crop much over average in quantity and quality. Pears are just the opposite, and only a few varieties carry even a moderate crop. Marie Louise against west wall, Citron des Carmes against north wall, Pitmaston Duchess, Knight's Monarch, Beurré Diel and Winter Nelis are the only varieties worth mentioning as having a moderate crop. Apricots a very heavy crop, fruit clean, but small; usually two or three branches die off on one or other of my trees, but this year, so far, there are no signs of any going. Cherries have been a good crop; the Morellos are much smaller than usual. Other varieties were very good in size, and, what is more, we managed to keep the trees free from black-fly—a thing most unusual when the season is considered. Peaches and Nectarines are carrying good crops, but trees are badly infested with red spider. Plums are a fair crop. A local kind called Firelights is bearing very heavy crops; the fruit is small, but it commands a ready sale and is eagerly sought after by dealers, who mostly send it to Manchester. Raspberries and Strawberries have given a very limited supply, although both were well mulched and attended to. Currants have been good; season shortened by the weather.

Gooseberries are a heavy crop, fruit small and caterpillar very troublesome. I find nothing short of hand-picking of the grubs gets rid of them. Figs out of doors are showing and swelling fruit more freely than usual. All trees, except Peaches and Nectarines, are making good growth and are very clean.

Vegetables have suffered much more than fruit from the drought, and it has only been by constant mulching, watering, and frequently sowing and planting that Peas, Cauliflowers, Turnips and even Broad Beans have grown at all. Turnips even at the present time are not worth eating; they are only used in soups. William Hurst Pea is the best with me. I generally plant two borders with same variety (same time), one border facing south and the other north or east. The Sweet or edible-podded Pea has stood the drought well. It is a strong grower, and being planted in old Celery trenches found a good medium to grow in. I always grow a couple of rows of this; in other years it has often filled a gap. The cook finds the edible-podded Pea of great value for soups. It is also appreciated as a vegetable. Tomatoes in the open are both early and well fruited. Chancellor I consider the earliest and freest fruiting of four other leading kinds growing alongside. Potatoes (early ones) small, but clean and good; late ones look promising.—JOSEPH HINTON.

Knightshayes, Tiverton.—The fruit crops in general are exceptionally heavy, especially Plums, Pears, Apples, Morello Cherries, Gooseberries, and Raspberries. Peaches, Figs, and Apricots are also good. Strawberries, owing to the continued drought in the spring, were a complete failure, while Red and Black Currants were but a meagre crop, excepting those grown on the north walls with the Morello Cherries, which were good. I hear numerous complaints about fruit-dropping since we have had so much rain, and from my own observations I am of opinion that it is only where the fruit has not been thinned. Where that has been done judiciously little or no complaint can be made with regard to premature fruit-dropping.

Peas in many instances have been a complete failure. I have had several rows of Ne Plus Ultra and Duke of Albany that did not bear a single dish. Sharpe's Queen, Veitch's Perfection, and Magnificent stood the drought best, and from these I had a fair supply. Cauliflower has been also a very trying crop, Earliest Dwarf Erfurt stood the drought best. Late Carrots, Beetroot, Turnips, Lettuces, Chicory, and other small seeds it seemed almost impossible to get to germinate.—ROBERT GRIGOR.

Inwood House, Henstridge.—The crops in this neighbourhood are above an average. Most of the fruit is small except Pears, unless where the trees were heavily mulched, which no doubt is a great protection to the roots. I mulched all my crops with short litter, and no doubt saved a great many of my trees and vegetables from being burned up. We stand here on a hill, and had only rain once in four months, which was a thunderstorm, and lasted twenty minutes. I must speak in favour of a few things which have done well this dry season. Waterloo Strawberry is a first-rate one for a dry season. Superlative Raspberry has done remarkably well.

Peas Duke of Albany and Prodigy and Magnum Bonum Cauliflower have also been good. Potatoes are doing well in this neighbourhood, some fine tubers being among most of the sorts. Onions are splendid this season.—T. WILKINS.

Westonbirt, Tetbury.—The whole of the fruit trees in this neighbourhood were quite a month earlier in flowering than usual. Fortunately, we escaped frosts, the result being that Apricots, Peaches, Nectarines set so freely that hundreds had to be thinned out, especially the first. From March 17 till the end of June we only registered $1\frac{1}{2}$ inches of rain, and most of the days brilliant sunshine; this of course just suited the insect pests, and I never recollect a year when they were so numerous, but by constant syringing and battling with them, we were fortunate enough

to secure good crops. Strawberries were quite three weeks earlier, good what were gathered, but soon over. Bush fruit very plentiful, but small; these we could not assist. Pears a good moderate crop of all the leading kinds; these I thin well every year; by so doing I find I succeed in having some every year. Plums are abundant. Peaches and Nectarines average. Cherries under average, but fine. Apples everywhere abundant. We have not one of the best soils for Apples, so grow principally cider and cooking sorts. Annie Elizabeth does well, never failing to crop, and eats well when kept till March. Manks Codlin bears abundantly, and coming in before the American varieties reach here, usually fetches a good price. Wasps are a pest this year; already we have taken upwards of 150 nests. I fear a great deal of the fruit will be spoiled by them.—A. CHAPMAN.

Bricklehampton Hall, Pershore.—Apricots and Peaches very good. Nectarines half crop. Cherries very good. Apples very good, especially Blenheim Orange, Cellini, Keswick Codlin, Lord Suffield, Golden Winter Pearmain. Pears half crop. Plums half crop. Green Gage, Early Prolific, Pond's Seedling, and Cox's Emperor good against the walls. Figs look very promising. Currants, Gooseberries and Raspberries very good. Strawberries half crop, suffered very much from the dry weather. Tomatoes are doing very well outside, especially the old large red. Vegetables are poor.—E. LOTT.

Membland.—In spite of the great drought shrubs and trees suffered but little. February was a very wet month, rain falling on twenty-two days, giving us nearly 6 inches of rain. From March 2 to May 17 no rain fell; heavy storms on the 17th, 19th, and 20th gave us 2.85 of rain. The greater part of June was very hot, thermometer ranging between 70° and 91° in shade. About June 20 vegetation began to suffer; fruit trees, such as Apples and Pears with heavy crops of fruit on them, began to droop. Peas were checked in their growth by thrips; Broad Beans infested with black aphids. Notwithstanding these and other drawbacks, there has been no lack of good vegetables in this part. Of course, we had to attend to mulching and watering. All small fruits were a heavy crop and excellent, especially from the jam-makers' point of view. Apples are a heavy crop, and since the rain has well soaked the roots the fruits are growing to a great size. Gladstone Apple was ripe the first week in July, Irish Peach the second week, and to-day (August 3) I have gathered Braddick's Nonpareil from an espalier six weeks before its usual time of ripening. Pears are a good crop on walls and pyramids. Jargonelle was ripe on July 25, Williams' August 2. Peaches and Nectarines are a good crop, and trees are healthier than for years, although there was some blister early in the season. Plums are a heavy crop. In fact in South Devon it is the finest season for all kinds of fruit that has been for many years.

The Potato crop up to this time is satisfactory. Heavy storms began the first week in July, when the early Potatoes were fairly ripe. On the 7th and 8th I had the haulm carefully pulled, and now (August 3) I am taking up all the Ashleafs, Puritan, and Hebron. Potatoes are quite ripe and all that can be wished for. I find a few of the later sorts growing out very much, especially Bruce. I shall draw the haulm from all sorts as the skin becomes set. We have had a considerable rainfall the last few days with a rather high temperature. I fear the disease will make its appearance pretty soon. In the less open gardens I hear the disease has already affected some of the tubers. Late Peas are coming on, and I hope for some good gatherings for the next two months at least. I see my first gathering was made from Exonian on May 6; this sort with me is by far the best. I hear from some growers it is rather delicate. For very early sowing Chelsea Gem as a dwarf in this part is an immense cropper, suitable for market work. Turnips have been difficult to keep going; by the early use of soapy water we have Early Milan and Snowball in good condition. This garden being situated

within a mile of the sea we get very heavy dews.—GEO. BAKER.

Mount Edgcumbe.—The fruit crop in this district is far above the average. Gooseberries, Currants and Raspberries a very heavy crop and fine fruit. Strawberries plentiful, but smaller than usual. Peaches, Nectarines, and Apricots a heavy crop and good. Plums heavy crop; not quite so large as they are generally. Pears and Apples are an enormous crop, and the rain of this month is making them grow well. With the exception of a few of the earliest sorts they will be quite up to the average size.

It has been a very trying season for gardeners. For three months (April, May, and June) we did not get half an inch of rain; some of my neighbours were favoured with a few thunderstorms. I have had great difficulty in keeping up a supply of salading. Broad Beans a complete failure, being badly attacked by aphids. Peas were a fair crop. I always use a lot of soot for them, throwing it over the plants while they are damp with the dew. I find sparrows do not eat them so badly; it also keeps away the thrips and, I fancy, tends to check mildew. Runner Beans are plentiful. Cauliflowers that were wintered in frames are very good. Onions are looking well and a good crop, but rather later than usual. Brussels Sprouts, Celery, Carrots and Beet are looking well. The early varieties of Potatoes were very small; if it were not for clearing the ground I would not have taken them up, and the late varieties are all growing out.—S. J. RICHARDS.

Kimbolton Castle, Hunts.—The Apples are an average crop. Pears very poor, also Strawberries, owing to the drought. Morello Cherries a good crop. Gooseberries and Currants a very good crop. Apricots and Peaches showed plenty of fruit, but it was cut off by frost.

Vegetable crops have suffered severely from the dry weather. Peas have been almost a failure. Potatoes are improving.—J. HEWITT.

Clevedon Hall, Somerset.—The Apple crop here is very good, quite above the average. Pears average crop, Marie Louise, Williams', Louise Bonne of Jersey, Chaumontel being heavily laden. Plums average crop. The sorts that we grow are principally Early Orleans, Jefferson, Kirke's, Golden Drop; trees of Victoria heavily laden. Damsons below the average, infested during the dry weather with the blight, which, combined with the drought, caused a quantity of the fruit to drop. Peaches and Nectarines average crop. Commenced picking Early Alexander from outside walls on June 14—a month earlier than usual. Apricots also average crop. No protection afforded to Peach trees in the spring, and we are successful in securing a good crop every year. Bush fruits a good crop. Gooseberries very heavy, many of the bushes having to be supported. Raspberries a good crop. Strawberries average crop; sorts we grow here are President, La Grosse Sucrée, Sir Joseph Paxton, James Veitch and Princess Alice. For pot work we rely on La Grosse Sucrée; for earliest and for succession, Sir Joseph Paxton. Walnuts a very heavy crop; trees literally covered with nuts, many in clusters of twelve and more in a bunch.

Early Potatoes half a crop and very small; later batches more promising. Runner Beans are looking extremely well. Broad Beans a complete failure. Carrots and Onions a fair crop. Roses a complete failure as regards the summer blooms, but a fair promise of a good supply of autumn flowers if rain continues.—W. POLLARD.

Canford, Wimborne.—The fruit crops in this neighbourhood are a good average where a supply of water was given during the drought, without which, in few exceptions, they are undersized and very thin. Plums are average. Apricots plentiful, and small fruit about average.

Vegetable crops have suffered a good deal, more especially Peas and Potatoes, the latter going a little diseased.—J. MCCORMACK.

Iwerne Minster, Blandford.—We have experienced three months (April, May and June) of perhaps the most trying heat and drought that

have been felt since 1826. Fahrenheit's thermometer has during the end of June and the beginning of July frequently indicated 90° and 94° in the open and 1 foot above ground, while the night temperature frequently stood at 70°. For over ten successive weeks we were without a drop of rain or dew to moisten a leaf or blade of Grass, while plants were withering under a tropical sun. It is a miracle that we have anything to record from the garden. It was only by dint of mulchings and excessive and incessant waterings that we could keep any plants alive. The spring months were chiefly mild, and brought forth an abundant show of all kinds of fruit blossoms, fat and fully matured, and which withstood the severity of 10° and 12° of frost. Apples, Pears, Plums, Apricots, and all bush fruits are, and have been, abundant, although the last were small and wanting in juice and flavour. Strawberries were also small and soon over. Fruits and vegetables as a natural consequence are nearly a month earlier than in ordinary seasons. We began to cut Melons April 28; we had May Duke Cherries in the middle of May, and ripe Apricots from the open wall the beginning of July. Many of the earliest sorts of Apples, such as Keswick Codlin, Hawthornden, Lord Suffield, Stirling Castle, Irish Peach, Kerry Pippin and Lemon Pippin, are now ripe. Pears Williams' Bon Chrétien, Jargonelle, and Thomson's are also ripe. Plums of all kinds are also abundant, mostly ripe, including Green Gage, Washington, Jefferson and Kirke's, and all have much increased in bulk since the glorious rain that we have been having since July 4. Wasps are a terrible plague.

Vegetables are now plentiful, Autumn Giant Cauliflower just turning in. Marrows, Beans, dwarf and running, also British Queen and Egyptian Marrow Peas, are also good. Potatoes are an excellent crop, of good flavour, and as yet free from disease.—P. DAVIDSON.

Longford Castle.—Trees of the Peach, Nectarine, Apricot, and Green Gage Plum which had their blossoms protected by glass coping set immense crops of fruit, which had to be severely thinned. The soil over the roots of these and other wall trees was slightly loosened in the spring and then covered to a thickness of about 3 inches with short manure, afterwards giving the whole a good watering, repeating the application several times during the season, with the most satisfactory results as regards the quality of the crop and the condition of the trees, which I may add were generally washed overhead every afternoon with clear water from the garden engine. The 6° to 12° of frost which we experienced every night during the last fortnight of the month of March severely thinned out the blossoms of non-protected trees of Plums generally, and reduced the chances of a good crop of Pears to a minimum. Still, the following varieties of Plums which received no protection when in flower are bearing good crops: Early Prolific (a sure bearing Plum of good size and fair quality), Orleans, Coe's Golden Drop, The Czar, Sultan, Belgian Purple, Diamond, Victoria, Pond's Seedling, Grand Duke, and Reine Claude de Bavay. Pear trees on the open walls and pyramidally trained of the following varieties are bearing fairly good crops of clean fruits, namely, Marie Louise, Beurré de Capiaumont, Williams' Bon Chrétien, Beurré Gris, and Grosse Calebasse. Trees of May Duke, Governor Wood, and Black Tartarian Cherries have borne good crops of fine fruits. Morellos are carrying good crops of fruit. Black-fly has been unusually difficult to dislodge from the points of the young growths this year. In addition to syringing the trees with a mixture of tobacco juice and water at the rate of one quart of the former to four gallons of the latter, the affected shoots had to be manipulated, afterwards washing the leaves with clean water. Gooseberries and Currants are abundant, some of the bushes succumbing to the weight of the crop, which, as regards Currants, is somewhat blighted through the long spell of semi-tropical weather and long period of drought which we were subjected to during March and three following months. Of Raspberries we have had abundance, but not without having mulched heavily between

the rows with short manure, afterwards giving good supplies of water at the roots and then netting the several ranks of canes overhead and at sides, keeping the net sufficiently high up to enable the fruit to be picked without having to remove and replace it each time the fruit was being gathered. Figs are a good crop, and the same may be said of Filberts. In low-lying districts, where the soil about the roots of the trees remained moist, notwithstanding the protracted spell (four months) of heat and drought, Apple trees are carrying good crops of promising fruit; especially is this so in the case of cider Apples. In our orchard, which is located some distance from the kitchen gardens in a rather light soil, resting on a substratum of gravel and some 12 feet above the ordinary water-line, the trees, through the abnormally dry state of the soil, gave out towards the end of April to such an extent as to involve a general flagging of the sheets of blossom with which they were clothed, and a large percentage of which were burnt by the sun's rays while in that unresisting flabby condition. Subsequently, the heat and drought continuing, many of the fruits which then "set" dropped off the trees; still, we shall have plenty of Apples for our own use from espalier-trained trees of Stirling Castle, Early Nonpareil, Worcester Pearmain, Northern Greening, Emperor Alexander, Keswick Codlin (a variety which has never failed to yield a good crop of fruit here during the last twenty-two years), Prince Albert and Kerry Pippin. The Strawberry crop was a good average as regards the yield, but the fruit was below the average size and of rather short duration. The crop would not have been up to much had we not watered the beds well two or three times while the fruits were swelling. Alexander Peach was ripe on June 16 on a west wall, and Waterloo six days later on the same wall, Amsden on a south wall coming in next towards the end of the month. The fruits of Alexander and Amsden having been thinned out to about 9 inches apart every way, they attained to fine size, being highly coloured and very good in quality. The periods of ripening indicated are a month or five weeks earlier than the usual time for gathering the above-mentioned varieties.

We began gathering regular supplies of early Peas on May 7 (exactly a fortnight earlier than in any previous year), and good supplies of the mid-season, large-podded varieties (Telegraph and Telephone) were secured on the 29th of the same and onwards, being a month earlier than usual. The plants from which the above gatherings were made were raised from seed sown in 3-inch pots early in January and duly hardened off prior to being transplanted out of doors at the end of February and early in March, when they were earthed up, staked and then mulched to the thickness and width of 9 inches on either side of the ranks with good substantial manure, thereby maintaining the soil in a uniformly moist and warm condition about the roots from start to finish and prolonging considerably the produce-bearing period.—H. WARD.

Killerton.—Peaches and Nectarines very good and trees healthy and vigorous. Apricots were the heaviest crop I ever knew; trees all healthy. Plums are one of the most abundant crops ever known on walls, pyramids, and trees in orchards. Cherries very good, especially Morellos. Pears are heavy crops, especially on pyramids, which have required to be thinned very much and supported, or they would have been broken down by the weight of fruit. Apples are abundant and fine. Figs are a fine crop. Raspberries, Strawberries, Black, Red and White Currants, and Gooseberries have all had fine crops. Filberts very plentiful, but Walnuts on old trees are a failure. Taken altogether, it is the most abundant fruit year I ever knew. All our fruit trees and Raspberries were well mulched with half-rotten manure and leaves from old hotbeds and Seakale covering. The fruit trees and Strawberries also were well watered.

Peas and Scarlet Runners were mulched and watered in the same way, and have afforded an unbroken supply.—J. GARLAND.

Batsford Park, Gloucester.—Most kinds of fruit are exceptionally plentiful in this neighbourhood, and but few of the blossoms sustained any

serious injury in the spring. Some frosts were experienced at the time the Apricots were in flower, but these did but little harm, the trees being protected with netting. Nearly all of the later blossoms, including those of Apples, Pears, Peaches, &c., were unhurt, our position being rather elevated on the south side of a hill, with protection from the coldest quarters afforded by large trees. The season, as in most districts, has been nearly a month earlier than usual, and in the early part insect pests of various kinds were very troublesome consequent on the extreme heat and prolonged drought. Apples, both on orchard standards and garden pyramids, are bearing very heavy crops, much too heavy in many instances for the good of the trees or quality of the fruit, which will, where unthinned, be rather small. Orchard standards of Blenheim Orange and Keswick Codlin amongst others are heavily laden. Amongst bush and pyramid trees in the garden the following are noteworthy for the amount of fruit produced and also good quality: Stirling Castle, Ecklinville, Warner's King, Tower of Glamis, Lord Suffield, Yorkshire Beauty, Irish Peach, Margil, Cox's Orange and Sturmer Pippins. Pears are somewhat partial, but, on the whole, are much more plentiful than for several years. Some pyramid trees, especially on the Quince stock, have needed support to prevent the branches breaking off. Of these, *Conseiller de la Cour*, *Beurré d'Amanlis*, *Clapp's Favourite*, *Soldat Laboureur*, *Emile d'Heyst*, *Vicar of Winkfield*, *Williams' Bon Chrétien*, *Durondeau*, *Thompson's*, and *Nouvelle Fulvie* may be noted, as also *Knight's Monarch*, *Pitmaston Duchess*, and *Fondante d'Automne* on the Pear stock. Apricots had to be severely thinned, as the fruit set in large clusters and equally thick all over the trees. A heavy crop, ripened splendidly, and the flavour was pronounced unusually rich. The foliage of the Apricot was not attacked so much by grubs as in late years, and this would naturally favour the fruit. Peaches and Nectarines are bearing good crops, and this applies to nearly all of the kinds cultivated. As the season is so early, some of the later sorts may ripen satisfactorily. Much of the fruit is rather small, especially on the early sorts, Alexander, Hale's Early, &c., a result probably of insufficient moisture. The following are bearing unusually well: *Stirling Castle*, *Royal George*, *Alexandra Noblesse*, *Bellegarde*, *Sea Eagle*, *Barriington* and *Dymond*. Much the same remarks apply to Nectarines, the best being *Elruge*, *Lord Napier*, *Violette Hative* and *Pine-apple*, all of which are bearing abundantly. The trees suffered but little from blister this season. Plums in the open were injured by bullfinches eating the buds; against walls the trees with few exceptions are producing good crops, including nearly all of the Gages, *Early Prolific* (excellent as a cooking Plum for early supply) *Orleans*, *Kirke's*, *Pond's Seedling*, *Nectarine*, *Victoria* and *Coe's Golden Drop*. Morello Cherries were much attacked by black fly, which it seemed impossible to remove effectually for a long time; the trees and fruit improved very much after the rains came, and the crop is much better than was expected. Sweet Cherries do not succeed very well, and there are not many standard trees in this immediate locality. Strawberries began ripening in May, and were nearly over by the end of June. Much of the fruit was small and had the appearance of being baked by the excessive heat. Many plants were quite dried up and killed. Four varieties on which we principally depend were again much better than any grown in smaller quantities for comparison. These are *Keens' Seedling*, *Vicomtesse Hélicart de Thury*, *Sir Joseph Paxton*, and *President*. The last-named was if anything the best, but not of its usual size and quality; still this is scarcely to be expected with so little rain. Gooseberries were badly attacked by red spider and caterpillars early in the season, and the crop suffered somewhat. Handpicking was persisted in for destroying the caterpillars. Raspberries were good considering the drought, and Currants were very heavily laden with fine fruit, especially Red and White varieties. Black Currants rather small, but abundant. Filberts promised well, but were soon taken by squirrels.

Walnuts a heavier crop than for several years past.

Kitchen garden crops in some instances have proved failures in consequence of the exceptionally dry and hot weather. Peas have done very badly, not reaching their height nor producing many flowers; what they did produce never set well, and the supply has necessarily been irregular and indifferent. A second early lot, consisting of *Advancer*, *Gladiator*, and *Dr. Maclean*, have been the best of the season. All the early Cauliflowers were a complete failure. Carrot and Beet seed germinated at two or three different times, and Turnips could not succeed at all. It was difficult to keep a supply of salading, the chief thing (Lettuces) so soon running to seed in the hot weather. A good bed of spring Cabbage proved invaluable, as it stood the winter well and was available for use at an early date. The change experienced when the rains came was most remarkable, and most of the kitchen garden crops have grown well since. Peas, however, remain an exception. Potatoes were rather small when first dug from outside; the later supplies are good in quality and fairly productive. Late ones have been looking remarkably well. On the whole the great drought did not do quite the amount of harm here that it must have done where the soil is light or of a gravelly nature. Being dependent on springs, which gradually kept giving a diminished supply, we were unable to afford much water for outside crops or for fruit trees, all available water being required for Peach and Vine borders, &c., indoors. The rains have made but little difference, if any, to the springs, and probably will not do so until the autumn.—J. GARRETT.

EASTERN.

Culford Gardens, Bury St. Edmunds.—Apples, Pears, and Plums are under average. Figs (outdoors) promise better than for three years past, while Apricots, Peaches, and Morello Cherries are an abundant crop. Strawberries and Raspberries have been almost a failure. Bush fruits are a good crop, also Nuts.

Peas and Spinach have been very scarce; the same may be said of good Cauliflowers and Cabbage. French Beans and runners have done better, and are very early. Onions are an excellent crop, but rather under-sized. Potatoes turn out clean and healthy, but not very large tubers, and all root crops are looking well. The soil hereabouts is of a very light and sandy nature overlying gravel and chalk.—W. HARWOOD.

Gunton Park, Norwich.—This summer of drought and sunshine will be remarkable for the extraordinary heavy crops of Apricots, Pears, and Plums. These three surpass all others in weight of crop, although on the whole there is not much to complain of now the rains have come. A period of drought such as we have passed through, lasting from the 1st of March to the end of June, with only four light showers at intervals—just enough to lay the dust on each occasion—is trying to the gardener and the farmer. But the summer here of 1868 was far more so, with only one shower of rain in April and not a single drop more till the 6th of August. Brilliant sunshine every day and cool and cloudy nights, and two horses and water-carts going for three months, make one look on the past drought with comparative equanimity. There was no hay and very few Turnips and Mangolds grown in Norfolk in that year, but the corn crops probably were the finest sample and heaviest that this county ever produced. The corn crops this season in North-east Norfolk are everywhere full of promise, and those three or four light showers previously mentioned caused the Mangold and Turnip seeds to germinate, and I see on every hand fields covered with flourishing roots. Apples will be plentiful and clean. Currants small and early, inclined to drop. Gooseberries plentiful; bushes troublesome to keep clean; attacked with spider, aphid and caterpillar. Raspberries plentiful, but small. Cherries (dessert) good

Morellos plentiful. Strawberries, where well cared for, very good; early and short season.

Asparagus suffered from drought more than any other vegetable; was very small and scarce. Peas abundant. A glut of midseason and late kinds all rushing into bearing in July will make them scarce during August and September. Potatoes so far not large, but of excellent quality. It is to be hoped that the rains will not bring the disease. I have not heard of it yet. Cauliflower Veitch's Pearl has been excellent during the driest weather, and I never remember Lettuce to have been finer. Hick's Cos, my mainstay, has been very fine. This is an old variety, probably well known. I have tried many, but none give so much satisfaction where a really excellent crop of Lettuce is imperative.—WM. ALLAN.

Sudbourn Hall, Wickham Market.—My crops on the whole are very good, and from what I have seen in this part of East Anglia they are the same. I have had a splendid crop of Strawberries, my favourite being Vicomtesse Héricart de Thury. Gooseberries and Currants very good. Raspberries fair. Cherries very good. Plums very good, but on account of so much dry weather the trees in some instances are blighted. Apricots on south walls very good. Nuts fair. Some kinds of Pears very good. Apples good. Peaches and Nectarines we grow largely, and have a splendid crop, but I am afraid they will be rather small; at any rate the early varieties are.

Vegetables on the whole are good. The Peas have gone off very quickly this dry weather.—W. COLLETT.

Livermere Park, Bury St. Edmunds.—Apples are generally a heavy crop, but irregular; many of the best kinds, such as Ribston, are almost without a fruit, the dry weather apparently preventing the good show of blossom from setting. Blenheims are better than usual. Manks Codlin, Nonsuch, King of Pippins, Keswick Codlin and a few others are heavily laden. Devonshire Quarrenden will probably be in true character this year, this being quite an unusual occurrence in the eastern counties except where grown on walls. Pears taken all round are better than I have ever seen them in these gardens. The crop is not particularly heavy (just about as it should be), but the fruits are cleaner and finer by far than is usual, a cracked or spotted fruit being quite the exception, and the drought has not affected the size in the slightest degree. I shall expect to see many varieties that are usually only fit for stewing quite up to dessert form in their season. Apricots are a heavy crop and had to be very freely thinned and the trees well watered several times; they look very healthy and promise well for another year if the season is favourable. Mice have been a great nuisance to the fruits and cannot well be trapped while they have ripe fruit to eat; they scale the trees with the greatest ease. Plums are a very heavy crop and wall trees are fairly clean, but bush trees have suffered very badly from a plague of aphids, and we had no rain to wash these pests off, so that many trees are crippled. Victoria and Belle de Louvain are the two best market Plums grown here; the latter is not well known, but is very much liked for kitchen use by those who know it. Cherries, with the exception of Morellos, were slightly under average, but the fruits were fine. Morellos good average crop. Gooseberries were a heavy crop, the fruits of several kinds being rather under size, though Rosebery was finer than I have ever had it. Warrington and Crown Bob also are fine. Raspberries were a very heavy crop of good fruit, and, thanks to a heavy mulching, the new canes are fine, though in some places near they are very poor indeed. Strawberries were a fair crop, and the fruits exceptionally good where the beds were kept watered. Noble especially gave us magnificent fruit of fair flavour, and President was said to be equal to British Queen. The season was shorter than that of last year, but held out longer than could be expected in such weather. Black Currants were a very good crop and the fruits fine. Red and White Currants good average crop, but quite a drag in

the market, small fruits brought from cottagers' gardens having been sold as low as 9d. per peck, and many could not be got rid of at any price. Peaches and Nectarines are very good, and coming on rapidly towards ripeness. Figs did not show well for a first crop out of doors, but the second crop is getting so forward, that I think it probable that many will ripen if the weather is fine. The trees are making splendid growth. Grapes are a splendid crop and should ripen well, as Sweetwaters are already beginning to soften. Medlars are again a good crop, but Quinces are a failure. Filberts a fair average crop, and already (July 30) quite full. Walnuts are heavy in the neighbourhood, but very scarce with us, probably owing to frost in spring, our trees being much exposed to east winds.

Tomatoes promise well; medium-sized kinds, such as Conference, have set freely, and the crop is heavy. Very few have yet ripened out of doors; dull weather and cooler nights have checked the rapid progress which was made earlier. Potatoes will be very unsatisfactory. Early and second early kinds have been already dug, and were a very light crop. Late kinds, such as Magnum Bonum, The Gentleman, The Bruce, and Stourbridge Glory, are growing out since the advent of rain, and the quality of these will be sadly impaired, though the crop promises to be fairly heavy. These who planted late are to be congratulated. Many people in this neighbourhood put off planting till the last week in May in consequence of the dry weather, and these Potatoes planted then are looking very fine indeed, and will escape the second growth. The general effect of the very fine and dry weather of spring and early summer was to bring crops very forward. Early Peas did remarkably well, as the ground was wet enough to carry them through. Later kinds have held out well with us, but the season is bound to be over early; the latest sown are now coming into bloom. Many seeds germinated badly or irregularly, Carrots, Beet, and French Beans especially so. Onions are better than we have ever had them and will soon be harvested, a very heavy crop, averaging at least a sack to a rod of ground. Celery is very fine and forward, with no sign of running to seed. Cabbages have been very inferior, and suffered badly during the drought. Late Cauliflowers and all kinds of winter greens are looking remarkably well. Early Brussels Sprouts are getting quite forward and buttoning well. There is sure to be a dearth of many things which are usually plentiful during the autumn unless extra late sowings have been made.—J. C. TALLACK.

Babraham Gardens, Cambridge.—The fruit crops here are very uneven. In some cases Apples are a full crop, but small; some sorts, such as the Codlins, Cellini, Norfolk Bearer, Ecklinville and Dumelow's Seedling, that seldom miss carrying a crop, are now carrying good crops. I find any other sorts that were exposed to the east wind that lasted all the time the trees were in blossom are quite a failure, but all sorts blossomed well. Pears are much worse than Apples. The trees were covered with blossom, but, with the exception of a few sorts on walls, such as Marie Louise, Louise Benne, Doyenné du Comice and Beurré Diel, there is no fruit at all. Plums are a heavy crop, especially Victoria; also Damsens. Cherries have been very good, Morellos carrying good crops. Apricots are remarkably good. The trees were very early in blossom and set soon enough to escape some late frosts that, together with the east wind, seemed to destroy the Apples and Pears. I believe if all fruit trees had blossomed with the Apricots, the fruit would have been safe. Peaches are very good; the crop, of course, has been regulated to suit the trees. Watering and syringing have been well attended to; in fact, Apricots, Plums and all wall trees have had occasional syringings overhead. Currants (Black and Red), Gooseberries and Raspberries are a heavy crop, but fruit small. Strawberries were much cut up by the winter and had no chance of pulling round before the dry weather set in, which was the end of February and lasted to July 12, with the exception of

a shower in June. Some sorts have been satisfactory, notably Noble and Sir J. Paxton. Nuts and Quinces are plentiful.

This season has been one that has required the greatest attention and skill in keeping up a supply or succession of vegetable crops, as well as keeping fruit trees in a healthy condition; one day's neglect meant ruin to everything, our soil being very light and chalky. I have found the greatest benefit from mulching, which was done before the middle of March. Chelsea Gem Pea sown on February 7 was ready for gathering second week in May. Waterloo Peaches ripe on walls June 20. Strawberry Noble ripe outside before the middle of May. Potatoes so far are quite free from disease; crops light; in some open places the haulm is quite burnt up.—J. HILL.

Kimberley Park, Wymondham, Norfolk.—Apples are variable; some trees are heavily laden with fruit, others have scarcely any fruit upon them. Cherries abundant. Pears good. Apricots over average. Peaches and Nectarines over average. Plums average. Bush fruits abundant. Raspberries abundant. Strawberries average; the two latter crops had a very short season owing to the severe drought. Walnuts and Nuts are abundant.

The drought has been very trying; Cauliflowers and Spinach have suffered very much. Potatoes are very good and free from disease. All other kinds of vegetables have done well with me and are abundant.—W. WAINWRIGHT.

Papworth Hall, Cambridgeshire.—The crops in this garden have been good with the exception of Pears, which with us are very scarce. Apples a fair crop; in some places in the neighbourhood they are abundant. Plums and Cherries good. Gooseberries abundant; also Currants of all sorts, but the dry weather very much affected the black ones. Strawberries promised well in the early part of the season, but fell very short at ripening time. Raspberries quite a failure. I have not heard of a good crop anywhere in this locality.—THOMAS SMITH.

Harkstead Rectory, Ipswich.—Strawberries a very good crop and very early. A splendid season for Laxton's Noble, the extreme heat suiting it admirably, as this variety generally is very acid. Cherries a splendid crop of all useful kinds; Morellos especially fine; in fact, the largest fruit I ever saw, which I attribute to the extreme heat. Apricots (outside) are abundant, but owing to the extreme drought were not properly developed. Plums of all kinds a grand crop, such kinds as Jefferson, Kirke's, Cee's Golden Drop, Prince of Wales, and Pond's Seedling, also Green Gages, being very fine. Pears an average crop, the fruit being exceptionally clean and good. Apples most prolific crop; the young trees are laden with fruit of good size, while owing to the tremendous crop on old trees, the fruit is and must be rather small. Bush fruit very good all round; also Raspberries. Peaches (outside) a good average crop; also Nectarines.

Potatoes fairly good, but owing to the drought rather small. Peas (first crop) good, but main crop a failure; later varieties doing better. Beans of all kinds very good. Carrots, Marrows, Turnips, and Onions a very good crop. Spinach a failure. Lettuces soon ran to seed, making it very difficult to keep up a supply. The winter greens promise to be very good owing to the heavy rains experienced here lately.—G. JORDAN.

Shrubland Park, Suffolk.—Apples and Pears here are over average. Some of the sorts were smaller than usual, but since the rain both Apples and Pears have improved in size. Kitchen sorts are more plentiful with us than table fruit; Ecklinville Pippin is one of the earliest and best we have; Lord Suffield and the Codlins are also a large crop; Peasegood's Nonsuch not a great bearer, but the finest looking Apple we have; King of the Pippins is a regular, good bearer, not equal in quality to Orange Pippin and Ribston, but always colours well; Court Pendu Plat, generally a good bearer, is very scarce this year; so is Devonshire

Quarrenden. Pears are smaller than usual from the dry season, and having too many on some of the trees; this is so with Marie Louise, Josephine de Malines and Bergamote d'Esperen; Williams' Bon Chrétien and Doyenné du Comice are of fair size; Catillac always bears well and keeps till June and is a most useful stewing Pear. Plums are a good crop, especially Victoria. We have very few Damsons. Apricots abundant, but very small. Cherries a moderate crop; Morellos were fairly good. Bush fruits have been plentiful, but small. Strawberries were a large crop and fine, but were soon over; Dr. Hogg and British Queen are still the best that I have seen for table; the Queen does not succeed everywhere; Vicomtesse Héricart de Thury is an excellent bearer and good for preserving.

Insects of all kinds were exceedingly troublesome all the first part of the season. Caterpillars had to be cleared off several times. Wasps are now the greatest pests we have to contend with, and are making havoc among all sorts of fruit. Apples and Pears that should not be fit to gather for a month or six weeks are badly damaged; some of the trees have scarcely a sound fruit left. Our men killed more than double the number of queen wasps this spring, and within a radius of half a mile of the garden they have already destroyed over seventy nests. Squirrels have also been more troublesome than usual; after clearing off all the Filberts, which were a large crop, they made free with Apricots, Plums and Gooseberries. The extreme dry weather was rather against some vegetables. Small seeds early in the season gave a good deal of extra work, but the late rains have improved them very much, especially Scarlet Runners and French Beans. The late Peas are not so good as the early varieties. Potatoes are a good crop, large and of fine quality, but within the last few days disease has appeared in several places.—T. BLAIR.

NORTHERN.

Ripley Castle, Yorks.—After the exceptionally dry spring and early summer we have passed through, the reports on fruit crops will be perused with more than usual interest by all gardeners anxious to know how their crops compare with those of their neighbours. All fruit trees flowered abundantly and at an earlier date than usual, which caused us some misgivings, as we are subject to visitations from late spring frosts. But though we had a few slight frosts, there was nothing to cause injury to the bloom. The weather was all we could wish for during the blooming period, consequently the "set" was exceptionally good. Then came plagues of insects, which, had they not been battled with, would have played sad havoc. In consequence of the drought, a number of Pear trees and the smaller trees among the bush Apples cast a great deal of their fruit. The drought ended the last week in June, since which time rain has fallen in quantity, and everything is recovering rapidly from the ill effects of the dry period. Apples on old standard trees are over an average crop; on bush trees thin; quality promises to be very good. The varieties bearing most heavily are Lord Suffield, Alfriston, Mère de Ménage, Nelson Codlin, and Keswick Codlin. Pears are much under average, but the quality is good. Marie Louise, Jargonelle, Althorp Crasane, and Louise Bonne are the best croppers. Apricots heavy crop, rather smaller than usual. Plums average crop; Angelina Burdett, Jefferson, Green Gage, and Golden Drop are the best. Strawberries, Red and Black Currants, Raspberries, and Gooseberries very heavy crops. The first covered but a very short season. Cherries average crop. Filberts under average.

Potatoes (earlies) excellent crop, quality superb. Late varieties growing well and so far free from disease.—J. TUNNINGTON.

The Gardens, Studley Castle.—The late spring frosts did great damage to the Pear crop in these gardens and the neighbourhood, leaving the fruit very thin. There are some trees with an

average crop, as Fondante d'Automne, Beurré Giffard, and Pitmaston Duchess. Apples are an average crop, fruit clean and of fair size; trees clean and free from caterpillars. There are some sorts with heavy crops, as Lord Suffield, Ecklinville Seedling, Duchess of Oldenburg, Emperor Alexander, Peasgood's Nonsuch, Damelow's Seedling, Tower of Glamis, Beauty of Kent, Norfolk Bearer, and New Hawthornden. Dessert varieties: Cox's Orange Pippin, Worcester Pearmain, Emperor Napoleon, Transparent, Ribston Pippin, and Rosemary Russet. Plums are plentiful; Green Gage, Peach Plum, Morocco average crop on the wall trees, while Victoria, Early Prolific, Early Orleans and late sorts are good on standards and bush trees. Apricots over crop of Moorpark and Large Early. Although covered with double fish nets, all the first blooms were killed by frost, but there was sufficient left uninjured. Small fruits abundant, but under-sized. Strawberries under-sized. Vicomtesse Héricart de Thury and Noble were much better in flavour owing to the dry season. The crop was soon over.

Potatoes look promising; the early varieties were light, but sound and good. Second earlies, as Covent Garden Perfection and Snowdrop, are heavier. All later kinds are looking very promising and quite free from disease.—H. PORTER.

Sandbeck Park, Rotherham.—This has been an exceptional season, but the soil here being heavy on the magnesian limestone formation the crops do not suffer so much in a dry season as on some of the lighter soils. As an instance, I never saw Peas and runner Beans look better than they do at the present time. I have found no Pea better than Ne Plus Ultra to stand the dry weather. Early Potatoes are smaller than usual; late varieties are looking well. All small fruits have been very plentiful. Gooseberries and Currants were heavily cropped. The Strawberry season was short and quite a month earlier than usual. Vicomtesse H. de Thury did remarkably well; Sir J. Paxton did not crop as freely as usual. Apples, Pears, and Cherries are a good crop, but Apricots and Plums have exceptionally heavy crops.—GEO. SUMMERS.

SOCIETIES AND EXHIBITIONS.

NATIONAL DAHLIA SOCIETY.

CRYSTAL PALACE.

SEPTEMBER 1 AND 2.

THE annual exhibition of this society, which took place at the Crystal Palace on September 1 and 2, must, when the incidence of the season is considered, be pronounced a distinct success. It is true that some who entered found themselves unable to compete, and some big blanks were to be seen on the tables, but the blooms were in not a few instances very good, while the bold and striking bunches of the Cactus and decorative varieties, the pompon, and the single Dahlias were generally superb. It is true there is a certain amount of formality in the present method of exhibiting the show Dahlias, as they are termed, but it appears to be the only way in which the heavy blossoms can be seen to the best advantage, and their size, symmetry, and brilliancy of colour tell wonderfully despite their formal appearance.

SHOW DAHLIAS (NURSERYMEN).—There were three competitors with sixty distinct blooms of show Dahlias Mr. Charles Turner, Royal Nursery, Slough, took the first prize. Messrs. Keynes, Williams and Co., nurserymen, Salisbury, were second with a collection only just inferior, there being the difference of one or two points only. With forty-eight distinct blooms the positions were reversed, Messrs. Keynes and Co. being first with fine flowers. There were five exhibitors of thirty-six blooms, and here Mr. John Walker, nurseryman, Thame, was first, with probably the finest stand in the whole show. Of self flowers

he staged W. Powell, John Henshaw, Mrs. Gladstone, Duke of Fife (very rich in colour), Purple Prince, John Standish, Colonel, Crimson King, Shirley Hibberd, Prince Bismarck, Seraph, Willie Garratt, Dr. Moffatt, Arthur Ocock, James Cocker, Flora Wyatt, John Hicking, W. Keith, Mr. Glasscock, Arthur Rawlings and J. C. Bird; of edged flowers, Maud Fellowes, Mrs. D. Saunders, J. T. West, Majestic, T. J. Saltmarsh and Mrs. Geo. Rawlings; fancies: Dorothy, Hercules and Hartie King, orange, with crimson stripes. Mr. G. Humphries, nurseryman, Chippenham, was second. There were five exhibitors of twenty-four blooms, Mr. John Walker being again first; second, Mr. Geo. Humphries, also with good blooms. With twelve blooms, Mr. Arthur Rawlings, florist, Romford, was first, with self flowers W. Rawlings, George Rawlings, W. Keith, W. Garratt, Mr. Glasscock, R. T. Rawlings and Mrs. Gladstone; edged: J. T. West, Mrs. Langtry and Maud Fellowes; fancy: Rev. J. B. M. Camm; second, Mr. H. Harris, Writtle Road, Chippenham.

SHOW DAHLIAS (AMATEURS).—In the amateurs' division for twenty-four blooms of show Dahlias there were six competitors. Mr. J. T. West, gardener to Mr. W. Keith, Cornwalls, Brentwood, was first, with refined flowers of Willie Garratt, Mrs. Gladstone, W. Keith, A. Rawlings, H. Keith, Victor, W. Powell, E. Sherman, J. Walker, George Rawlings, J. Standish, W. Rawlings, Clara, Shirley Hibberd, J. C. Vaughan and Sunbeam, self; edged: Majestic, Maud Fellowes, Ethel Britton and J. T. West; fancies: M. Campbell, Frank Pearce, John Britton and Henry Glasscock; second, Mr. A. Ocock, gardener to Mrs. McIntosh, Havering, Romford. With twelve blooms, Mr. J. Vagg, gardener to Mr. J. Theobald, M.P., Havering, Romford, was first, with Geo. Rawlings, J. Rawlings, W. Garratt, Maud Fellowes, Duke of Fife, R. T. Rawlings, W. Rawlings, A. Ocock, T. J. Saltmarsh, Mrs. Gladstone, Mrs. W. Slack and Prince of Denmark; second, Mr. Thomas Anstiss, Brill, Bucks. With six blooms, Mr. G. Boothroyd, Chippenham, was first, with James Cocker, Ethel Britton, Mrs. Gladstone, Duke of Fife, John Walker and W. Rawlings; second, Mr. W. Wheeler, Henley-on-Thames.

FANCY DAHLIAS.—The fancy Dahlias are kept distinct from the show varieties only in two classes for amateurs. Three collections of twelve blooms were staged, Mr. J. T. West again being first with capital blooms of Henry Glasscock, John Britton, Salamander, T. W. Girdlestone, Frank Pearce, Matthew Campbell, Professor Fawcett, John Cooper, Mrs. J. Downie, Buffalo Bill, Egyptian Prince and Mrs. Saunders—a very good selection indeed; second, Mr. S. Cooper, Chippenham. There were eight collections of six blooms, Mr. T. Anstiss, who had capital blooms of Mrs. N. Hall, Rev. J. B. M. Camm, Buffalo Bill, Professor Fawcett, Mrs. Saunders and Matthew Campbell, being first; second, Mr. John Couzens, Langley Broom, Chippenham, who had, distinct from the foregoing, Duchess of Albany, Prince Henry, Edmund Boston, Lottie Eckford and General Grant; third, Mr. W. Mist, Ightham, Sevenoaks.

CACTUS AND DECORATIVE DAHLIAS (NURSERYMEN).—Very imposing stands of these were staged, and the mixture of rich colours with paler tints of cream, pink, yellow, &c., made them very effective. With eighteen varieties, six blooms of each, Messrs. J. Cheal and Sons, nurserymen, Crawley, were placed first, having in fine condition Beauty of Arundel, Sir Roger, Delicata, St. Catherine, Christine Cheal, Countess of Gosford, Professor Baldwin, Bertha Mawley, Countess of Radnor and R. Cannell, all true Cactus types, Delicata in particular being very beautiful. Of decorative varieties, there were fine examples of Duke of Clarence, Honoria, Lancet, Duchess of York (new), Ernest Cheal (new), Black Prince, Josephine and Mr. Tait; second, Messrs. Keynes and Co., having of Cactus varieties Bertha Mawley, St. Catherine, Sir Roger, Lady Penzance (new), Lady H. Grosvenor, Countess of Radnor and Countess of Gosford; of the decorative type, Josephine, Rayon d'Or, Apollo, Kaiserin, Maid of Kent, Dawn, Black Prince, Avalanche, Countess of Pem-

broke and Lancelot. There were six exhibitors of twelve varieties. Mr. G. Humphries, Chippenham, was first with Professor Baldwin, Countess of Radnor, St. Catherine, Baron Schroder, Kynereith, Bertha Mawley, Juarez, May Pictor (clear yellow), R. Cannell, Amphion, Sydney Hollings and Duke of Clarence; second, Messrs. Paul and Son. Then came a class for twelve bunches of true Cactus Dahlias, and here Messrs. Keynes and Co. were first with Gloriosa, Kaiserin, Duke of Clarence, Countess of Radnor, Apollo, Delicata, R. Cannell, Miss Violet Morgan, Bertha Mawley, Countess of Gosford, Chancellor (new), and Lady Penzance (new).

CACTUS AND DECORATIVE DAHLIAS (AMATEURS).—There were two exhibitors of twelve varieties, six blooms of each, Mr. J. T. West being first with Marchioness of Bute, Charles Rolfe, Bertha Mawley, Mrs. Keith, Joseph Chamberlain, Glory of Brentwood, Blanche Keith, Duke of Clarence, and seedlings; second, Mr. J. Strudwick. There were eight exhibitors of six bunches. Mr. E. Mawley, Rosebank, Berkhamsted, was first with Duke of Clarence, Bertha Mawley, Juarez, Professor Baldwin, Delicata, and St. Catherine; second, Mr. Hopkins, Bristol. Messrs. H. Cannell and Sons offered special prizes for six bunches of varieties sent out by them, Mr. West being placed first out of five exhibitors with E. Mawley, Marchioness of Bute, Henry Cannell, Glory of Brentwood, Emily Girdlestone, and Mrs. Keith; second, Mr. E. Brown, gardener to Mr. M. W. Morris, Hockley, Surrey, with Lady Marsham, Favourite, Mrs. Douglas, Mr. Tait, Beauty of Eynsford, and Marchioness of Bute.

POMPON DAHLIAS (NURSERYMEN).—There were four collections of twenty-four varieties, ten blooms in a bunch, and they formed quite a show of themselves. The collection shown by Messrs. Cheal and Sons, who were placed first, and Mr. C. Turner, who was placed second, were so close together, that they might have been justly placed equal. Messrs. Cheal and Son had Fairy Tales, Arthur West, Geo. Brinckman, Ringdove, Martial, Tommy Keith, Marion, Isabel, Cecil, Phoebe, Goldfinch, Eva, Darkness, E. F. Jungker, Grace, Bouquet d'Or, Admiration, Lady B'anche, Sunshine, Iolanthe, Eurydice, Whisper, Favourite, and Rosalie. Mr. G. Humphries had the best twelve varieties, staging very good bunches of Arthur West, George Brinckman, Darkness, Little Duchess, E. F. Jungker, Red Indian, Mabel, Favourite, Whisper, Lorna Doone, Phoebe, and Lilian; second, Messrs. Paul and Son.

POMPON DAHLIAS (AMATEURS).—With six bunches of ten blooms Mr. J. T. West was again first, having in capital condition Arthur West, Mary Kirk, Winifred, Eva, Tommy Keith, and a seedling; second, Mr. W. Mist, who had Whisper, Grace, Dora, Prince of Liliputians, Admiration and Eurydice. With six bunches of six blooms Mr. S. Cooper was first, having White Aster, Phoebe, Juno, Whisper, Lilian and H. Molesky; second, Mr. C. Osman, Sutton.

SINGLE DAHLIAS (AMATEURS).—Mr. T. W. Girdlestone, Sunningdale, was the only exhibitor of six bunches of ten blooms each, and was awarded the first prize with Demon, Kitty, Ruth, Yellow Satin, Daisy, and Gwendoline, all his own seedlings. Mr. E. Mawley, Berkhamsted, was the only exhibitor of the same number of bunches, six blooms of each, having Yellow Satin, Rosebank Cardinal, A. Perry, Enchantment, Miss Roberts, and Duchess of York. Special prizes were offered by Messrs. J. Cheal and Sons for twelve bunches, six blooms of each, and again Mr. Girdlestone was the only exhibitor, having The Mikado, Little Frank, Prince of Orange, Dearest (a charming variety, white, with side edgings of yellow), Maize, Marion Hood, Demon (a very fine dark variety), Yellow Dwarf, Sunningdale Scarlet, Cinderella, Awdry, and Florence.

An interesting class was an open one for six varieties of fancy single Dahlias, ten blooms of each, meaning varieties whose blooms are tipped, striped or edged. Mr. T. W. Girdlestone was first with Splash, Houri, Tommy, M.C.C., Phyllis and Irene; second, Messrs. J. Cheal and Sons.

Then followed a series of open classes of an educational character. Six blooms of any dark Dahlia—Mr. J. Walker was first with Prince of Denmark, Messrs. Keynes and Co. second with Niobe, and Mr. G. Humphries third with William Rawlings. Six blooms of any light, not yellow—first, Mr. J. T. West; second, Mr. G. Humphries; and third, Messrs. Saltmarsh and Sons, all with Mrs. Gladstone, a variety unapproached for its chaste beauty. Six blooms of any yellow—first, Mr. J. Walker, with John Ilicking; second, Mr. G. Humphries, with R. T. Rawlings, undoubtedly the two best yellow selfs; and third, Mr. Mortimer, with John Hickling. Six blooms of any tipped Dahlia—first, Mr. S. Mortimer, with Mrs. N. Halls; second, Mr. Seale, with Mrs. Saunders, both fancy varieties. Six blooms of any striped Dahlia—first, Mr. G. Humphries, with Frank Pearce; second, Mr. J. Walker, with Matthew Campbell; third, Mr. Seale, with Henry Eckford, all fancy varieties. Six blooms of any edged variety—first, Mr. C. Turner, with Miss Cannell; second, Mr. J. T. West, with J. T. West; third, Mr. J. Tranter, Henley-on-Thames, with Florence Tranter. Mr. John Walker offered special prizes for his new white self John Walker, six blooms being required. First, Mr. S. Mortimer, with very fine blooms; second, Mr. G. Humphries; and third, Mr. E. F. Such. It is incomparably the best white self Dahlia.

Miscellaneous exhibits included a fine collection of cut Dahlias, &c., from Mr. T. S. Ware, Hale Farm Nursery, Tottenham; a fine lot of Cactus Dahlias with blooms of Orange Begonias, from Messrs. H. Cannell and Sons, Swanley; cut Roses in great variety from Messrs. Paul and Son, nurserymen, Waltham Cross; a bold group of Begonias and other plants, as well as a collection of cut flowers from Messrs. J. Laing and Sons, Stanstead Park, Forest Hill; and plants and cut flowers from Messrs. B. Peed and Sons, Lower Norwood.

But few seedling Dahlias of the show class were exhibited on this occasion, the most promising being Niobe (Keynes and Co.), shaded crimson, paling to bright crimson on the petal edges, and Nellie Tranter (Tranter), a pale ground flower, with slight edging of bright lilac-purple, very pleasing. Of new Cactus and decorative Dahlias there were several, first-class certificates being awarded to the following: Lilacina (Cannell and Sons), yellow ground, deeply suffused with bright purplish mauve, especially towards the petal edges; Mrs. A. Pearl (Ware), a near approach to a pure white Cactus Dahlia, creamy white, the centre bright citron, very distinct and a decided acquisition; Lady Penzance (Keynes and Co.), a lovely soft yellow Cactus of the finest quality; Lady Henry Grosvenor (Keynes and Co.), Cactus, delicate salmon base and bright yellow base, the best of the varieties in this way; and Chancellor (Keynes), Cactus, bright crimson, suffused and edged with purple, very fine; Beauty of Wilts (Pictor), Cactus, bright orange-salmon, distinct and pleasing; Mary Hillier (Hillier), Cactus, bright salmon, deepening to orange, very promising; Matchless (Perkins and Sons), Cactus, a very fine dark variety, maroon, paling to crimson on the petal edges; and Purple Prince (Perkins and Sons), Cactus, maroon centre, the basal petals maroon tipped with bright purplish crimson. To pompon varieties, Captain Boyton (C. Turner), deep maroon, of the finest shape, an excellent addition to the dark varieties; and Rowena (C. Turner), tipped with bright pale red on a yellow ground, very distinct. To single Dahlias, Demon (Girdlestone), rich bright maroon, fine shape; Phyllis (Girdlestone), pale ground, mottled and splashed with lilac round the centre and flaked with crimson; M.C.C. (Girdlestone), yellow, striped and flaked with bright orange-red; and Tommy (Girdlestone), yellow, striped and flaked with bright crimson, very handsome. To Scarlet Perfection (Perkins and Sons), very bright scarlet, of the finest shape and substance; Mary Sharpe (Cheal), buff ground, with reddish orange ring round the eye and flakes of orange-red, deepening to crimson; and Mrs. Harris (Cheal), blush, with side margins of bright rosy purple, small, excellent shape and very distinct.

Several other promising new varieties of Cactus, decorative, pompon and single varieties were staged.

A full prize list will be found in our advertisement columns.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE Royal Aquarium was filled with flowers of various kinds on Tuesday last, the opening day of the first exhibition. Dahlias and Gladioli were the leading features besides the Chrysanthemums. At the meeting of the floral committee, Mr. W. Herbert Fowler took the chair, this being the first occasion since the reconstruction of the committee. We were rather surprised, considering the numerous additions to the early-flowering list, to find so little material submitted to the committee for adjudication. Mr. N. Davis, of Camberwell, and Mr. W. Piercy, of Forest Hill, staged several bunches of Gustave Grunerwald, a free-flowering, medium-sized Japanese variety of a light lilac-mauve colour. This would undoubtedly have received a certificate but for the fact that a plant was not forthcoming, the rule being very definite in cases where new varieties are submitted as decorative Chrysanthemums.

First-class certificates were awarded to the following:—

MR. E. ROWBOTTOM.—A new yellow Japanese, very pure in colour, and of perfect form. It is a seedling raised by its namesake, who was also the exhibitor.

SAMUEL BARLOW.—A medium-sized Japanese, raised from seed last year at Camberwell. The colour is a deep salmon-pink with centre shaded yellow, not unlike the later variety Margot. Shown by Mr. N. Davis.

The early-flowering Chrysanthemums are being added to each year, and a number of varieties with handsome blooms may be obtained; but still there is a lack of colour. About eleven classes were set apart for Chrysanthemums. The chief class was for twenty-four bunches, not less than three blooms in a bunch, and the first prize was awarded to Mr. E. Such, Maidenhead, who had a well set-up collection, in which the principal kinds were Early Blush, blush, white in the centre; Golden Gem, rich yellow; Mrs. J. R. Pitcher, rose and yellow; Alice Butcher, rich chestnut-crimson. The most interesting collection was that from Mr. Norman Davis, Lilford Nursery, Camberwell, who was placed second. His flowers were of great merit; the best were La Vierge, pure white; Alice Butcher, previously described; Samuel Barlow, salmon-rose, the reverse yellow; the well-known Mme. Desgrange and its several forms; Mrs. J. R. Pitcher, M. Pynaert Van Geert, Lyon, rich crimson; Blushing Bride, rose, and beautiful clusters of M. Gustave Grunerwald, a lovely early variety, the flowers white, yellow in the centre, the outer petals touched with rose. Very fine flowers came from Mr. H. Shoesmith, gardener to Mr. M. Hodgson, Shirley Cottage, Croydon, who was first in the class for twelve blooms of Mme. C. Desgrange, with Mr. W. C. Pagram, gardener to Mr. A. F. Hobbouse, The Whin, Weybridge, second. The next class was of interest. Twelve blooms of any large-flowering varieties were to be shown, except Mme. Desgrange, and excellent flowers were staged by Mr. Agate, Havant, Hants, who had the silvery white sport from Etoile de Lyon, Mrs. W. H. Goulden, white; Mr. E. Beckett, yellow; Puritan, white, broad petals; and W. Tricker, rose. In the second prize stand from Mr. A. McMillan, gardener to Mr. J. Currie, Edinburgh, were good blooms of Puritan and Mlle. Lacroix. But yet throughout there is a want of distinct and telling colours, though many of the shades are very delicate and pleasing. Another class was for six bunches of Mme. C. Desgrange with foliage, the first prize going to Mr. W. C. Pagram, and in the corresponding class only yellow varieties were admitted. Mr. H. Shoesmith had the best, showing good blooms of Mrs. Burrell and Mrs. Hawkins, whilst Mr. W. Pagram was second.

Mr. A. McMillan won the first prize for six blooms, distinct, excluding Mme. C. Desgrange and its sports. The best kinds shown were M. Freeman, rose; Etoile de Lyon, Stanstead White, Mr. Irving Clarke, rose; and Puritan. Pompons were exhibited well by Mr. D. B. Crane, Archway Road, Highgate, who showed neat, well-developed blooms, particularly of Mrs. Cullingford and Piercey's Seedling, yellow.

In the classes set apart solely for amateurs, medals were given, and for twelve bunches, pompons allowed, the silver medal, equal to first prize, was awarded to Mr. D. B. Crane, who had a good collection, including a pleasing Japanese variety named Alfred Montibelli, salmon and white in colour. The best stand of Chrysanthemums came from Mr. W. Mole, High Street, Hemel Hempstead.

Dahlias.

These proved an important feature. The chief class was for sixty show and fancy blooms, and the first prize went to Mr. C. Turner, The Royal Nurseries, Slough, who had a remarkably fine collection of smooth, even, well-finished flowers. It is unnecessary to mention names, as all the leading kinds were included. Messrs. Keynes, Williams and Co., Salisbury, were a very good second. The Salisbury firm were first for thirty-six blooms, and showed very fine flowers, whilst Mr. J. Walker, Thame, Oxon, was second.

Amateurs showed fairly well. The principal class in this division was for twenty-four blooms, show kinds, the first prize going to that well-known amateur grower, Mr. J. West, gardener to Mr. W. Keith, Cornwalls, Brentwood, whilst Mr. Ocock, gardener to Mrs. McIntosh, Havering, Essex, was second. Matters, however, were reversed in the class for eighteen blooms, in which Mr. A. Ocock was first and Mr. J. T. West second. The premier award for twelve blooms was made in favour of Mr. T. Vagg, gardener to Mr. J. Theobald, Havering, near Romford, whilst Mr. J. Gurney Fowler, Glebelands, South Woodford, was second. Mr. Vagg had the best six flowers.

Three classes were devoted to pompon kinds. Twenty-four very fine bunches came from Messrs. Cheal and Sons, Lowfield Nursery, Crawley, comprising many of the older and more recent varieties, whilst Mr. Chas. Turner was second, and Messrs. Keynes, Williams and Co. third. In this collection was a new kind named Madge, a very neat flower, scarlet in the centre, the outer petals white. In the corresponding class for twelve bunches, Messrs. T. Burrell and Co. were first with excellent blooms, especially of the well-known White Aster, E. F. Jungker, salmon; Whisper, yellow, small crimson centre; and Fairy Tales, primrose; Mr. George Humphries, Chippingham, second. The best six bunches were from Mr. J. T. West, the most distinct kind being Little Julie, the flower scarlet.

Single varieties brought a good competition. As usual, the post of honour was occupied by Messrs. Cheal and Sons, whose collection included a brilliant scarlet flower named Duke of York, one of the brightest we have seen; Mr. F. W. Seale, Vine Nurseries, Sevenoaks, second. The best twelve bunches were from Mr. Geo. Humphries. A very charming kind represented was Florrie Fisher, the flower rose, white at the base of the petals. Mr. R. Burgin had the best six bunches, with Mr. Ed. Mawley, Rosebank, Berkhamsted, second.

The Cactus varieties are always the most attractive to us at the exhibitions. It would be difficult to eclipse the twelve superb bunches staged by Messrs. Keynes, Williams, and Co., who were placed first. Remarkably fine were Lady Penzance, a lovely soft yellow shade; Chancellor, crimson-purple; Countess of Gosford, Bertha Mawley, Gloriosa, brilliant crimson; Lady Henry Grosvenor, reddish tone, yellow in the centre; and Delicata, an exquisite salmon-rose shade, shot with magenta, and suffused with yellow in the centre. Messrs. T. Burrell and Co. were second, but their collection comprised too many of the decorative type, which are coarse. The best six bunches were from Mr. J. T. West, who had a very

charming kind named Blanche Keith, the flowers of a yellowish colour and pleasing shape.

Two classes were provided for Gladioli. In the open class a remarkably fine collection came from Messrs. Burrell and Co., comprising no less than twelve boxfuls of splendid varieties. Special prizes were offered by Messrs. Sutton and Sons, Reading, for a collection of vegetables. The first prize went to Mr. C. J. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher, who had excellent produce, whilst Mr. C. Osman, South Metropolitan District Schools, Sutton, Surrey, was second.

Several miscellaneous exhibits were shown. A superb group of Dahlias came from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The flowers, representing every section, were delightfully arranged and set off with plants of the graceful Eulalia gracillima. A silver-gilt medal was most deservedly awarded. Mr. Mortimer, Farnham, had an interesting collection of seedling Dahlias; also Messrs. Perkins and Sons, of Coventry. Messrs. Keynes, Williams and Co. had a collection of show Dahlias of leading varieties, and Mr. Piercey, Forest Hill, S.E., flowers of early Chrysanthemums M. Gustave Grunerwald and Arthur Crepey. Mr. Arthur Rawlings, Romford, Essex, exhibited a collection of show Dahlias (silver medal), whilst a most interesting group of hardy flowers came from Messrs. J. Laing and Sons, Forest Hill.

Fruit was chiefly represented by a remarkably fine collection from Messrs. J. Laing and Sons, to which a silver medal was awarded. The Pears most worthy of note were Louise Bonne of Jersey, finely coloured, Souvenir du Congrès, and Beurré Bosc; whilst Apples worthy of note were Cox's Pomona, Lord Derby, Lord Suffield, and Fearn's Pippin. Remarkably large fruits of Peasgood's Nonsuch Apple were shown by Mr. J. B. Payne, gardener to the Bishop of Bath and Wells, The Palace, Wells. The twelve fruits weighed 15 lbs., and the heaviest specimen 22 ozs.

— On Monday last the general committee held a meeting at Anderton's Hotel. Mr. Harman Payne took the chair, and after the minutes of the two previous meetings had been confirmed, the secretary read certain correspondence chiefly relating to the withdrawal of members and three of the affiliated societies. Mr. Geo. Gordon not being able to officiate as judge at the show on Wednesday was replaced by Mr. Geo. Stevens, of Putney. Mr. Payne read an invitation from the Bordeaux Society for members to exhibit at their show in November, and also intimated that there was a desire on the part of Antipodean growers to compete for a prize at one of the N.C.S. shows, sending their exhibits of six Japanese blooms and six incurred over to England free of expense to the society for the purpose. The suggestion, which met with some approval, was decided to be left in the hands of the schedule sub-committee for consideration at an early date. Reports by the secretary as to the financial position of the society and the reserve fund were satisfactorily received. Mr. Edwin Molyneux, of Swaomore Park, was elected a member of the floral committee in place of the late Mr. Sanderson. Ten new members and one Fellow were also elected, and a Cape of Good Hope Chrysanthemum Society admitted in affiliation. A vote of condolence with Sir John Llewelyn at his recent loss was passed, and the meeting closed at an early hour.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 29, 30, 31, SEPTEMBER 1.

Horticultural Buildings, &c.

TAKING into consideration the large amount of space at disposal under the galleries where these exhibits were grouped, it must be taken as a very good representative display. Had the same things been all arranged together they would undoubtedly have made a better impression. As it was, however, there was plenty of room for inspection in comfort. One thing that no doubt prevented more

of these exhibits from being sent was that (to our opinion) high rate charged by the Agricultural Hall Company for space. According to what some at least paid, the receipts from this source alone must have been considerable, and have gone a long way towards paying the prize money in the schedule.

In horticultural buildings and heating apparatus, Messrs. Foster and Pearson have the most extensive exhibit. The erections of this firm are well known, and of good repute for their workmanship. Those exhibited were of this stamp, not having been worked up specially for the purpose. They showed a most useful erection in the Beeston greenhouse for amateurs, strongly built and ventilated on the best principles. This was heated by the Beeston boiler, which was for such a purpose as good as we could desire. There were also well-planned wall coverings, which, for exposed situations, will soon repay the cost of erection in the better crops of fruit and vegetables. Their larger boilers were also shown; these are quick in action and of good design. Another excellent exhibit was their well-known span-roofed frames (awarded silver-gilt Flora medal for general excellence), the last-named exhibit being highly commended. Messrs. Messenger and Co. also showed well in this section, their chief exhibit being a light, elegant and ornamental house, in which were shown interior fittings either for a vinery in the form of wires and trellis-work, for a plant house in the way of stages, or for forcing purposes in the arrangement (an excellent one) of slate staging—far more desirable than any wood or brickwork erections. The ventilating arrangement here commended itself, especially that in which the Archimedeal screw was utilised, making the lights self-locking at any angle. The roof of this house was tightened by iron rods of light make. The same firm also showed boilers, valves, &c., of new and approved designs, as well as cold frames (awarded silver-gilt Flora medal for the house and its arrangements). Messrs. Sam. Deards and Co. showed their coil boiler, which has been proved in previous exhibitions to be a powerful and economical one. They have also a coil arrangement adapted to the interior of Walker's slow combustion stove, which adds greatly to its heating power. The arrangement for feeding this boiler by the addition to its top is a novel one, which, for amateurs at least, would be desirable. Award for this latter exhibit silver Banksian medal.

HEATING BY GAS AND OIL.—As might be anticipated with the advances now made in this direction, there were exhibits of this character which are in every way commendable for the small grower as well as for heating entrance halls and corridors, &c. Messrs. Fenlon and Son had their patent gas boiler and piping attached in working operation; rapidity of action as well as economy of gas is claimed for this invention. Others are also shown. Awarded silver Banksian medal. Messrs. Toope and Son had another exhibit in this section; this also is good for the purpose, the copper pipes in place of iron ones being noteworthy for workmanship, whilst for durability they should be all that one could desire. Awarded silver medal Banksian medal. Messrs. Clark and Co. show both oil and gas-heating arrangements in operation. In the use of the oil there is no appreciable smell. An excellent arrangement of this exhibit is the upright form, by which little room is taken up wherever the apparatus is stood. This exhibit was commended.

A new automatic damper was the most novel exhibit in the whole show. By means of a float in the expansion cistern the damper is opened or closed according to the temperature of the water. To amateur and small growers who do not want to be always watching the temperature this should be valuable. Shown by Mr. Lascelles, 97, Fleet Street, E.C. (award silver Banksian medal). Standard tree pruners were shown by the Standard Manufacturing Co., Derby; these were of further improved make, by which more power was imparted by leverage arrangements in the working. These were fully tested and found to be very powerful and efficient (award

silver Flora medal). Miscellaneous exhibits by horticultural sundriesmen and others were important features, occupying a considerable space. All conceivable wants of the garden were to be found shown here. The summer houses shown by Mr. Riley, Herne Hill, S.E., were of good make and design, of rustic character and not formal (award silver Banksian medal). Messrs. Osman and Co. had a large and comprehensive stand of sundries on which were to be seen light and well-made boxes for parcel post, garden cutlery and tools of all kinds, insecticides, manures, light iron stakes, exhibition boards and boxes, tying materials, &c., with a new trap for catching wireworm of simple make (award silver Flora medal). Mr. J. T. Anderson had also a large stand, on which could be seen a splendid sample of the old tying material, Cuba bast, which for durability is infinitely better than raffia, this also of good quality being set up beside it. Sacks, ropes and twines, with all sorts of mats and the most approved shadings were displayed here. Mr. J. George, Putney, had a representative stand, on which were to be seen first-rate samples of Orchid and other peats, very superior Mushroom spawn, artificial manures, bones, &c., as well as fumigating materials as now in use, and wood wool of the finest quality, now so much in request. Messrs. W. Wood and Son had a very novel and attractive erection over their large and comprehensive stand of Bamboos, which formed the outline of an improvised summer house, affording an excellent idea of the adaptability of Bamboos to garden purposes. This firm does a large trade in Bamboo sticks, these in various kinds being also displayed. Here also were to be found effective insecticides, artificial manures, tying materials, peat of the finest qualities, and the best kind of wood wool for packing, soft and void of smell. Mr. W. Cooper, Old Kent Road, had a large exhibit of sundries of various kinds, peats, loams, manures, and other requisites of the garden. The most noteworthy exhibit here was the small portable houses (for amateurs) of various designs; these were excellent for the purpose in small gardens. Messrs. A. Cross and Son, Glasgow, showed artificial manures and fertilisers, also their "insecticide and mildew-destroying compound," which is one of the most efficacious and safe in use of anything in its way. Messrs. Corry, Soper and Co. showed a comprehensive stand of sundries that included nearly every article in daily use. Messrs. B. Lawes and Co., the well-known chemists, had an exhibit of their "disinfecting compound," an article not nearly enough in use in gardens; no garden, in fact, should be without one or another effectual disinfectant. There were several other smaller exhibits, one of the most useful being the paper fruit and flower baskets of Messrs. Cooper, Denison and Walkden, St. Bride Street, E.C.; these are light and serviceable. A few other exhibits hardly pertained to horticulture, therefore need not be named.

— The next meeting of the above society will be held on Tuesday, September 12, at the Drill Hall, Victoria Street, S.W. Mr. Jas. Douglas will deliver a lecture on "Garden Phloxes and Pentstemons," and collections of these plants will be welcomed as a means of illustrating the lecture in a practical way. As the season for Gladioli is drawing to a close, we have been requested by Messrs. Kelway and Son, of Langport, to say that their prize of a silver medal will be offered at this meeting for the best twelve Gladiolus gandavensis varieties raised from British seeds. Prizes are also offered by the society for twelve distinct Gladioli grown by amateurs.

The weather in West Herts.—All the day temperatures during the past week have been moderately high for the time of year, but on two nights the exposed thermometer indicated readings within 6° and 4° of the freezing point. With the exception of a slight fall of rain early on Friday morning, the weather has remained perfectly dry. The summer of 1893 proved very hot. On one day the shade temperature exceeded 90°, on eight

days 85°, on eighteen 80°, on twenty-eight 75°, and on fifty-five 70°. It was also a dry season, the total rainfall falling short of the average amount by about 2 inches. The number of rainy days was, however, about seasonable. The great spring drought left the soil and sub-soil extremely dry; in fact, notwithstanding the frequent rains in July, not a drop of water came through the 2½ feet of soil in either of my percolation gauges between the end of March and the beginning of August, or for four months.—E. M., *Berkhamsted*.

A note from Ireland.—One of the most interesting notes in THE GARDEN to me is that weekly from West Herts. I tried the soil here yesterday (4th) at 1 foot deep, and found it 64°; this is 2° warmer than a week ago, the rain having then reduced the temperature very quickly. On Tuesday, August 8, the sea temperature was 62°. This is the best year known for fruit in the south of Ireland, shy-bearing Apples having a full crop, and four to five weeks earlier than usual.—A. WHITE, *Waterford*.

Recreation grounds scheme.—The committee having purchased a site for carrying out the proposed recreation grounds in Smedley Street, Matlock Bank, and about a score of gentlemen having come forward as guarantors for the £1750 required, a meeting of the gentlemen concerned was held on Wednesday night at the Social Institute, Matlock. Dr. William Moxon was elected to the chair, and the meeting unanimously adopted a resolution approving of the purchase of land by the committee, and it also decided to form a limited liability company to carry out the project, under the title of the Matlock Pleasure Gardens Company, Limited. The shares were fixed at £1 each, but the amount of capital was deferred. The meeting adjourned until next week.

Two new Monthly Roses.—An amount of interest has been awakened in these during the past few years, and has led to the hunting up of not a few old and all but forgotten kinds. The next most desirable thing is the addition of new varieties if they have the essential distinctness. M. Guillot led the way with Mme. Laurette Messimy, sent out a few years ago, and at once recognised as of sterling worth, in lovely shades of rose-pink and copper-yellow. Two magnificent kinds in rich many-flowered trusses have come to me from Messrs. W. Paul and Son, of Waltham Cross, both being very distinct, of true Monthly character, rich in colour, and sweetly scented. Duke of York has a pretty well-shaped full flower of soft salmon-pink with yellow base, rich rose and crimson on the exterior. Waltham Bedder is very brilliant, a rich rose with copper-yellow at the base of the petals. Next to the Teas I should like to see the best Monthlies grown well in good groups, and whatever the advocates of non-pruning may say to the contrary, I have always got the best and most continuous display by cutting the bushes hard back in spring. It is a good thing that some of our nurserymen pay attention to other Roses than those merely which conform to exhibition standard.—A. H.

Pinus nobilis unhealthy.—I enclose a few pieces from the bark of a Pinus nobilis which are full of an insect. The same tree was affected in a similar way last summer, and was dressed with a mixture of lime and water on the trunk. I should be obliged by your informing me the probable cause of it, and if any treatment of the tree is advisable as a remedy. The soil is clay on limestone. The tree has a very fair amount of air, and a top-dressing once a year of decayed leaves.—W. CHAPLIN.

* In reply to the above, your Pinus nobilis is attacked by one of the Coccidæ. As I am away from my books at the present moment, I cannot give its name more definitely. The treatment, however, of the tree will be the same whatever the pest may be, which is the more important point.

You cannot do better than wash the tree with one of the following mixtures: 5 lbs. of soft soap, the extract from 5 lbs. of quassia chips well boiled, and 100 gallons of soft water; or, 12 lbs. of soft soap, half a gallon of paraffin oil, and 100 gallons of hot soft water, the hotter the better, as the soap and oil mix better with hot water than with cold. This mixture when in use should be kept well stirred so as not to allow all the oil to float on the surface. I will write again, giving the name of the insect as soon as I am in a position to do so.—G. S. S.

Grubs in Potatoes.—Would "G. S. S." kindly name enclosed gigantic grub, found in the soil of a Potato drill as it was being dug this morning? From the look of its mandibles, it appears to be a carnivorous species, and, if so, would be just the kind of friend and helper gardeners would like to have to keep down "leather-jackets."—W. M.

* The large grub you found is that of the common cockchafer. It is not carnivorous, but is a very destructive pest to a large number of crops. I am afraid I can suggest no means for the destruction of this insect but turning it out of the ground and destroying it.—G. S. S.

Spiranthes Romanzoviana.—In reference to what Mr. A. D. Webster says at p. 224 of THE GARDEN, I have to say that the original sketch made by myself of the above species was used in the *Gardener's Chronicle* for October 8, 1881, on page 465, so that it was not quite original when it reached Mr. Webster as a free gift in 1885. Anyone interested in trifles who may care to glance at the illustration in *Gardener's Chronicle* of 1881 will see that Mr. Webster simply used an electrotype copy of that block in his work "British Orchids," published in 1886, added to which we have M. Correvon avowedly publishing his figure in "Orchidées Rustique," 1893 (p. 191), as "après Webster."—F. W. BURBRIDGE.

Names of plants.—C. Johnston.—1, a very good form of *Aerides quinquevulnerum*; 2, *Phalaenopsis amabilis*, but not the *amabilis* of gardens, which is *P. Aphrodite*.—W. Mortimer.—*Saccolabium Blumei*.—Nemo.—Impossible to name from such a scrap.—C. L. V. A.—All the Roses seem to be *Rosa* or *R. P.* in bud we cannot name.—Lyrion.—*Acer campestre*.—J. B.—*Chelidonium majus*.—Courtown.—1, *Rhamnus catharticus* (the Buckthorn).—H. May.—1, *Catalpa sp.*; 2, *Digitalis ferruginea*; 3, *Lonicera aureo-reticulata*.—J. F.—Apparently *Catasetum callosum*; should like to see the flower of the other sex when it has any upon it.—B. T.—1, *Adiantum formosum*; 2, *Aglaomorpha Meyenianum*; 3, *Asplenium formosum*.—L.—*Lilac flower*, *Crocus zonatus*; *rose flower*, *large*, *Colchicum byzantinum*; *small flower*, *Colchicum Szovitzianum*. In sending flowers or fruit for name please always affix numbers.—H. Prothero.—*Tecoma jasminoides*.—T. B.—1, *Nerine flexuosa*; 2, *Stapelia species*; 3, *Ophiopogon Jaburan variegatum*.

Name of fruit.—IV. B. Hartland.—Cornish Gilliflower.

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No. 1159. SATURDAY, September 16, 1893. Vol XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

STATE OF THE FRUIT TREES.

A LONG spell of tropical weather, accompanied by prolonged drought, had the effect of maturing both the wood and buds of fruit trees generally before the month of August had arrived. Following upon the drought, we had a change to wet and dull weather, and once more the sunshine is remarkably powerful, the days being very hot, though the nights are cold, frosts having been experienced in some places. The effect of all this can scarcely be realised as yet, but to all appearances it will not be altogether in favour of the owners of very many fruit trees. We hear and meet with instances of Pear trees having actually flowered at three distinct times, ripening two crops, the third only just setting now. Many Apple trees are now flowering freely, a horizontally trained Warner's King in a town garden being heavily laden with fine fruit, among which are distributed numerous trusses of flowers, and with me Bramley's Seedling, Lane's Prince Albert and Cox's Orange Pippin are behaving very similarly. It is the young trees that are most addicted to this, to say the least, very unfortunate behaviour, the flowers, strangely enough, being principally produced at the points of young shoots. If, however, it was of only a few isolated cases that this abnormally late flowering could be written, there would be little or no need to complain, and it may yet turn out that the effect of so much sunshine on the trees will be of a beneficial and lasting character rather than otherwise. At present what we have most to fear is that very many fruit-buds on old trees will either burst before the leaves fall or else become so dangerously forward as to be incapable of standing the vicissitudes of our winter. Where wall trees are in a rather sunny position, the fruit-buds, in addition to being very numerous, are also remarkably forward, this being especially the case where rather hard stopping has been practised. Should we have a few days of warm showery weather, then I am afraid not a few of these forward buds will burst, though even then there are so many on the trees that plenty may be left to open in due course. It is not often that summer stopping leads to the formation of so many fruit-buds the same season, as proves to be the case this year, and, judging from the state of unpruned shoots on old Apple trees, many of these will, if left untouched, flower very freely next spring.

Raspberries are also showing the effects of so much dry, hot weather in a way that is not altogether satisfactory, and yet not without its bright side. Very many of the young canes have flowered or are flowering freely, and ripe fruit, where it can be saved from the birds, is fairly plentiful. In some instances a bunch of fruit is produced at the points of the canes only, while in others fruit is ripening nearly throughout their whole length. It is the sturdier-growing forms, notably Carter's Prolific and Baumforth's Seedling, that are behaving in this manner, the weaker growers presenting their

usual appearance. I need hardly add that those canes that are producing fruit throughout their length will be of little or no value next season, but all that have borne at or near the points only may be shortened next winter or early in the spring to below where they are fruiting now, with every prospect of their breaking and fruiting freely from the lower reserved joints.

Red spider has done great injury to a variety of fruit trees and bushes in innumerable gardens this summer, Peaches, Nectarines, Plums, and Gooseberries being the greatest sufferers. In some instances not a leaf could be seen on the trees and bushes as early as the second week in August, and seeing that the leaves cannot possibly have properly fulfilled their functions, a very feeble break must result next season. In some instances it would perhaps be the right practice next winter to hard prune wall trees that have suffered most from the effects of red-spider attacks with a view to forcing out a few strong shoots instead of numerous weakly growths that will inevitably ensue if the trees are pruned in the ordinary manner. This would, at any rate, be preferable to wholly rooting out the early defoliated trees, as intended in one case that has come under my notice. If the trees do start well after their severe pruning, they would, if rooting in a fairly good border, soon surpass newly-planted trees, though I would not rely too much upon this, but should advise planting young trees midway between those that are severely pruned. This proposal to either hard prune or root out trees that have been greatly injured by red spider may appear rather of a too drastic character, but exceptionally bad cases call for exceptionally strong remedies. In far too many gardens forest trees are growing within a few yards of the warmest garden walls, and it is these that are largely responsible for many failures of Peach and other trees. Not only do the roots of Elms, Beech, and such like penetrate beneath the foundations of the walls, find their way up into the borders and rob these of much food and moisture intended for the wall trees, but they also communicate red spider, thrips and aphides to the foliage of the latter. Undoubtedly poverty at the roots has much to do with bad attacks of red spider, but the remedies are scarcely so simple as at first sight may appear. Gooseberries have tried to make up lost ground already. Many that lost nearly or quite all their leaves owing to the work of red spider are now in quite a green state, but the bushes are in a very feeble condition, and they are likely to be found so next season. Fortunately, quite large bushes transplant readily, and those who have feeble bushes under wire netting-covered structures, and stronger, healthier ones in the open, will do well to arrange for some of these latter to take the place of the former.

As I fully expected would be the case, Strawberries have suffered very much from the drought, and the prospects for next season, as far as many growers for market are concerned, are anything but cheering. In the neighbourhood of Bath there are many hot sloping banks devoted to Strawberry culture, the plants on which at the present time are in a bad plight. Those newly put out remain almost stationary, while the older plantations are over-run by red spider and fast drying up. The owners have been afraid to do any trimming or clearing off of rubbish, those breadths that have been thus attended to suffering the most from drought. Where the Vicomtesse Héricart de Thury is still given a good position the rows are flowering and fruiting with great freedom. At Long-leat there is quite a large breadth of this variety netted over, excellent dishes of fruit being now

available, and abundance of green Strawberries is swelling most satisfactorily. The rows were not planted out after being forced, but produced a heavy early crop of fruit where they now are. How far this second crop will affect next summer's prospects remains to be seen, but in any case the fruit is very welcome now. Vicomtesse would appear to be the most reliable autumn-fruiting variety, or much more so than Noble, and there is no mistaking the superiority of its flavour over all other varieties that ripen early or late in the season.

W. IGGULDEN.

GRAPES MILDEWED.

I HAVE a greenhouse facing the east and have had good crops of Grapes for many years till the last two years. The Vines and Grapes have been mildewed; nothing else in the same house has suffered. I have also a large Vine facing the south on a house 10 yards from the Grape house, which is 30 feet long and 8 feet wide; all the Grapes and Vine are mildewed also.—A. B.

* * Vines not in a healthy state at the roots, more especially if rooting deeply, are apt to form soft sappy growth peculiarly liable to be overrun by mildew, but more often than not the attack of the latter is brought about by faulty ventilation. In the first place, a house largely devoted to the cultivation of greenhouse plants is not the best place for Grape culture. Certain classes of plants, notably Ferns, Begonias, Cyrtipediums, and zonal Pelargoniums, might be, and very often are, extensively grown under Vines, but when to these are added Azaleas, large-flowering Pelargoniums, Fuchsias, Roses, Carnations and such like, then the chances are insect pests and diseases will be communicated from these to the other occupants of the house, and the Vines in particular. Judging from the letter before me, "A. B." does not blame the pot plants for the two successive attacks of mildew, but they had something to do with it all the same. Greenhouse flowering plants require, and usually get, abundance of air during bright spring and summer days, the front lights as well as the top ventilators being set wide open. When the young growth of Vines is beginning to mature is when mildew is most liable to affect it, and it usually follows in the wake of a rush of cold air. I have frequently made this assertion in these pages, and have never been contradicted. Had I been so, my experience this season would have conclusively proved me in the right. In houses of late Grapes much exposed to easterly winds, no front air was given, with the exception of at one end light, till June, and that in spite of the very hot weather we had in May. For two seasons previously mildew had shown itself all along the front of both houses. This year the only trace of it worth mentioning was where air had purposely been given with a view to testing my mildew theory. In that corner it started badly and spread rapidly, this happening soon after the bunches had been thinned out. The worst attack of mildew it has been my misfortune to contend with was distinctly traceable to a sudden opening of the front lights on a very bright day, the wind being in the east. A rush of cold air through the top ventilators will also bring mildew with it, the Vines on back walls sometimes showing traces of this.

The other extreme, or heat and stagnation, is undoubtedly most favourable to the spread of mildew when once it has effected a lodgment on the Vines, but it does not start it in the first place. By all means thoroughly cleanse the house, hot lime water being used in the case of walls, hot water and soft soap for the woodwork, removing all rubbish, loose soil, and such like from the beds, borders, or floors as the case may be. The rods, after pruning, should also be scrubbed with hot water, and then receive the usual dressing of Gishurst compound. Such preventive measures are wise, but they ought not to stop there. Attend more closely to the ventilation, giving a little top air extra early, gradually adding more as the

sun gains in power. It will then be found that there will always be a comfortable feeling in the house, no great quantity of air being necessarily put on at one time. So much can be done in the way of keeping the air genial by early and gradual ventilation, that it must be very hot indeed if there is any necessity to give front air in early and successional houses much before the berries are commencing to colour; while in the case of late vineries or any allowed to start naturally, no front air need be given till the time when easterly winds are not felt. Rather than open front lights in vineries or greenhouses containing Vines when easterly winds are blowing against them, I would sooner open doors at the sheltered ends. Once mildew is observed, the first remedial proceeding should be to thoroughly dredge the bunches on which it is seen and the rest near as well as the stem and leaves with flowers of sulphur. Mildew can make no headway against this, and a timely application, coupled with the maintenance of a good circulation of warm, dry air, will do much towards arresting the spread of the very insidious fungus. Much mildewed berries will hold the sulphur tenaciously, and may well be cut out when the bunch is required for use. The rest of the bunch can be cleared of sulphur by means of bellows or a tobacco powder distributor by way of substitute. Better still, either black or white Grapes may be cleared of powder or dust without prejudice to the bloom by being held under a tap and a force of clear water, a syringe answering the same purpose.—W. I.

APPLES KEEPING BADLY.

SOFT Apples, such as Duchess of Oldenburg, Keswick Codlin, Lord Suffield and Ecklinville, have kept or are keeping very badly indeed, and there is every prospect of Stirling Castle, Warner's King, Lord Derby, Lord Grosvenor and such like behaving very similarly. The tiniest hole caused by bird or insect leads to rapid decay directly the fruit is stored, while the sound fruits soon become spotted right through, this rendering them worthless. Owners of orchards are becoming nervous about their fruit, and instances have occurred where all the Apples, early and late alike, have been sold for cider making at the rate of 1s. per bushel of six pecks. As it happens, the later varieties are not maturing so rapidly as at one time thought most probable, and it may also prove that they will keep better than anticipated. Any way, care ought to be taken of all varieties that have the reputation of being good or fairly good keepers, and this whether the bulk is to be sold or kept for home consumption. Do not gather before the pips have changed to a light brown colour nor leave the fruit on the trees after they have so changed. Left too long on the trees the fruit does not keep so well when stored, and is also more liable to be blown down or otherwise bruised. On no account resort to the labour-saving, but bad plan of shaking down the fruit, and avoid bringing down too many from a tree at one time. Carefully sort over the fruit, throwing on one side for immediate use or cider-making all that are damaged in any way, as well as those which are small. In particular avoid mixing the varieties, as they vary greatly both in their keeping and cooking qualities. They must not be stored in very large heaps at first, as they are liable to heat and be quickly spoilt when stored so early, as they will have to be this season. After they have sweated and dried once or twice, there will be less likelihood of their heating unduly when placed in larger heaps, especially if stored in a cool, dark place. Warmth and air hasten ripening and also decay, and it will very probably be found that Apples will keep much the best in almost air-tight boxes, these being packed closely together or one above another in a cool dry room or shed. Judging from what has already taken place, it will be scarcely wise to pack direct into these boxes and store. After the fruit has sweated for a few days and before the heap becomes hot in the centre, each Apple should be wiped with a cloth and spread out for a few hours to become perfectly dry. A cer-

tain amount of moisture being thus got rid of, the fruit may safely be closely packed in paper or hay-lined boxes, finishing off with more paper and shutting the lid closely down on this. This plan is scarcely to be recommended for adoption on a large scale, as in this case proper cool storage quarters should be provided, but should commend itself to the owners of a few garden or orchard trees. Each box ought to be marked and so arranged that the worst keepers can be the first got at and used. They need not be examined if the precaution of storing none but perfectly sound fruit has been taken till November or later, and then very few, if any, decaying ones will require taking out, the hay, if used, also being changed, or it will become musty and taint the fruit. M. H.

Exquisite Peach.—Possibly it is because of its showy appearance that this Peach is grown; its flavour is about as bad as it well could be. This is my reason for just now calling attention to it, as anyone not acquainted with it would be apt to be led astray by seeing handsome fruits on the exhibition table.—Y. A. H.

Peach Walburton Admirable.—Although this Peach is said to be a bad bearer, yet during the past six or seven years with me it has not missed a crop. To bring out its high merits a warm season is needed, and this year has just suited it. It has ripened much earlier than usual. This is certainly an advantage, as no doubt this has much to do with its being of such high quality this season. People who only cultivate the comparatively early kinds have certainly missed a treat, as all late Peaches are this year exceptionally good.—Y. A. H.

The size of Vine borders.—Of late years there has been a considerable leaning towards forming small Vine borders, or at least smaller than they used to be. Although I do not wish to imply that such huge borders are necessary for the well-being of the Vines as was at one time considered requisite, yet I think there is too much of an inclination to go to the opposite extreme, and form the borders much too small, or at least too small to ensure the Vines producing good Grapes for a series of years. Vines with their rooting space limited to a width of 5 feet or 6 feet, and to the depth of 30 inches or thereabouts, require as much attention in watering and feeding as even pot Vines. To sustain Vines in good health for a series of years, each of the borders, inside and out, should not be less than 12 feet wide. With the soil placed in in sections the roots do not ramble away, but form a complete mass of fibrous roots. I have noticed that the small borders which require watering so very often soon become sour; consequently after a time the root action becomes weakened and the Grapes shank.—A. Y.

Figs for forcing.—When visiting Syon House Gardens last year I was much struck with the health and fertility of the Figs grown by Mr. Wythes. His note on two good pot Figs for forcing on p. 168 is, therefore, deserving of special attention. I have not grown the varieties Mr. Wythes names either in pots or otherwise, but have no doubt they are all that he affirms of them. As he grows a good collection of sorts, a dozen or more, I should be glad of his next best from the older sorts, such as the Brown Turkey, White Marseilles, White, Blue, and Black Ischia, Hardy Prolific, and Early Violet for forcing in pots. I note especially this sentence in regard to St. John's and Pingo de Mel: "These varieties do not shed their first crop like many other kinds and swell up quickly." These are vitally important points, but are they not rather the outcome of careful culture than the result of constitution in Figs new or old? There may be a good deal in constitution, but as far as Fig dropping goes it is more the result of treatment. Further information would prove useful to many readers.—D. T. F.

Grape Mrs. Pince.—As this Grape succeeds well in these gardens, a short account of its behaviour this season may be of interest to those

cultivators who still retain a regard for it. Why it should have got into such bad repute I am at a loss to understand, for as regards its appearance it ranks amongst the handsomest Grapes in cultivation. In form it is second to none, while the flavour is superb, and what more is wanted in a late Grape? Colour is supposed to be its worst point, but with this I have no fault to find. Of course, it does not carry a heavy bloom, or if so it might rank in colour to well-grown Madresfield Court. I have seen it stated that to secure large bunches of this variety it requires to be grown on the long-spur system. The Vine growing here is pruned annually on the short-spur system, and I have no difficulty in annually securing bunches each from 5 lbs. to 7 lbs. in weight. This season there is no exception, the berries being large, well coloured, and as yet without the least sign of shrivelling. I consider it would be most unfortunate if this grand Grape should be elbowed out of cultivation. Like the Muscat of Alexandria, it must not be overcropped, and this probably is the reason of its downfall in many gardens.—A. YOUNG, *Abberley Hall*.

PROFITABLE GOOSEBERRIES.

WHEN at Messrs. Veitch's Langley Nurseries, Slough, a short time ago, I noticed a large number of Gooseberries trained as cordons. Cordons may often be planted in places where space could not be given to bush trees. The system of training two growths right and left at the base of a wall and allowing several upright growths to proceed from the base, is too well known to need description. I have in previous notes advocated this mode of culture for north walls to secure late fruit, and an excellent one it is, as by netting, nice fruit may be had for a considerable time after the fruit in the open is over. There is also another system of culture, namely, trellis training; this is an admirable system, and one specially adapted for gardens where the trees can be duly attended to in the way of pruning or spurring in. By growing trellis-trained trees there is a great saving of room, and more fruit can be grown in a small space with a greater certainty of a crop. When I say with more success I do so for various reasons, as how often has one to lament loss of crop through the ravages of birds when the trees are grown bush form; also the loss of fruit from caterpillar and red spider. These pests will attack trained trees as well, but cleansing is more readily performed. Where cordon or trellis-trained trees are grown, protection is an easy matter; whereas with bush trees netting is difficult. There is another system, viz., growing young trees in the open as single cordons. Having for several years noticed the grand growths of trees exhibited at the meetings of the R.H.S., I was interested in observing how these heavily-laden growths were obtained. At Langley, the trees, growing in heavy soil, subsoil clay, are trained to a strong stake, which is placed to them early in the year. These trees being grown for sale, a permanent support would be out of place, but when such fine fruit can be obtained at a trifling cost, I do not see why this system cannot be more widely carried out in private gardens when the cost is so small and the results so certain. When trellis-trained trees are grown, a quantity of stakes is not required, as if a few stakes support some three or four strong wires a fence is readily erected, and the cost of erection saved in a year or two by the quantity of fruit and the space gained for other crops, besides the great saving in protecting material. There is also another advantage with trees limited to a certain space, and that is size of berry, as these cordon trees give much finer fruit than bushes. Of course, some kinds do better than others, but so far as I have observed, most of the kinds thrive well so trained and give better results. Those who intend renewing their Gooseberry quarters during this autumn would do well to grow a few as cordons, and when a wall cannot be afforded late fruits, some of the better kinds grown as described would give a good return in a short time. G. WYTHES.

FLOWER GARDEN.

A HAPPY MARRIAGE.

SINCE Virgil's time there have been many happy marriages of the clinging twiner to its more stalwart support. Of such alliances the cut is yet one more example. *Clematis lanuginosa alba* has been allowed to ramble at its will through the deep green twigs of *Azara microphylla*, out of which the large white flowers shine like stars, forming a charming picture, a bit of double *Deutzia* below making a suitable finish to the whole. The *Azara* is a pretty evergreen wall shrub, having small polished leaves, and in spring it bears myriads of tiny inconspicuous yellow flowers, which possess a rich aromatic fragrance, especially in the evening. It is a native of



Clematis lanuginosa alba growing through *Azara microphylla*.
Engraved for THE GARDEN from a photograph sent by Mr. Greenwood Pim, Dublin.

Chili. It grows freely in very heavy clay, and forms admirable green for cutting. The *Clematis*, as may be noticed, flowers profusely in the early season, and again, though less freely, in autumn. At this moment a tall branch of the *Azara* is crowded with its flowers.

G. P.

The white Aster Dahlia.—Too much cannot be said in praise of this little gem referred to by "A. D." (p. 188). The size, form and purity render it invaluable for room and table decoration. For weddings and funerals such Dahlias and a few other white flowers come in useful. The pointed petals make the flowers less Dahlia like than those of most others. Why so many should object to Dahlias for bouquets or other decorations as one of those freaks of fashion, it is not easy to understand.—D. T. F.

Carnation Countess of Paris.—In my case the best flowers of this variety were the very earliest and those appearing now, the cooler atmo-

sphere favouring this development. At what should have been the height of the flowering season the heat was too great, the flowers quickly taking on a faded appearance. This variety does not grow with me nearly so strongly as Mrs. Reynolds Hole, and the best results I have had follow from not removing the layers from the parent plant, this appearing to afford that support which it is evidently in need of. Very early layering and planting so as to become well established before winter might certainly overcome this difficulty.—A. YOUNG.

LILIUM SPECIOSUM ALBUM AT BALCOMBE.

THE old road from London to Brighton passes through Balcombe, and travellers who happen to pass that way may learn a fine lesson in Lily culture. A cottage garden is absolutely full of the above-named Lily, which grows, blooms, and in-

success, the very conditions under which they grow are astonishing, for there is a perfect canopy of leafage overhead in much of the garden. The occupier—I do not know if he is the owner—of the place is a tailor with plenty to do to look after his own profession. His two daughters do all the cutting, packing, &c., and generally attend to the whole thing except a little assistance for the actual manual labour. The origin of this Lily garden is one bulb, a gift from a friend some twenty years ago. For a time it was grown in a pot and regarded as a tender pot plant, but it increased and the stock grew till there were more Lilies than pots. To get rid of them, they were planted out to take care of themselves, and they soon manifested their happiness in freedom from restraint. Still, no special effort was made till nine years ago one of the two ladies that attend them conceived an idea of marketing the flowers, and finding it remunerative, the stock was increased. No bulbs have ever been bought, and they are lifted only when they become too thick. Owing to the drought, they are not more than about half their usual height, but I was assured that in most years they reach 6 feet or more, and as many as twenty-five flowers have been counted on a spike. I could see nothing special in the soil to favour the splendid growth of this Lily. It was of quite a medium character in consistence and apparent fertility. I have long thought that we do not make enough of Lilies in our gardens, and now that more attention is being rightly bestowed upon fine hardy plants, *Lilium speciosum*, the type, and its varieties are very important to the flower gardener who can use them well, and with them he can have fine colour, charming effects, and a sweet-scented garden through the autumn till the advent of sharp frosts.

A. H.

NOTES ON HARDY PLANTS.

Hedera minima.—This should not be confounded with *H. conglomerata*, though at a certain stage of growth there is some similarity. A three-year-old specimen, say, differs from the freer conglomerate form in that it grows more flat both as regards the twigs and the leaves on the twigs. It has more shining foliage of a deeper and more sombre green, with pleasing clouded tints, and further, as the name would suggest, it is a less plant in all its parts. It is a lovely creeper for positions on the rockery. It nestles sweetly in recesses, creeps over stone surfaces, and takes angles neatly. It is one of the best surface plants, as through it bulbs may spear their growth and flowers without mutual injury.

Cypripedium spectabile.—Not long ago in these columns someone took exception to what I said about this hardy Orchid being liable to hurt and hindrance from being blown over and broken at the thin junction of stem and rhizome. We have just had nearly a week of gales, and I wonder what my objector would say were my plants seen just now. They were a fair and comely group of about twenty plants in early summer and flowered well. Now the tops, many carrying seed-pods, in a yet green state are blown over and laid prostrate. These being the facts, may I not reasonably conclude that at least in some measure my plants are hurt and hindered? and as pretty well the same thing happens every year, and as I have given the most protected quarters I could to these plants, may I not justly include the cause of injury as one of the opposing conditions to general success with this plant as an open garden subject? Of course I am aware what can and should be done for the plant considered as a specialty, but it had been suggested that it needed only ordinary care or skill. I beg to repeat that, owing to the nature and form of the plant, in a wild state it is favoured and saved from being blown over by the herbage, &c., that naturally surrounds it, such as Grasses, Ferns, Polygonatums, &c., and it might not be amiss did we afford it in our gardens some such helpful neighbours. Nobody can deny that a full foliage plant like this if prematurely broken when the leaves are quite green must be robbed of much

creases in a wonderful manner. In addition to this it is a source of considerable profit, for the blooms are daily cut and marketed in London and Brighton, whilst not a few go as far as Scotland. The striking beauty and wonderful effect of a garden of one Lily no words can describe, but in this respect I saw it to advantage, for usually the flowers are all cut daily as fast as they expand, but in this unusual year a display generally of six weeks' duration will only last in full beauty about a fortnight. And yet with all the great display I saw, no less than 200 dozen flowers had that morning been cut and sent away. More than double this number has been cut in one day, and the quantity sent away in a week is enormous.

The Lilies are everywhere; the whole garden is full of them; and by far the greater part is shaded and overhung by large old spreading Apple trees. The Lilies are in long narrow beds 3 feet to 4 feet wide, four rows in each bed, with a very narrow alley between the beds. They are planted quite up to the stems of the Apple trees, and apparently not an inch of space is wasted. Apart from their

of its vigour for the following year, and I question whether we may not find other reasons for mingling with its roots other suitable plants. It is self-evident that in a position where the plant is liable to be broken down prematurely, it is equally liable to have its leaves prematurely browned, and this might be prevented by a growth of some such plants as Ferns of its own stature, *Linnæa borealis* or bog-loving Irises.

Primula Rusbyi.—According to my experience, this is one of the rarer Primulas, hard to kill and even more difficult to grow successfully. I am induced to pen this note from the rapid improvement of a specimen since I introduced it to full sunshine and a deep porous soil whose chief component is burnt clay. Under these conditions of soil, where the plant has never lacked moisture it has withstood the most powerful sunshine, and indeed, from the stoutness and glossy character of the foliage, must have revelled in it.

Trifolium alpinum.—When cleanly grown this is a lovely alpine plant, fit for the company of the choicest. One rarely sees it, however, on rockeries and more seldom still in perfect condition. It is a beloved morsel of slugs, and I think they form the chief enemy of the plant, because it is naturally vigorous and in no way fickle as to conditions of culture, but it is hard to keep slugs from it where they exist. A constant scratching of the soil about the plant with alternate sprinklings of silver sand has helped to save the plant.

Plumbago Larpentæ.—This is decidedly a shy bloomer, and I think the general cause is not far to seek. It is that our summers are not long or sunny enough. The present summer serves to help to such conclusion, and, besides, we have long known that in such places as Torquay and Bournemouth it does better than in colder districts with more rainfall and a lower register of sunshine. A very old plant here, that has sometimes shown clusters of buds in late summer that never opened, and that more often has never had any buds at all, is now likely to open its richly-coloured flowers in time to escape early frosts. In all cases it should have a warm position, dry as may be in winter, but not lacking plenty of moisture when growth has fairly begun.

Stobæa (Berkheya) purpurea.—Long as this curious and somewhat scarce herbaceous plant has flourished here, I had never until this morning noticed that its flowers were so agreeably perfumed. The smell, at least when several heads are fully out during sunshine, resembles new hay.

Veronica crispifolia, if it does not dazzle, at least interests many whose notice it attracts before scores of other more showy things. It is a decidedly distinct species, and, I think, a really rare plant. Some people might not care for it, but then there are but few plants that everybody falls in love with. If grown well it is beautiful and quaint. I have long guarded it in the hope that I shall some day have a damper or better watered garden in which to do it justice.

Campanula Zoysi.—This is another alpine gem that has responded to the present exceptional summer weather in a way highly satisfactory to the gardener. It is setting bulky capsules of seed for the first time to my knowledge for twelve years. We can do very well with the aid of seed to help us with the propagation of a plant that is not always a safe one to divide, and even then it is slow if all goes well. It has also flowered very freely this summer, some of the larger plants three times, making complete cauline growth from the radical leaves in each interval, so that this little plant had lived "fast" in the full measure of 1893 sunshine. J. Wood.

Woodville, Kirkstall.

Clematis Jackmanni in a mass.—In the garden here a round bed 14 feet across is planted with this Clematis. Every winter, when the plants die down, they receive a good dressing of manure. In spring, when growth begins, we place some

strong stakes in the centre of the bed, sloping them off gradually to the outside, keeping them the same shape as the bed, allowing them to be about 3 feet high in the centre and 6 inches in the front. Over these the shoots are trained as they grow, so that they do not get matted together. They quickly cover the whole, and for three months during the summer this bed is a glorious sight, contrasting finely with the Dahlias, &c., in the other beds.—J. Crook, *Forde Abbey*.

Tufted Pansy Bluebell.—I am pleased to agree with "A."s high estimate of the value of this fine old sort. There are few Pansies or other plants more effective in contrast with variegated Pelargoniums, variegated Grass, variegated Mesembryanthemum, or variegated Alyssum. Few tufted Pansies are more generally used than the Bluebell unless it be the mauve-coloured Mrs. Turner. Bluestone is another that was much used at one time and thought by not a few to be superior to Bluebell.—F.

Violets and the hot weather.—The present is not a very favourable time for Violets where growing in the open ground. Here we have them growing in the open quarter and have them mulched with rotten leaves and manure, damping them over every night, but yet they are affected with spider. Last year they had the same thing happen to them and at one time looked badly. At the end of August we commenced watering and damping them with weak manure water with the best results. As the autumn came on they made splendid growth, which induced me to leave them ten days or a fortnight longer in the open ground. When they were put under glass, they quickly lost the spider. Recently when looking over a garden at Freshford, near Bath, I saw a grand lot of de Parme growing in pots. These were stood in some long grass, which gave them natural shade and kept them cool.—J. C., *Forde Abbey*.

EAST LOTHIAN STOCKS.

I NOTICE "R. D.'s" seasonable and useful note on these (p. 153). It is impossible to over-estimate the value, the beauty, and fragrance of this fine strain of Stocks. For a good many years I have scarcely cared to grow any other. Brompton, Intermediate and Ten-week Stocks are poor and uncertain contrasted with good strains of the East Lothian. By sowing the East Lothian at different times it is possible to fill the season with Stocks through its use alone as well or better than by growing all the known sorts. For example, if anyone wants Stocks in plenty in the early spring he has only to make a sowing of the East Lothian in August. Prick out or pot up so soon as fit to handle, and remove under glass early in October. Place the plants in a temperature of 45° to 50° through the winter, and if fully exposed to the light, they will flower all through the spring. Before these spring-flowering batches are over, the earlier batches of East Lothian Stocks will begin to bloom under glass or in the open. It is also good practice to make three sowings of these Stocks in the spring—one in February, another in March, and a final one about the end of April in the open air. The two first should be pricked out into cold frames to be bedded out early in May. If the plants are sturdy and strong they will begin to bloom in July, and continue to do so in good soil and under liberal treatment until the frost cuts them down in December. Before this happens it is easy to pot up some of these Stocks. Kept moist and close for a few weeks and placed in a temperature of 50° or so, they will continue to bloom through the winter and prove invaluable for cutting. But a better plan to ensure a liberal supply of Stocks through the winter and very early spring is to grow the later sown plants specially for potting up about the end of September. Planted out in an open space at a distance of about a foot apart, kept clear of weeds, and rogued of all single varieties, unless, indeed, the single white is valued for bouquet work, which it mostly is, these plants will be

strong and bloom freely. Carefully potted and shaded for a few days, they will hardly look behind, and prove alike invaluable for cutting and furnishing. It may be prejudice, but I have never cared for the purple, and with such decided colours as crimson, scarlet, and white we hardly want it. There are very few plants that will yield such a rich harvest of beauty and fragrance out of doors or under glass as East Lothian Stocks. They enjoy a good deep soil, but in dripping seasons any excess of rich manure is apt to foster growth at the expense of bloom. Finally, it is wise to have a good stock of surplus plants in reserve until beds, groups or border of Stocks show flower. Where uniformity is desired, rogue out all the singles and replace with doubles so soon as they can be seen, and plant out the singles by themselves or pot them up for seeding under glass, the latter being the surest mode of maintaining and even heightening the high qualities of East Lothian Stocks. D. T. F.

FLOWERS AT THE ZOO.

ONE of the best places in London to see good summer flower gardening is at the Zoo, where Mr. Young, the head gardener, has produced many fine effects in colour without excessive use of carpet plants. Every arrangement is in a sense graceful, and both hardy and tender things are used. Opposite the saloon excellent contrasts are obtained with the Celosias, now so popular for bedding, and if not overdone they are remarkably striking, the feathery character of the inflorescence relieving otherwise flat surfaces. Early Chrysanthemums, such as Mme. Desgrange and its varieties, are planted freely, and this year they are blooming very early, due to the severe dryness of the summer. A Pelargonium which we noticed here is called Coustance; it is a pink coloured variety and very pleasing. One bed was composed of Pelargonium Fire King as a groundwork, relieved with Lobelia cardinalis and the variegated Abutilon Thomsoni. Here the herbaceous Lobelia is largely used, and the effect of its rich crimson-coloured flowers is remarkably brilliant. This year the plants are neither so tall nor so robust as usual, owing to the drought. A very fine bed is composed chiefly of Ageratum The Zoo, which was raised here, whilst the Sweet-scented Tobacco (*Nicotiana affinis*) is well used. Few plants are more charming than this which is in great beauty on cool, dull days and towards evening is at its best, the ivory-white flowers spreading their fragrance over a large area. The plants at the Zoo are not of the stereotyped order. There is variety, and things used which one does not often see in such places. A bed of Chinese Pinks was of more than ordinary interest, the strain representing flowers of varied colours, from pure white to bright crimson, and beautifully blotched at the base of the petals. It would add to the interest of gardens if such a fine assortment of hybrids as are in flower here were to be planted. One wants variety, not a repetition of common things. We are pleased to see that the herbaceous Phlox is planted in quantity and only the best varieties for colour. We have of late made notes of the best Phloxes, and they are of great service when a good selection is made, rejecting all magenta and washy shades, which quickly fade.

Another flower which we see to perfection is the Zinnia, which is very handsome when a good strain is obtained. The colours are striking and varied, and a well-planted bed is remarkably effective. The visitor to these gardens will see various schemes of colour, but the most striking is that facing the monkey house, where the beds are in splendid condition even at this late season and after a period of excessive drought. One bed is composed of Pelargonium Henry Jacoby, outside which is a line of Iresine Lindenii, then Lobelia Snowball, one of the best of all Lobelias, the flowers white and the plants remarkably compact. One seedling Lobelia raised here is very fine, the flowers being of the deepest possible blue and very striking against the

turf. A delightful edging was one composed of blue Lobelia and the variegated Dactylis. We do not remember to have seen the two plants associated together before, but the contrast of colour is certainly charming. A plant used to advantage and it might be more seen in other places, is Veronica Andersoni variegata, which has very brightly variegated leafage, and should be more often planted than at present. The centre of the bed is filled with Pelargonium Mrs. Holden, and the India-rubber Plant is used to break the surface, whilst in the same arrangement are the silvery Centaurea, the edging composed of Blue Stone Lobelia and the golden-leaved Fuchsia. A semi-double flowered Pelargonium of merit is Archduke Rudolph, which has carmine coloured flowers. As a rule double and semi-double varieties are a failure in the open, being more satisfactory under glass. Such well-known Ivy-leaved varieties as Mme. Crousse and Abel Carrière are well planted, but not to excess. A very beautiful bed is composed of principally that fine Begonia named Worthiana, which has scarlet flowers and of a rather drooping aspect, therefore throwing off rains better than the ordinary tuberous kinds. Begonias are very fine here, and some charming associations of colour are made with them, but the season has been somewhat unsatisfactory for this class, except B. Worthiana. Used with it in the present instance are the graceful Zea gracilis, its leafage beautifully variegated, and Acacia lophantha. Near the main entrance the narrow borders skirting the walk are filled respectively with tuberous Begonias and double white and crimson Stocks. It is such charming flowers as these that give pleasure.

WATER BOUQUETS.

I OBSERVED a note of inquiry respecting these curious and pretty objects recently. I think so far I alone have drawn attention to them, and they have been seen by me only at Basingstoke, where a former resident, Mr. H. Loe, showed the first example, and now several are constantly exhibited for prizes at the annual exhibition. Whilst all are set up under glass globes and on glass dishes, they vary more or less according to variety of flowers and foliage employed. A few varieties or colours and light single flowers seem to be best, although one recent bouquet had some pretty Tea Rose buds, with foliage and a few single yellow Marguerites intermixed. I should think small Japanese Chrysanthemums, especially singles intermixed with foliage, and a little Fern would do admirably. A glass shade for retaining the water should be at least 9 inches in diameter, and if 12 inches so much the better, as the bouquets can then be larger. The flowers should in no case be crowded, and must be kept well within the dimensions of the glass covering, or otherwise they will be distorted by contact with the glass. The shade should be stout and have a very even base. A glass dish of the same width in the centre with a raised margin is the best receptacle, although silver or china may be used, but it should be very flat and even, so that the base of the shade fits exactly. The flowers should have short stems, and of course be tied tightly, then be secured to some dead weight, such as a piece of lead or other metal covered with black cloth, so as to hide it from view. A large pan or tub is useful in which to stand the dish first, then on to that the bouquet, kept in position by the piece of metal, should be placed in the centre of the dish, and held by the hand whilst water is poured into the pan. As the water rises the bouquet will come erect and the pan may be filled up. The shade to be employed as the cover should be thoroughly cleaned, then be laid on its side in the water to fill, and then be gently brought over the bouquet, but so carefully that the body of water in it is retained. When erect and fitting close to the edge of the dish, the entire exhibit may be lifted out and allowed to dry on the outside. It is then ready for exhibition or for any room decoration. I do not know how long such a bouquet will keep fresh and sweet; that depends

materially presumably on the freshness of the water. The bouquets which I saw recently at Basingstoke had been carried in cabs nearly two miles, so that it is evident with ordinary care there is no difficulty in having them transmitted from home to shows. Of course they are heavy, and it may be for that reason perhaps that those of only moderate dimensions are shown. In one case the flowers were too loosely displayed, so that some touched the glass shade. In another they were far too hard-bunched.

A. D.

FLOWER GARDEN NOTES.

THE chance that roots of Nicotiana affinis would have of coming safely through the winter (p. 217) would depend first of all on the severity of the weather, and still more on the particular position of the plants, rather than on any artificial protection in the way of mulching, unless this was put on very heavily. We had here a spell of exceptional cold for a short time, the thermometer for three successive nights dropping to within a few degrees of zero; the frost penetrated the ground to a great depth, and both the Sweet Tobacco and Galtonia candicans, although mulched with a 2-inch thickness of leaf soil, have failed to come through this year. On the other hand, what are known as hardy Fuchsias, such as gracilis, coccinea, globosa and Riccartoni, never receive protection in any shape or form and always come safely through the winter. Does Mr. Crook allude to these or to so-called bedding varieties? Hardy Fuchsias, especially coccinea and gracilis, although not at their best this year, hold their own in connection with other things as among the best groups to be found on large herbaceous borders. A very pleasing combination can be formed with either of the above named, flanked on either side with the white Japanese Anemone and faced with Aster acris or A. bessarabicus. If each of the three subjects forming the group be planted in sufficient quantity to furnish a bold display of flower, the effect will be very pleasing. Several of the early-flowering Starworts blend well with these hardy Fuchsias, and such an association is, I think, preferable to grouping them with the summer Chrysanthemums, as although a fine bank of flower is thereby obtained, the general effect is rather flat and table-like. If there is facility for a good preparation of the soil, a few plants of Constance, Henry Patrick, or A. W. Tait Dahlias may be worked slightly in the background between the clumps of Fuchsia. Whilst on the subject of Dahlias I may note that some of them will be found exceedingly effective in large beds that are partially devoted to small conifers. Thus one of our best beds at the present time consists of seven plants of Retinospora plumosa filled in with Guiding Star and Martial pompon Dahlias in alternate plants. The flowers of the Dahlias thrown well above their own foliage show to great advantage against the rich green of the Retinospora.

The practice of heading back Pyrethrum uliginosum and some of the Phloxes to curtail the height of the one, and to extend the flowering season of the other, was not adopted this year, and present circumstances show it would have been of little use. The natural height of the Pyrethrum is not much over 3 feet, whilst the back or later growth of the Phloxes that in favourable seasons gives a nice bit of flower was prematurely withered. Chrysanthemum maximum and Rudbeckia Newmanii are flowering at the height of 1 foot. The flower-stalks of the former were earlier in the season a mass of black aphids, necessitating a free use of insecticide. Pyrethrums, as may be supposed, have utterly failed to furnish a second supply of flowers. They may generally be relied on to give quite a nice display at this season, and were duly headed back for that purpose after the first flowering, but the desired effect was not produced. We have plenty of flowers from the double white Yarrow, also Achillea rosea, showing that these are good any-weather plants.

This has been emphatically a Carnation week, the general planting of layers of border varieties

being carried on with vigour and despatch, although had I known the promise of rain would have come to nothing, and instead thereof the dry time with a powerful sun would have continued, the operation would have been postponed until later in the month. All newly-planted stuff must necessarily suffer from the influence of a powerful sun, and although well rooted layers will hold their own, those that are not over-well provided in that way will have to be mulched and watered. Why there should be such a marked difference in varieties as to the length of time necessary to produce a thoroughly well rooted layer is a mystery, but I think it must be attributed to the constitution of the grass, a somewhat tough, wiry shoot being longer doing its work, and *vice versa*. That the difference does exist in a marked manner is an undoubted fact. This season, for instance, anxious to secure good stuff of Countess of Paris at an early date, I started the layering with this variety, but they are nothing like such good plants at the present date (September 8) as others, notably Raby, Murillo, and Mrs. R. Hole, that were not put down until more than a fortnight later. One is always sure of the Clove section; the grass is fleshy and succulent, and roots are emitted quickly and with great freedom. The value of Stocks as dry-weather plants was the subject of comment in a recent note, and I saw the other day ample corroboration of the same in the shape of a splendid batch of the East Lothian. They were in about as dry a position as could well be imagined, and had not made very robust growth, but were flowering with great freedom, and had evidently been a long time in bloom. The strain was an exceptionally good one, the trusses, considering the season, being of large size, of a clear pure white, and the percentage of singles very small. Although somewhat late for sowing, I lost no time in securing a good pinch of seed with the view of utilising the variety rather largely in the season of 1894. Complaints are rife as to great losses among Polyanthus; indeed, where they are quite out in the open, fully exposed to the sun, many are literally scorched up; these quarters will have to be made up by-and-by with seedlings from a north border. The different members of this make such a brave show, and are withal so valuable for cutting, that no garden is complete without at least a few representatives from each section.

E. BURRELL.

Claremont.

Tuberous Begonias in the open.—The tuberous Begonia is not so fine this year as last, and the reason is that the protracted drought has proved too much for it. A cool and moist season suits the plants best; then they are superb and give colour to the garden until frosts occur. The greatest failure has been with the double kinds, which are never so satisfactory as the singles; at least, we mean the big-flowered doubles, which seem to lose character after the first blooms have perished. There is, however, a very distinct class of doubles that are well worth planting freely, and more of a semi-double character, the flowers much smaller than those of the purely florists' type. As yet these kinds are somewhat expensive, but will get cheaper. One named Mme. Courtois is delightful. Like the others in this group, the plant is neat in growth, dwarf, and the flowers pale yellow, whilst a free display is made throughout the season. The colours are extensive in this group, ranging from crimson to white.

A note on the London parks.—The London parks look extremely gay even at this late season and after the long drought. We are pleased to see that the rigid style of bedding is fast departing, and a greater variety of things used than was the case a few years ago. In Battersea Park several large beds heretofore filled with zonal Pelargoniums are now planted with tufted Pansies and Antirrhinums mixed and in distinct colours. This is a welcome change, as both these flowers last in beauty throughout the summer, and a few days ago seemed likely to keep up a display until the time of frosts. Fuchsias are very beautiful in the majority of the parks, particularly in Hyde

Park, where they are used freely in the beds and also grouped on the turf. Many fine things are to be seen here, splendid specimens of *Eucalyptus globulus*, the *Plumbago*, *Heliotropes* and *Coral Tree*. In Ravenscourt Park, on the boundary of Hammersmith, much has been done with hardy and alpine flowers. Campanulas of many kinds and other things are grouped naturally, and the rockery is not a burlesque of its name. The herbaceous *Lobelias*, although comparatively poor this year, are very showy. For bedding few plants are more useful in late summer.

Cactus Dahlias.—There is a material development in the right direction so far as the Cactus section is concerned, and indeed we have of these some now so charming, that to surpass them seems difficult. But whilst all remember the beautiful scarlet Juarez as the first and best type of Cactus Dahlias, we have in some of the newer varieties retained that form and in others so far departed from it, that whilst the petals are pointed, some are fluted, some are incurved, and in various ways presenting divergences from the early form, yet retaining the true Cactus style in the most pleasing way. It seems hardly probable after the present year that any grower setting up a dozen bunches of these Dahlias will henceforth include any of the coarse flat-petalled varieties, but will only exhibit true Cactus varieties. A distinct addition to this section is Keynes, Williams and Co.'s beautiful straw-yellow *Lady Penzance*. The lovely mauve and white *Delicata* has been shown in remarkably fine form this season, so also has *Countess of Gosford*, reddish salmon, yellow centre. *Countess of Radnor*, Sir Roger, bright salmon-carmine; *Robert Cannell*, one of the very best; *Ernest Cannell*, *Bertha Mawley*, vermillion, shaded violet; *Duchess of York*, rich orange-red; *Chancellor*, new, deep magenta, shaded violet; *Beauty of Arundel*, and the old *Juarez*, form a dozen of the very best. What two or three years may bring forth has to be shown, but there can be no doubt that very soon we shall see these Cactus Dahlias so varied and beautiful, that everybody will grow them.—A. D.

STOVE AND GREENHOUSE.

SWEET-SCENTED PELARGONIUMS.

A LARGE group of these plants is rarely seen now. Mr. Hudson, of Gunnersbury House, at the late show at Earl's Court staged a dozen of these Cape Pelargoniums in very fine condition and of large size, the plant of *P. radula majus* being a perfect specimen, though there were others equally good. I name this as I have never seen it finer. The variety named above is most useful for cutting, as it is a free grower. *Capitatum* is also good; this is rose-scented, and was a picture of health and nearly 6 feet through. *Fragrans*, a nutmeg-scented variety, is also a free grower and good for cutting. This is also attractive on account of its mass of white blooms, the flowers having red lines on the upper petals. There are others equally useful for cutting, such as *Fair Ellen* and *Prince of Orange*. A very fine plant of *quercifolium* was staged; this has purple flowers, and is much esteemed for its strongly-scented leaves, the centre of which is black, the margins wavy and of a beautiful green. *Quercifolium minus*, a variety much resembling the last-named, but with finer cut foliage, was also staged in fine condition. *Lady Heytesbury*, with reddish-coloured blooms, *Pretty Polly*, a dwarf, bushy, almond-scented form with large leaves, and *Rollisson's Unique*, a free-growing variety, were also shown correspondingly large. *Denticulatum*, with lilac or rose-purple flowers, was very beautiful and of large size; this is a small-leaved, deeply-cut variety. *Lady Plymouth*, a variegated sweet-scented form, was also beautiful, and though not so free a grower as some, it should be in all collections. A variety called *Pheasant's-foot* was very fine

this is a most desirable variety, having beautifully cut foliage and most fragrant. It is one of the best for bouquet work, and sometimes is grown under the name of *denticulatum*. One of the finest plants staged was *P. filicifolium odoratissimum*—a grand specimen. This variety possesses a peculiar scent and has very finely-cut foliage. At times its fragrance is overpowering, and the foliage being of a gummy nature it soon gets dirty if not well grown. Mr. Hudson also grows other varieties than the above. Of course, such large plants are of a good age, as it is impossible to get size if hard cutting is resorted to. Many of the plants staged had done good service as decorative plants during the season in town, thus pointing out their utility not only for cutting, but for decorative effect. It would be of great benefit to the readers of THE GARDEN if Mr. Hudson would give a few notes as to culture of some of what I term miffy kinds, as all thrive equally well under his treatment. Now is a good time to start with these plants, as cuttings struck now will lay the foundation for the next season. I would point out the importance of careful watering and not over-potting, as these Cape plants soon get a bad colour if over-watered or over-potted. I cannot conclude this note without referring to Mr. Hudson's fan-trained plants. He had specimens of *radula* and others trained on a flat trellis 5 feet to 6 feet high and quite 8 feet at base, thus showing what can be done with these plants. When trained in this way they form a screen and are admirable for rooms and other purposes. Of course, the freer-growing kinds must be selected for this purpose, and in this case they are not in extra large pots. In addition to the group mentioned above, two groups were staged at the R.H.S. Islington show, including the fan-trained plants, and I question if any group in the Agricultural Hall attracted so much attention.—G. WYTHES.

—Two or three times last season Mr. Hudson, of Gunnersbury, exhibited a number of specimen plants of different scented-leaved Pelargoniums that, from the fact that they are now-a-days so seldom seen, attracted a considerable amount of attention. That the interest in them has by no means passed away was shown at the Agricultural Hall, where Mr. Hudson exhibited a collection of twenty varieties, as well as some large trained specimens. Considering that there was no display of showy blossoms to attract notice to these old-fashioned subjects, they found many admirers, some of whom, at all events, were surprised to see so many forms. The twenty plants were grown as bushes, some larger than others, but all well furnished with healthy foliage. The different forms composing the groups were as follows: *capitatum*, *radula*, *quercifolium*, *denticulatum*, *Pheasant's-foot*, *Scarlet Unique*, *Purple Unique*, *denticulatum majus*, *fragrans*, *quercifolium minus*, *Pretty Polly*, *Shottesham Pet*, *Lady Heytesbury*, *Little Gem*, *Fair Helen*, *tomentosum*, *Major Clarke*, *crispum*, *Prince of Orange*, and *Lady Plymouth*—this last a variegated-leaved variety, which when first sent out, now many years ago, was thought very highly of and for a time was in great demand.—H. P.

***Ixora macrothyrsa*.**—This splendid type was recently in bloom in the Victoria Regia house at Kew. It is remarkably showy, and produces large heads of brilliant orange-scarlet flowers. Unfortunately, the present craze for Orchids has overshadowed many beautiful stove plants.

***Lotus Jacobæus*.**—This at all events possesses the merit of distinctness, for there is nothing else with which it can be confounded in our gardens. It forms a much-branched, but slender-growing plant, with hoary foliage and a profusion of Pea-shaped blossoms of a deep purple colour, almost black. If seeds are sown in the spring they will yield plants that flower well in the summer and early autumn months, either planted out in a warm border or grown in pots for the greenhouse. When plants are raised from seed the progeny shows a certain amount of variation, some being a good deal superior to others. In the best forms the

blooms are of a rich velvety hue, but in some seedlings the flowers are tinged with green, and are not nearly so effective. Cuttings strike root readily, and this is the best way of increasing the deep-coloured forms. The cuttings should be taken in the spring, as treated in this way they flower well the same season. The *Lotus* in question is a native of the Cape de Verd Islands, and has been long grown in this country.—H. P.

Griffinia hyacinthina is one of those fine stove plants so little seen in gardens. A very beautiful form of it is in bloom in the stove at Kew, one of the richest in colour that we have seen, the flowers very deep purple-blue and borne in a large head. It is strange that such a charming species should be neglected when its flowers are not only large, but produced with freedom and of a delightful colour. It was introduced as long ago as 1815 from South America, and belongs to the *Amaryllis* family, requiring similar treatment. A coloured plate of this was given in THE GARDEN of October 26, 1889.

***Lagerstroemia indica*.**—A specimen of this charming greenhouse shrub just received reminds one what beautiful subjects there are once popular that are now scarcely ever seen. Among such must be included this *Lagerstroemia*, or *Crape Myrtle*, as it is sometimes called, which is just now, where it has been at all favourably treated, flowering with great freedom. It forms a freely-branched shrub that reaches a height of 6 feet to 10 feet, and is clothed with ovate leaves of a deep shining green, which are in general appearance a good deal like those of a *Myrtle*. The flowers, which are borne in large terminal panicles, are of a rich bright pink, with the petals crimped in a very pleasing manner. As a great many flowers are open on a panicle at the same time and are disposed in a somewhat irregular fashion, each cluster of blossoms presents the appearance of a mass of beautifully crisped petals, quite unlike anything else we have in our gardens. The flowers, however, quickly drop. Despite its name, *L. indica* is said to be a native of China, from whence it was introduced in 1816. It will do well planted out in a warm, sunny part of the conservatory, or it may be kept in large pots or tubs, as is often done in the case of *Camellias*. The cultural requirements of the *Crape Myrtle* are by no means exacting, the principal point being to guard against over-watering during the winter, as the object is to ripen the wood as thoroughly as possible in order to ensure the following season's display of bloom. Propagation is easily effected by means of cuttings, which if not too vigorous strike root readily if taken during the summer months.—H. P.

Zonal Pelargonium Mrs. Wright, which we noticed recently in bloom in the nursery of Mr. H. J. Jones, Hither Green, Lewisham, represents a very distinct break in colour. It approaches more closely a bluish shade than any variety known to us, but this is no special recommendation, although the colour is remarkably bright. It is strictly a magenta shade, and may please those who require a new, distinct and very striking flower. As regards other points, the plants are strong in growth, free, and bear large trusses, the individual blooms of good size and shape. We hope that, because this magenta-coloured variety is in a sense pleasing, we shall not be inundated with varieties of a dull and objectionable magenta tone.

***Anthurium Dechardi* (H. Buxton).**—This is the name of the plant you send me a spathe of. I am not surprised that you have not seen it flower for these two years. In the first place, your plant may not have been strong enough to bloom, and then again, although it makes a fine specimen, it is not so very free-flowering as some of the species. The spathes are white in front, tinged with green behind. There are several white spathed *Anthuriums* which are well deserving attention, *A. ornatum* and *A. Laiangi* being amongst the best.—W. H. G.

An improved Rose of Castile Fuchsia.—“D.” says the flowers of this are larger, growth more robust, and wonderfully free to flower. The first

large flowers may or may not be an advantage, but as to the other two, as I have grown the Rose of Castile from 6 feet to 9 feet high, its growing powers are ample for most; and as far more free flowering plants have been shown again and again on which the leaves were mostly hidden by the blooms, it is difficult to see how the improved Rose of Castile can be more free-flowering than the old one.—D. T. F.

Hoya carnosa.—A short note recently in THE GARDEN on the value of this plant as grown in a pot prompts me to say that for covering the back wall of a late viney where but little else will grow this Hoya is a capital subject. Plenty of drainage and a compost consisting mainly of rough peat with abundance of water, both at the roots and overhead during the growing season in spring, will induce the production of shoots 3 feet to 6 feet long in one year, to be followed by numerous trusses of the sweetly perfumed blossoms.—E. M.

SHORT NOTES.—STOVE AND GREENHOUSE.

Stigmaphyllon ciliatum (G. Maxwell).—The flowers of this plant resemble those of an Orchid very much. It is a very fine stove climber and also a very free bloomer, the flowers being of a rich orange-yellow. It should be potted or planted out in a mixture of loam, peat and leaf-mould made sandy.—W. H. G.

Campanula pyramidalis.—At Laxenburg we used to plant out the Campanula pyramidalis the second year and put them in their flowering pots in autumn in order to get strong plants to flower the third year. In mountainous parts of Austria I found this Campanula in places where hardly any other plant could exist. No soil was to be seen—only small pieces of stones.—L. KROPATSCH, Vienna.

Curious growth of a Gloxinia.—I send you a photograph of a Gloxinia which seems to me peculiar in its mode of flowering, four flowers being borne on a whorl instead of each stalk bearing one or two flowers, as is generally the case. It is the only plant flowering in this way out of a large packet of seed sown at Coombe House, Copplestone, the residence of Mr. J. Macpherson.—Mrs. A. M. BARTON.

TREES AND SHRUBS.

THE PINK BROOM OF NEW ZEALAND.

(NOTOSPARTIUM CARMICHAELIÆ.)

THERE are a few shrubs natives of New Zealand that may be considered hardy in this country, at all events in the southern portion, among them being some of the Veronicas, Olearia Haastii, and the pretty and distinct subject here illustrated, Notospartium Carmichaeliæ, known as the pink Broom. As indicated by the popular name, this is a good deal like some of the Brooms, having green, leafless branches disposed in a very graceful manner, and, as a rule, about the end of June the flowers are produced. They are Pea-shaped, small, of a bright rosy pink colour, and borne in dense crowded clusters towards the points of the shoots. Though it cannot even when in flower be regarded as a showy shrub, yet it is both pretty and interesting, and the graceful manner in which the branches are disposed renders it at all seasons a very attractive object. As a shrub for the bolder arrangement of rock-work it has been before now recommended in THE GARDEN, and in such a position its graceful habit will be seen to great advantage. It is said to be one of the most beautiful plants of New Zealand, and to sometimes attain there the height of 20 feet, but it is herein spoken of as a shrub, for such it must be regarded in this country, and one that when but a few feet high

will flower with the greatest profusion. The Notospartium is one of the few New Zealand Leguminosæ, for, singularly enough, though this order is largely represented among Australian trees and shrubs, the New Zealand members of it are very limited. This last is one of the many features of resemblance between the flora of the temperate portion of South America and that of the New Zealand Islands. Notospartium Carmichaeliæ was introduced by Messrs. Veitch, and a first-class certificate was awarded it by the Royal Horticultural Society in July, 1883. It is now pretty well known to lovers of out-of-the-way plants, but is not in general cultivation, certainly not so much as it might be, for, apart from its grace and beauty, it is by no means an expensive plant. This shrub has proved to be hardy with Messrs. Veitch on the exposed slopes of Coombe Wood,



Notospartium Carmichaeliæ. Engraved for THE GARDEN from a photograph of a plant in Messrs. Veitch's nursery at Exeter.

and the plant, part of which is here illustrated, flowered freely in the rock garden of the Messrs. Veitch at Exeter. T.

The double Deutzia.—In the valuable article in THE GARDEN upon Deutzias (p. 181) it is stated there are two varieties of this Deutzia, one in which the flowers are pure white, and the other with the outside of the blossoms tinged with pink. This may be so, and most of us have seen or grown the improved double white D. candidissima or Pride of Rochester; but I, and possibly other growers, have had pure white and purple-tinged flowers from the same plant. My first stock of this most useful late, good staying Deutzia was planted in very sunny quarters, and as they were grown to add to the supply of white flowers, it was a great disappointment to find the blooms so largely suffused with pink, with a suspicion towards purple. Part of the stock was moved on to a shady border, and they, as well as the cuttings struck alike from those in the shade and in the

sun and grown in the shade, all bloomed as white as D. candidissima ever afterwards. This remedy was suggested years before by the different conduct of the white Spiræa acerifolia in sunshine and shade. In the former it is dirty white, which renders its extremely graceful bloom almost useless for decoration. Grown in the shade it is as white as driven snow and has no rival for decoration. D. parviflora promises to prove a welcome addition to the genus and to form a charming contrast to D. gracilis.—D. T. F.

Leycesteria formosa.—I recently came across a bush of this Leycesteria on an exposed part of the Surrey hills, and very beautiful it was, being profusely laden with blossoms; while more particularly noticeable was the fact that the large reddish purple bracts, which really form the showiest part of the inflorescence, were a good deal brighter coloured than usual, thus more nearly approaching the descriptions given by travellers who have made the acquaintance of this distinct shrub in its Himalayan home. It is certainly a very ornamental shrub, which deserves better treatment than is usually bestowed upon it, for this Leycesteria is generally seen crammed into some shrubby border, where it has one continual struggle for existence. Given a position clear of stronger-growing subjects, a good open soil that is not parched up at any time, and exposure to full sunshine, it will form a specimen whose merits must on no account be passed over.—T.

Cut-leaved Bramble.—Many members of the genus Rubus are very ornamental, and at the same time widely dissimilar from each other; for instance, we have the Rocky Mountain R. deliciosus, an unnamed shrub, different members of the Raspberry section, such as R. spectabilis, R. odoratus, and R. nutkanus, while of the Bramble proper one of the most ornamental is the cut-leaved form known as R. laciniatus. This is a vigorous growing plant that should be limited to the wild garden, or at all events so situated that it cannot encroach on weaker neighbours. When allowed to grow at will it forms a dense tangled mass, clothed with very ornamental foliage, which is cut in a pleasing manner. The fruits, too, are large and of good flavour, and in this country at least they are pretty generally considered superior to the American varieties. While on the subject of Brambles a word may well be spared at this season for the double pink-flowered form, which is very ornamental when in bloom, that happening at a time when very few outdoor shrubs are in flower, while it will yield satisfactory results even where the soil is hot and dry.—T.

THE SECOND BLOOMING OF WISTARIA SINENSIS.

"W. S. H." refers to his fine old plant of this about seventy years of age as blooming profusely the second time if the first bloom is poor, and *vice versa*. "If it fails to flower freely in May I get a heavy bloom in July from the young wood" (p. 182). No doubt this is so, especially with old plants. Few plants are more free-flowering than this hardiest and most showy of our hardy climbers. Hence old plants especially smothered with bloom in May may have little life and strength left to grow or bloom much again through July or August. On the contrary, when the frost kills the raceme of blooms in embryo in April, plants thus lightened of their legitimate burdens make up for this relief by flowering more freely on the young wood later on.

But all this fails to do justice to the double flowering qualities of the Wistaria. This, in fact, is natural to it in our climate under liberal culture and free-and-easy training. I have grown and rooted many fine Wistarias old and young, and have seldom seen them fail to bloom twice. Under ordinary conditions the

first bloom is by far the most plentiful, though, failing that, the second may prove the more numerous, as noted by "W. S. H." In nearly all cases, however, the second blooms are in longer racemes, and are more graceful in their vernal setting of leaves and branchlets. In order to develop the second blooming to the uttermost it is of the utmost importance to leave all the summer growths severely alone. Every strong growing shoot cut off the *Wistaria* in summer also means the removal of possible blossoms in embryo. Any pruning necessary to limit the area of this free growing plant should be given in winter or early spring. Two things strike observers as singular in reference to *Wistarias*. The first is that none of the species or varieties, notably the double, the white, and the form with bright silvery variegated leaves, has made much headway in gardens. The next is that, hardy and free flowering as *Wistarias* are, they are seldom used as standards or for the clothing of arches or arbours, though they are admirably adapted for either purpose in warm situations. One thing more should be noted: the older the plants the more free flowering. In this respect they somewhat resemble some of our best Figs. Close to where I write there are two Brown Turkey Figs, of unknown ages, which have ripened two crops a year for over sixty years. And I challenge any reader of THE GARDEN to say if he ever knew a *Wistaria sinensis* too old to flower freely.

D. T. F.

SHRUBS FOR FORCING.

THERE are two very different ways of treating shrubs that are intended for forcing prematurely into bloom; firstly, lifting them from the open ground in the autumn and at once potting them; and secondly, keeping them altogether confined in pots, and forcing them year after year. Where this latter method is practised, it must be borne in mind that after the display of flowers is past the plants need just as much care in their treatment as before, that is, they should after blooming be protected in such a way that the tender foliage will not be injured by cold, cutting winds or spring frosts, and after all danger is over the plants should be plunged out of doors in a spot fully exposed to the sun. They must throughout the summer receive every attention in the matter of water, and an occasional dose of some stimulant will be of service. Where a few shrubs are grown in this way for forcing, and others that may be required are lifted from the open ground and potted, the established plants should be employed for the earliest batches, and those just lifted for the later ones, as in their case much less forcing will be required. As a rule, the blooms on plants that are established in pots retain their beauty for a longer period than those just potted. Hot sunny weather towards the end of the summer and early autumn is very favourable to the ripening of the wood and consequent formation of flower-buds, and such being the case, it is more than probable that forced shrubs will as a rule prove very satisfactory during the forthcoming season. Early potting should as far as possible be followed in the case of plants lifted from the open ground and intended for forcing, as by so doing the roots will take possession to a certain extent of the new soil before they are required to be taken indoors. Thus a good general plan, wherever it can be followed out, is to pot the shrubs intended for forcing as soon as possible after the leaves have fallen. In order to encourage the formation of roots as much as possible

they should be watered when necessary, and if the pots are plunged in a bed of leaf-mould, cocoa-nut refuse, or something in that way, it serves to maintain the soil in an even state of moisture, and also protects from frost. With regard to the different shrubs available for forcing, there are now a great many more kinds than was the case a few years ago. Lilacs, Azaleas, Deutzias, Rhododendrons, Kalmias, Cherries, Plums, Peaches, Almonds, Thorns, *Staphylea colchica* and *Hydrangea paniculata grandiflora* are largely grown for the purpose, but besides these there are the *Laburnum*, some of the *Weigelas*, *Spiraea confusa*, *S. Thunbergi*, the *Guelder Rose*, *Forsythia suspensa*, *F. viridissima*, *Daphne Genkwa*, *Styrax japonica*, *Xanthoceras sorbifolia*, *Chionanthus virginicus*, *C. retusus*, *Berberis stenophylla*, *Choisya ternata*, *Cydonia Maulei*, *Magnolias*, *Zenobia speciosa* and its variety *pulverulenta*, *Cytisus Andreanus*, and others. T.

Weigela Eva Rathke.—If it is as continuous blooming under any conditions as the specimens shown by Mr. Waterer at the Agricultural Hall show would lead one to imagine, this will be a very valuable flowering shrub and must become one of the most popular of the *Weigelas*. The flowers of this variety are of a deep, but bright red, and the specimens shown were as fresh as if it was the end of May rather than that of August. To have *Weigelas* that can be depended upon to bloom at the end of the summer will be a new departure, but at the same time I have observed many of the ordinary forms this season producing a fair secondary crop of blossoms, that is, where the plants have not suffered from the drought. The most continuous blooming of the *Weigelas* that I have observed up to the present is the white *Weigela candida*, a rather erect-growing form, with longer and more Willow-like leaves than any of the others; but, as far as can be determined by a few cut specimens, the newer variety leaves that far behind.—T.

Vitex Agnus-castus.—Unless in especially favoured districts, this is only seen as a wall shrub, and even then it seldom flowers as it is doing this season, for in some cases every shoot is terminated by its spike-like panicle of blossoms. It is in warm light soils rather a free-growing shrub, clothed with digitate leaves, hoary beneath, and imparting to the entire plant a somewhat greyish appearance. The stiff-growing panicles of blossoms are made up of several whorls, the individual blooms being small and of a bluish white tint, so that they are by no means showy; but when borne in such profusion as I have seen them this year, they present a pretty and uncommon appearance. This *Vitex* is a native of a considerable district along the south of Europe and north of Africa, and has, according to Loudon, been known in this country for over 300 years.—T.

Clerodendron trichotomum, recently in bloom in the Coombe Wood nursery of Messrs. J. Veitch and Sons, is an interesting shrub, being in beauty at a season of the year when few kinds are in flower. The growth is very free, and it will succeed well in the open in not too exposed spots where the soil is moderately light. It attains several feet in height and bears a profusion of creamy-white flowers, of which the calyces are purplish red, whilst they are also sweetly scented.

Cratægus coccinea.—There are not many seasons in which the berries of the scarlet fruited Thorn are as brightly coloured as they are this year, nor borne in as great profusion. So numerous are they, that in many individuals the entire tree is quite a scarlet mass, and they then form one of the most conspicuous features in the woodlands, or a single specimen of this Thorn on a lawn will enable its various ornamental features to be seen to the best advantage. The scarlet fruited Thorn forms a vigorous-growing tree that reaches a

height of 20 feet or thereabouts, and is amply furnished with large, bright green, shining foliage. The fact that it does not bloom till the numerous varieties of the common Hawthorn are over is another point in its favour, as by this and a few others, principally North American kinds, the Thorn season is considerably extended. *C. coccinea* flowers about the end of May, and the large flattened corymbs of white blossoms are then very showy, while the autumn display is not limited to the bright coloured fruit, as before the leaves drop they become richly suffused with yellow, with occasionally a flush of scarlet. It is readily increased by seeds, and owing to this circumstance and to its wide distribution there are numerous varieties now in cultivation. Though introduced a couple of centuries ago, its merits are often passed over in favour of greatly inferior subjects.—T.

Clerodendron foetidum.—The hot weather we have experienced during the present season seems to have suited this *Clerodendron*, as it is flowering freely, and I noted some good examples of it in a cut state at the recent exhibition of the Royal Horticultural Society held at the Agricultural Hall. Though one of Fortune's introductions and thoroughly hardy in the warmer parts of the country, it is quite an uncommon plant. Still, when flowering freely it must certainly have a place assigned it as one of the most attractive flowers of the present season. Unlike the commonly cultivated members of the genus, the stems of this are only of annual duration, but of a stout, sturdy nature, and reach a height of 4 feet to 5 feet. The large heart-shaped leaves are very ornamental, while the flowers are borne in large closely packed terminal heads, and make a goodly show. They are of a bright rosy red tint, deeper in the bud state than they are after expansion. This *Clerodendron* succeeds best in a fairly moist spot, and when in a flourishing state will quickly spread underground. The specific name of *foetidum* is derived from the unpleasant smell given off by the entire plant if roughly handled or bruised in any way. It is also known as *Clerodendron Bungei*, and is a native of Northern China. The only other hardy species, *C. trichotomum*, is altogether a better known plant than the other, and is now generally to be met with in any collection of flowering shrubs. The fact that it does not, as a rule, bloom till the autumn is a point in its favour. This *Clerodendron* will under favourable conditions attain the dimensions of a large bush or small tree, and when in full flower is very ornamental. The flowers of this are white, and protrude from large red calyces after the manner of some of the indoor kinds, while the blooms of *C. foetidum*, both in their appearance and arrangement, are more like those of an *Ixora*.—H. P.

ROSE GARDEN.

POT CULTURE OF THE ROSE.

IT is when the cold, frosty nights of October and November set in that well-developed Roses are esteemed, and even more so in the early spring months. Amateurs and others who make a specialty of Roses always have their plants before them, and whenever there is a press of garden work demanding attention other things may suffer, but the Roses never. My own experience with general gardening has been that gardeners are apt to allow their pot Roses to be neglected during the summer months. Mildew, green-fly, and red spider get upon the leaves, and the time required to keep them clean is not easy to be found. In a season such as we have passed through in the south of England and in gardens where no additional hands have been found to do the work, gardeners have been at their wits' end to keep their plants and flowers in passable condition. Everything has required water,

and water has not been always obtainable, and at such times the plants which have been turned out of doors for the summer are apt to suffer from mere lack of time to give them the attention they daily need. I am tempted to write about pot Roses at this time because I observe our own require to be repotted. I usually do this about the end of August or early in September. We have no room even for the Tea Roses under glass in summer, although I have no doubt that in wet seasons all the Tea-scented group would be more satisfactory if kept under glass in a light, airy greenhouse all the year round. At present we have them out of doors in a sheltered, but sunny place, and the flower-pots stand on a hard bottom of ashes. To do Roses well in pots some care is necessary in repotting them, and the potting material should be of the best quality. They are also impatient of stagnant water at the roots; therefore, free drainage must also be provided for them, and the plants must also be stood in a position out of doors where worms cannot find ingress by the holes in the bottom of the flower-pots. Before commencing to repot, see that the leaves are quite free from insect pests and mildew. They are very liable to be attacked by mildew, and it is very destructive indeed, quite spoiling the leaves and effectually checking their growth. I find the best way to get rid of it is to lay the plants on their sides and thoroughly syringe them with soft soapy water in which has been dissolved about 3 ozs. of sulphur to each gallon of water. This not only destroys the mildew, but also the aphid tribe and red spider. I have only once had to deal with the orange fungus. It appeared on some pot Roses I had in from the nursery, and not having seen this pest before, I was alarmed and felt much inclined to burn the whole lot of plants and stand the loss of them. Second thoughts are often best, and it was so in this instance, for I carefully cut out every bit of disease, and as the plants were not large, I dipped them in the soft soap and sulphur mixture, and, as a positive fact, that was the first and the last I ever had of the orange fungus amongst the Roses. After dipping or syringing the plants, let them lie on their sides for an hour or two to drain off the water, for if it drains down the stems and into the flower-pots, the roots are injured. It will be seen in a day or two whether the leaves and stems are quite free from their insect and parasitical enemies, and if they are, give a thorough syringing with rain water, and when the leaves are dry set about repotting them. I use a mixture of good fibrous yellow loam, to which has been added a fourth part of leaf-mould, as much decayed stable manure and an 8 inch potful of crushed bones to each barrow-load of loam; a little coarse sand may also be added. The old spent soil should be forked out from amongst the roots to a considerable extent with a pointed stick, or, what is better, a pointed iron kept for this purpose. Some tough fibre is always placed over the drainage to prevent the finer particles from mixing with it. The potting material is worked well in amongst the roots and packed in rather firmly with a wooden rammer. See also that the plants are moderately moist at the roots before repotting them, and do not give any water for at least a day after repotting. In dull, drizzly, cold weather water may not be needed, for it is an error to give newly-potted plants much water until the roots have taken well hold of the new potting soil. The Roses may be left out in the open garden until the beginning of October, with the exception of the Tea-scented kinds, which would do better if

they were placed under glass after repotting; moreover, they also prefer lighter potting soil than the Hybrid Perpetual and other hardier Roses. A little light fibrous peat added to the compost as above would greatly improve it for the Teas.

It is pretty well known that the Teas are by far the best for autumn blooming, and plenty of Roses can be gathered from a bed of them out of doors until damp and cold nights prevent the blossoms from opening, and it is after this time that the pot Roses come in useful for autumn and early winter blooming. We have a house, light and airy, constructed for flowering Tree Carnations, zonal Pelargoniums, Bouvardias, &c., and the treatment these require in October, November, and December exactly suits the requirements of the Roses if they have been prepared by resting at the right time after the summer or spring flowering was over. The plants should be allowed to become comparatively dry at the roots and be rested, as they would be in some districts in the south of Europe, where these Tea Roses form a large industry for the production of cut blooms in the winter. In the Riviera scarcely any rain falls from the beginning of May until September. Roses lose their leaves owing to drought and heat, and the long days of summer are their period of rest. In August or early in September they are pruned, and Roses thus treated will flower in the Riviera from late in October until the middle of January. We can imitate very nearly the conditions of the south of Europe with our Tea Roses in pots, for they are far better for our purpose than the Hybrid Perpetuals. Although both are grown in the south of Europe, they are not equally well adapted for greenhouse culture here. The plants should be kept comparatively dry after flowering, and if it rains, keep the rain from them. Prune them in August, and when they have well started they may be placed in the house where they are to flower. This house is heated with 4-inch hot-water pipes in the usual way; and besides this a flow and return 1-inch pipe have been fixed to the roof, one of them about 1 foot from the bottom of the rafters, and the other 9 inches higher up. These small pipes are of much value in drying up condensed water, and also for preventing frost from gathering on the glass at the bottom of the rafters. J. DOUGLAS.

AUTUMN ROSES.

THIS is a very good season for Roses, although in July the flowers were quickly over through the excessive heat. Even when cut for the house they lasted only a short period. But if the weather remains fine, the flowers of several varieties will be in good character through the autumn, a succession being maintained at a time of year when Roses are as welcome as in mid-July. When in the Waltham Cross nursery of Messrs. Wm. Paul and Son a few days ago we made notes of several of the more conspicuous kinds for their autumn-flowering, and it is varieties that are in beauty over a lengthened period that should be freely planted. In spite of the protracted drought the plants appear in vigorous health.

Amongst the Hybrid Perpetual class, that fine Rose Mrs. John Laing was blooming exceptionally well, and whether in the height of summer or mid-autumn this fine variety is satisfactory, whilst the plants are very free from mildew, which has played havoc amongst some kinds. If only half-a-dozen Hybrid Perpetuals were planted, this should certainly be included, its flowers large, finely shaped, very sweetly scented, and rose-pink in colour. There was more competition in the class for twelve blooms of this variety at the Crystal Palace Rose show than of any other, proof of its usefulness.

Another very good autumn-blooming kind is Ella Gordon, which is a vigorous grower, though one does not see it often in gardens. It is a fine autumnal variety, and produces large, full, globular shaped flowers, which may be described as of a clear cherry colour. The clean, broad foliage betokens a robust constitution, and the distinctly coloured flowers are produced with freedom over a long season. La France we saw very good, the rows of it presenting splendid flowers, and the well-known Alfred Colomb was exceptionally free. This still remains one of the best garden Roses, the plants strong growing and the flowers bright red in colour. It is useful both for exhibition and the garden, and is a good autumnal. Pride of Waltham is also a vigorous growing Rose, and bears well into the autumn, the flowers being of a soft flesh colour touched with rose, whilst a note may also be made of the variety Marchioness of Lorne, which from the first time we saw it some years ago in this nursery has maintained its rich promise. The flowers are perhaps a little thin, but large, finely shaped, and exceedingly fragrant, a point upon which one can scarcely lay too much stress when many novelties are practically without this precious attribute. This kind is as fragrant as the old Cabbage Rose, whilst the flowers are of a deep rose colour touched with a carmine shade in the centre. It is evidently a good autumnal, as shown by the plants in this nursery. Charles Lamb has taken a respectable place amongst exhibition varieties, and may be mentioned for its freedom in autumn. The plant is vigorous in growth and the flowers red in colour, a clear shining tint, which is especially pleasing in the long shapely buds. One of the gems of all is the now popular Hybrid Perpetual Augustine Guinoisseau, which at Waltham Cross, as elsewhere, is very beautiful. This is a true garden Rose, scarcely full enough for exhibition, but that is of little moment, as the show should be last considered when estimating the value of a certain variety. We have seen, however, many excellent flowers at the exhibitions, but it is in the garden that its beauty is revealed. The plant is remarkably vigorous and very free, the flowers reminding one of those of La France, hence the name White La France, although "white" is scarcely descriptive, as the flowers are touched with a salmon-rose tint in the centre, whilst they are delicately and powerfully scented. A bed of it would make a delightful feature.

Of the China Roses several are in good condition, but the finest is Mme. Laurette Messimy, which is very free, strong and bright in colour, a rose shade touched with yellow. It is certainly one of the most distinct of its section and blooms well into the autumn.

The beautiful Souvenir de la Malmaison was flowering freely, and two other Bourbon kinds of interest were Queen of Bedders and Queen, the flower of the former of a deep crimson, that of the latter being more of a rosy tone.

That most charming section of all—the Teas and Hybrid Teas—were, of course, in full beauty, and they are unrivalled for long continuance in bloom, in mild seasons giving welcome handfuls of flowers far into the autumn. This class has grown immensely in popularity during recent years, and the large breadths at Waltham Cross are bright with colour. The more recent blooms are less flimsy than those of the earlier part of the season and last longer when cut for the house. One of the best is Marie van Houtte, and this year its colouring is especially characteristic, the flowers touched with yellow and edged with delicate rose. Another favourite, Mme. Lambard, is excellent, and a few other kinds are noteworthy. Grace Darling is remarkably fine, and this Hybrid Tea, one of the late Mr. Henry Bennett's most notable acquisitions, is remarkably free and vigorous when upon its own roots. A good bed of this in the garden is very useful, as flowers appear until quite the season of frosts. They are of cream white colour, suffused with a rosy pink shade, and large and full. Very beautiful also is Viscountess Pelkestone, one of the most lovely of all Roses.

It should be grown in quantity, the plants being vigorous in growth and exceptionally free, producing large, delicately fragrant flowers almost cream colour, but sometimes touched with pink, with the centre suffused with a salmon shade. It is a splendid autumnal. The *Bride*, *Mme. Hoste*, *Anna Ollivier*, and *Hon. Edith Gifford* are all blooming freely, but they are too well known to need description. We may point out, however, a few kinds not so familiar which are in excellent condition at present. One is *Sunset*, a sport from *Perle des Jardins*, which has flowers very similar to those of the parent, but differing in colour, this being best described as of an apricot shade. It flowers well. *Coriuna* has been previously described in *THE GARDEN*, and it is a Rose that we feel sure will become largely grown for its freedom, distinct colour and hardiness. A new Rose that deserves a note is *Christine de Nouë*. It is a satisfactory autumnal, the flowers rich crimson, touched with rose, and the centre shaded salmon. They are large, fragrant, and very charming when cut. *White Lady* is a comparatively recent addition to the Hybrid Teas. The flowers commence to open early in the season, and the plants are now bearing a large quantity, whilst the petals are exceptionally broad, the colour creamy white.

Rose Senateur Vaisse is still one of the finest scarlet Roses we have. This autumn I have had some grand specimens of this old favourite, which, like *La France*, *Baroness Rothschild*, and *M. Niel*, took the Rose world by storm during its first two or three seasons. *Senateur Vaisse* is a good grower, flowers fairly freely, and the blooms are of great size and substance, also exquisitely scented. We do not see this variety exhibited during the summer shows so often as usual, probably because there are many others which produce better summer flowers. It is rather late, but in the autumn few can surpass this and *Mme. Victor Verdier* among dark scarlet Roses.—R.

Standard Roses.—A well-grown standard Rose is certainly very beautiful, especially in a shrubbery and upon a lawn. Far too many purchasers do not sufficiently bear in mind that it is absolutely necessary to choose a variety of vigorous habit. I do not mean that it should be of the climbing section, but that a class represented by *Dupuy Jamain* and *Duke of Edinburgh* among the Hybrid Perpetuals, and *Anna Ollivier*, *Marie Van Houtte*, and others in the Tea-scented class. Unless a Rose is of vigorous habit it is of no value as a standard for more than one or two seasons. To take down the name of a Rose at an exhibition, and order standards of it without making inquiry into its habit of growth is in many cases only courting failure. Purchasers had far better trust the trade grower to send them another variety as nearly as possible approaching the one ordered should the desired kind not be suitable for standard culture. Several Roses have been remarkably well shown this season, many of which are by no means suited for standards. I may mention *Horace Vernet* and *Duchess of Bedford* as striking examples of this.—R.

Rose sports.—Has anyone noticed how the sports from old varieties are increasing? Until the matter is given a little thought, it strikes one as being a most remarkable coincidence that a plant of any given variety should suddenly develop a sportive tendency, and that this should happen simultaneously in different parts of the country. Almost all plants that are usually propagated by any other method than from seed show this characteristic more or less. But to confine myself to Roses. Let us take *Souvenir d'un Ami*. This Rose produced a white sport, both in America and England, almost simultaneously, and they are exactly alike. I allude to *The Queen* and *Souvenir de S. A. Prince*, the former sent out by Messrs. Dingée and Conard, and the latter by Mr. G. Prince, of Oxford, both being distributed during the same year—1890. *Souvenir d'un Ami* also sported with me in 1891, producing exactly the same flower. I have a plant of *Catherine Mermet* which has produced a sport of great promise. It is constant, and seems to

have a little of the following varieties intermingled with a good type of *C. Mermet*. It has a little of the shape and centre of *Souvenir de Paul Neron*, while the outside of the bloom reminds one of *Madame Bravy*; in short it is a combination of the three, and inferior to neither. This week a friend of mine mentioned that he had a similar sport, and when I described mine he said, "It is like mine." Singularly, both were produced two years ago. I have worked three plants from the shoot which sported, and they have been reworked from. All are constant, and the remains of the original shoot continue to throw light coloured flowers. Two of the Hybrid Teas, *La France* and *Lady Mary Fitzwilliam*, have recently produced several sports. Then we have *The Bride*, another sport from *Catherine Mermet*, so that we see some varieties evidently possess a greater sporting tendency than others. Among zonal Pelargoniums we find *Vesuvius* producing a number of distinct sports, while doubtless Mr. Molyneux could point to several instances among *Chrysanthemums*.—RIDGEWOOD.

ROSES ARRANGED FOR EFFECT.

The Royal Horticultural Society deserve the hearty thanks of all rosarians for their persistent efforts not only to record the finest Roses, but to have these shown in the most artistic form. The greatest success yet reached in this very desirable direction was shown in the exhibit of Messrs. Paul and Son, of Cheshunt, at the recent show in the Agricultural Hall, Islington, August 29 and following days. The Roses themselves were good considering the peculiar season, and also that it was a four days' show. It is, therefore, high praise to affirm that the majority of the varieties at the close of such a hot August were nearly up to the average quality, and that a few of them, such as *l'Idéal*, *Marie van Houtte*, *Augustine Guinoisseau* were very fine. In other parts of the show there were also some fine flowers of *Ulrich Brunner*, *Mrs. J. Laing*, *Star of Waltham*, *Etienne Levet*, *Duchess of Bedford*, and *Duke of Wellington*.

But the great feature in the Rose groups for effect, and especially in the first prize collection shown by Messrs. Paul and Son, Cheshunt, was the massing of particular varieties of Roses into groups or basketfuls, and the placing of the latter at different heights and distributed over large areas on the ground line. Instead of single blooms in threes or in bunches, most of these groups were dozens or more of blooms of the same variety, but always in sufficient mass to form a telling group. In this way it is more obvious that a mass of such Roses as *Alfred Colomb*, *Marie van Houtte*, *Duke of Edinburgh*, *Viscountess Folkestone*, *Boule de Neige*, or *Gloire de Dijon* gives weight to all such groupings. But mere numbers of Roses and masses are apt to lead to a very dreary monotony unless other variations, such as those of height and distance, are introduced. Such variations as well as those of colour and size gave a peculiar finish and charm to this large and telling arrangement of Roses. And then there was another and even more startling innovation in a group of what was generally understood to be cut flowers. Standard and other Roses in pots were used as accessories, if not parts of the Roses arranged for effect. It would have been a thousand pities had the presence of Roses in pots disqualified this strikingly beautiful collection, for it is hardly too much to say that the verdure of the Rose plants, their artistic setting in fact, did very much to win the highest awards for the cut blooms. True, they were good in themselves, skilfully massed and well placed alike as to height and distance, but the verdant leaves and

graceful spray filled and favoured the judges' eyes on their behalf.

Too long rosarians have striven in vain to make Roses look thus after separating those two things which Nature and art alike have mated—flowers and foliage. We have but to join these in due proportion in the future to reap fresh victories in the somewhat new and very charming field of arranging Roses for effect. D. T. F.

GARDEN FLORA.

PLATE 927.

LILIUM DALHANSONI.

(WITH A COLOURED PLATE.*)

THE hybrid Lily now illustrated first flowered at Southborough in July, 1890, and, as its name indicates, was raised from *L. Martagon dalmaticum* fertilised with the pollen of *Hansonii*. It generally blooms in July, but, like everything else in this extraordinary year of heat and drought, it was fully expanded in the third week of June, and being unusually strong and vigorous, I had a photo taken of the group when it was at its best. It is of vigorous growth and constitution, being fully 5 feet high, and in this respect following the habit of the male rather than of the seed-bearing parent. In July, 1891, I sent a spike of it to Mr. Macfarlane, Edinburgh, and in the *Gardener's Chronicle* of August 8 he gave the following description of it:—

HYBRID LILIES.

I received from Mr. Powell, of Southborough Tunbridge Wells, fully a fortnight ago a magnificent flowering shoot of the above hybrid Lily, flowered for the first time by him last year, and noticed by you in the *Gardener's Chronicle* of July, 1890. Its parentage is almost identical with that of the hybrid flowered this season at Haarlem and recently described by Mr. Baker.

Whether it be owing (as it probably is) to the bulbs being young and vigorous, certain it is that the specimens sent over-topped in stature and flower-production either of the parents as grown here, so that the specimen quite recalled Köhreuter's description of some other hybrids which showed "statura ponderosa."

The hybrid has a special interest, as being the progeny of species very nearly related systematically, but widely isolated in geographical range. *L. dalmaticum* is a South European and Himalayan form, while *L. Hansonii* is Californian. In naked eye characters, Mr. Powell considered that the stem showed little of the *Hansonii* parentage; but a comparison both last year and this soon convinced me, in spite of Professor Meehan's remonstrance, that Nature had followed her common laws and that we had a very even fusion of parent peculiarities. The leaf-colour of *L. dalmaticum* is a deep purple-green, of *L. Hansonii* a bright green, while a leaf of the offspring placed between, formed a neat transition in tint.

I have been prevented as yet from making a complete microscopic examination, but from study of the leaf epidermis as to cell shape, number of stomata, &c., I fully expect the hybrid will come very fairly between the parents in its vegetative parts. The flowers, however, Mr. Powell truly remarks, are as exactly intermediate as one could expect. The mingling in diluted degree of the

* Drawn for *THE GARDEN* in Mr. Powell's garden at Southborough, Tunbridge Wells, by H. G. Moon. Lithographed and printed by Guillaume Severeys.



LILIUM DALHANSONI

deep purple colour of the seed parent with the yellow and spotted condition of the sire is a very nicely balanced one. As stated by Mr. Baker, Lily hybrids have been a rarity, but after microscopic examination of the pollen and ovules of this one, I feel tolerably certain that it may be perpetuated in a pure state or crossed successfully with either parent or another species. The pollen grains seem good to the extent of from 90 to 95 per cent., thus almost equalling the parents. The ovules are well formed, and contain an egg-cell and help-cells of vigorous appearance. It remains for future experiment to prove or disprove the accuracy of this conclusion. On receipt of the specimen in full bloom, it was found that *L. Hansonii* had finished flowering in the Edinburgh Botanic Garden by a full week, while *L. dalmaticum* was in bud and only opened on July 29. On inviting an expression of Mr. Powell's experiences, he wrote, "Your observation as to the flowering period of the hybrid being intermediate is correct, for the plants of *Hansonii* here bloomed before any hybrid expanded, and the other parent (*dalmaticum*) is now (July 28) in bloom ten days after the others were over."

Mr. Macfarlane's anticipation of its capacity for producing seed has been fully borne out this year and last, and I am going to test its vitality by sowing the seed in the open border this autumn, my experience of hardy bulbous plants being that the seeds will vegetate better this way than in pots. This Lily and *L. Hansonii* have both done well this year, though my soil is by no means adapted for Lilies generally, being very light and dry. Some very fine imported bulbs of *L. Washingtonianum*, planted certainly very late (April), only appeared above ground in the last week of August, and must have had a hard struggle to exist, as the drought has killed *Rhododendrons* established for more than fifteen years. *L. eximium* did well up to a certain point, and then the buds had not strength to expand; *L. tigrinum* vars. were not so much affected, as they bloomed well. For all herbaceous plants it has been the most unfavourable year I ever remember. C. B. POWELL.

THE WEEK'S WORK.

ORCHIDS.

ONE of the details of the work that must occasionally crop up is the repainting of the houses. Ours are now being done, and this necessitates a good deal of extra labour, but as the months of August, September, and early in October suit well for painting, so do they also for giving the plants a thorough overhauling. They have all been taken into another house, for the woodwork gets so thoroughly saturated with water, that unless it gets well dried before repainting the work is worse than useless. The houses ought also to be thoroughly well cleaned before repainting them. Sometimes the woodwork has to be well washed, and in places the paint will come off entirely. We are putting three coats of paint on outside and two inside. Allow the paint to be well dried before the plants are returned to the house. The removal of the Orchids and taking them back again will give an excellent opportunity to thoroughly clean, surface-dress, or repot before the winter.

Amongst plants that may be repotted now are the *Sobralias*. The *Odontoglossums* may either be repotted now or in the spring. September is a good month to repot them, but I have done so in every month in the year, and the results have not varied much. The *Sobralias* make numerous thick fleshy roots at this season from the base of the young

growths, and it is a good plan to repot them carefully into larger pots. The specimen plants of *S. macrantha* soon become pot-bound, and they require good fibrous peat torn up by hand and left in a lumpy state, some *Sphagnum Moss*, and broken crocks. The flower-pots should be filled to about a third or fourth of their depth with drainage. If the roots are all right leave them as they are, and give a good shift to admit of the compost being packed in all round the ball of roots. We do not raise the surface of the compost above the rims of the pots, as is done with some Orchids, such as *Cattleyas*, *Laelias*, &c. It is necessary to see that the roots are well on the moist side before repotting, and the compost should be in the same condition as regards moisture. Do not give the plants any water for about two days after repotting them. Remove any old spent growths to give all those with fresh green leaves ample space and the young ones free scope to develop fully. Water must be applied rather freely to the roots when the plants are growing, but when at rest the soil may be comparatively dry without being quite dried up. Besides the magnificent old *S. macrantha*, there are now a number of other varieties and species of great merit. The yellow-flowered *S. xantholeuca* is a superb species, which makes fine strong growth in a well-shaded house, and there is also the charming *S. leucoxantha*, with pure white flowers and a deep yellow or orange stain in the throat. The best varieties of *Epidendrum prismatocarpum* are exceedingly well adapted to produce distinct and very handsome flowers in August, and now that such plants have passed out of bloom they may be repotted, and large plants can readily be broken up into smaller ones. Remove all decayed compost, for in time the peat loses its fibre and the decayed *Sphagnum Moss* unites with it, forming a fine black powder quite useless as a medium for the roots of Orchids. This can easily be shaken from the roots or removed from amongst them with a pointed stick, but it is an error in culture to allow the plants to get into this state at the roots; they should be repotted before so much decay has taken place. They require much the same treatment as *Cattleyas*, and will thrive in the warmest end of that house. *Laelia cinnabarina* requires some care to maintain it in a vigorous condition. I have grown it well and flowered it admirably in both pots and baskets suspended near the roof-glass of the *Cattleya* house for a few years, but the plants have a habit of getting into a weak state, and gradually fail until they are not vigorous enough to produce flowering growths. There must, of course, be a reason for this decline of vigour, and I think it is probably because the plants are over-watered when they ought to be kept dry. They ought to be repotted about this season of the year, and once in two years at least. Do not over-pot them, and use the best peat and *Sphagnum* in equal portions. The pots ought also to be filled quite half full of drainage, but I believe teak baskets are better adapted to maintain the plants in health than flower-pots. I have tried the shallow pans, but they will not do for very long. The more slender-growing *L. harpophylla* may be classed with it as regards treatment. I have grown this well for several years in the *Cattleya* house, using rather small flower-pots.

I see the leaves of the *Pleiones* have already become quite yellow, and may be removed, but this is not a sign that the plants may have water entirely withheld from them. If this is done the flowers will not come up quite so strongly. The species to flower at mid-winter are *P. maculata*, the most beautiful of all; *P. lagenaria* and *P. Wallichiana*. These grow together and flower very nearly at the same time. *P. humilis* and *P. Hookeri* flower in February, and make their growth in the cool house; they will soon complete their growth. There is plenty of work to do at this season, but the most important is repotting, and, subject to having the plants made thoroughly clean, first see that all the repotting that can be done is finished, if possible, by the end of the month. This is certainly the best time to repot *Cymbidium Lowianum*. The growths are now

pushing away, and soon will appear the points of the flower-spikes, which develop slowly during the winter, and produce their flowers in March and onwards. The best potting soil is good fibrous yellow loam with a little good peat added, some sand and a fourth-part of light, well-decayed stable manure. Good drainage is essential, but do not put in more than enough to prevent sourness in the soil. I use a little coarse sand with the compost. The plants treated as above, well watered and placed in a light position in the *Cattleya* house, grow with vigour almost beyond belief. Where the spikes push out from amongst the leaves, weak manure water is helpful. The temperature in both the *Cattleya* house and the warmest house may be allowed to run up at least 15° above the minimum by sun heat, and it is better now not to let the *Cattleya* house fall below 60°, and the East India house 65° at night. The cool house will be about 50° without artificial heat. J. DOUGLAS.

THE KITCHEN GARDEN.

PLANTING CABBAGE.—There will be no excuse this season for not getting the main plot of spring Cabbage put out early enough to become well established before winter, as the ground will be at liberty and should have been well prepared ere this by digging and manuring. Before planting, however, a good dressing of soot should be applied, this being necessary as a safeguard against the depredations of slugs, as these are apt to appear during the autumn months. Where club has not affected the plants there should be a good supply on hand this season, as I never remember to have seen the plants so clean. In fact growth has been too free, necessitating the pricking out of the forwardest plants a week or two since to check growth. The smaller ones left behind are now just suitable for immediate planting. If the ground has only been very recently dug and appears to be at all loose, it is a good plan to tread it over lightly. There is not much likelihood of such varieties as *Ellam's Early Dwarf* or *Mein's No. 1* running to seed or flower-stem on account of early sowing and planting; consequently these are good varieties to rely upon for the earliest cutting. The former being a small grower the rows need not be more than 18 inches apart, the plants being set out 15 inches apart in the rows. For others of larger growth 2 feet should be allowed, and if the most has to be made of the room, 18 inches in the rows. On light land it is well to plant in lightly drawn drills, but on heavier land plant on the level. If club has attacked the roots all excrescences should be picked off, afterwards dipping the roots in a puddle formed of soil, soot, and lime. As soon as it is seen that the plants have become established, a surface stirring with a hoe will be of benefit in settling the soil well around the stems and making these secure, as if the stems are at all loose, water settles around them, and so lays them open to be either greatly injured or killed by frost if the winter should prove severe. It will be upwards of three weeks or a month before the succession varieties are ready for planting, these being such as *Enfield Market*, *Battersea*, and *Nonpareil*. This last is a capital variety for forming a second crop, and this season it has proved invaluable for the purpose.

FRENCH BEANS IN POTS.—To follow on any later crops which may be growing on south borders to be further protected by lights, a good succession may be afforded by sowing in pots, these in the meantime being placed either in frames or pits until the time comes for housing. If the pots could be placed in a pit where a little warmth could be turned on if the weather should happen to turn out dull and wet, it would be an advantage, as very often the sudden removal from cold frames to heated houses causes the leaves to fall. *Osborne's Dwarf Forcing* will be found a capital variety for early pot work. Large pots are not needed. This season's seed will produce the best plants, and it may be also necessary to add that the pots should be filled up at once when the seeds

are sown, as half filling and then earthing up are a waste of time. As the seedlings appear keep them well up to the light, and on fine days allow ample ventilation, so as to ensure a sturdy and fruitful growth. Manure water will not be needed until the pots become fairly filled with roots, when a supply about twice a week will suffice.

LIFTING POTATOES.—People who may have taken advantage of the recent fine weather to lift their main-crop Potatoes will have reason to be satisfied, as a wet spell may now occur at any time, and which, besides impeding the operation of digging, also spoils the quality. There is no advantage whatever in allowing the tubers to remain in the ground until the haulm is completely withered. The quality of the Potatoes depends so much upon the storing that care must be taken that this is well carried out. Where the tubers are to be stored in cool sheds, as the cooler these are the better as long as frost is excluded and free from damp, do not place them in large heaps, as they would become heated, when the quality would be lowered considerably. Lay them out in a layer about 18 inches in depth, and if light can be totally excluded, no covering would be needed; but if not, this must be done by lightly covering with clean straw or old mats. Where pitting has to be resorted to on account of the want of shed room or a proper Potato store, the site chosen must be high and dry. The tubers are also better for having the pit formed on the surface, this being about 4 feet in width, building it up sharply. If the pit should be excavated, the tubers do not lie so dry, and, moreover, wet is apt to find its way in.

EARLY SEED POTATOES.—Early seed Potatoes are never in better condition for planting than when their preparation for this purpose is commenced now; therefore, care should be taken that these are not kept too close and warm or placed together in a mass, or premature sprouting will be the result. The tubers should be placed where they can receive the full benefit of light and air and also be kept cool. It is also advisable, if there should be store room, to lay them out thinly; but if not, pack them closely together on end in either shallow boxes or baskets, these being stored so that light can reach them. The first or primary sprout must be preserved. By looking after the seed tubers at this season, the sprout at planting need not be above an inch in length and of a sturdy description.

A. YOUNG.

PLANT HOUSES.

GREENHOUSE PLANTS, THE HOUSING OF.—Up to the time of writing these lines there has not been any immediate need for attending to this work, but it will not be safe to defer it much longer. Before another calendar is in print the hitherto remarkably fine weather may have changed, and when that is the case we may reasonably expect a heavy downfall. The summer now drawing to a close has been as favorable as could be possibly desired for the ripening of the growths of all hard-wooded greenhouse plants. For spring-flowering Ericas and New Holland plants it has been a grand time, something after the kind of weather in their native habitats. Such plants, therefore, should be in the best possible condition for another spring. I have already noted that a few rather cold nights, or at least mornings, have been recorded on the thermometer. This is only an indication of what may be expected in a few weeks. It is, therefore, much safer to be prepared by having as many of these plants housed as possible. There is, I am fully aware, a difficulty in many instances as to how the plants are all to be accommodated, but in any case do not let plants of permanent character which have taken years to grow to their present size suffer as compared with others that are grown in a season or less. The Chrysanthemum mania of the present day occupies more attention than formerly, but surely it is not wise to let the Chrysanthemums even, beautiful as they are admitted to be, occupy too much space and all the best positions. If so, and with a large stock of them, it

means later on a blank, or at any rate a house thinly filled with well-grown plants, although skeletons or objects of pity may be plentiful enough.

The greenhouse should have a thorough cleansing before any plants are brought inside. After the hot weather both red spider and thrips will be plentiful enough, and these may transfer their attentions to the fresh occupants if not thoroughly eradicated. Besides using the garden engine or syringe for this purpose with an insecticide at syringing strength, a fumigation or two should be given to make sure work of thrips and aphides. In arranging the plants contrive to have them as near the glass as possible and avoid overcrowding; furthermore, any extra fine plants should stand apart from each other, with smaller ones between them. Swing shelves can be filled with the smallest plants, thus getting the best possible place. Where there are climbers these should as far as practicable have a light thinning, or at any rate be drawn more together so as not to obstruct too much light. In some cases it will not be advisable to thin out other than weakly wood that is of no practical use, such for instance as flowers early in the year upon wood of the previous season's growth; to cut away much of this means a loss of bloom. Whilst the work of cleaning is in process, give an eye to the state of the glass and remove any broken panes whilst the work can be done with ease. There may be a good few of these, especially after the hot weather, being caused by expansion, iron roofs being as a rule the worst in this respect, more especially if the glass happen to have been fitted in too tightly during previous glazings.

When greenhouse plants are first housed, let them have all the ventilation possible; to keep the house close at night at once is an utter mistake, being only the forerunner of mildew and other consequent evils, as adventitious growths, &c. The nearer the atmosphere is like that to which the plants have been accustomed whilst out of doors the better will it be for them. Only in the case of actual frost should the top lights be closed, and then only the last thing at night. Where it is not possible to house all the plants at once by reason of other occupants, then arrange for some means of temporary shelter in the event of frost or heavy rains. The canvas covers now in use can be applied to this purpose over temporary erections. Of course, vineries can be turned to account for some plants, but it should be where the Vines are at least partially pruned. These houses are more often fitted for Chrysanthemums, and should be used for such in preference to the greenhouse proper. Where most of the plants alluded to for housing are not trusted outside at all by reason of the peculiarities of the locality, then a close inspection should be made amongst such as Indian Azaleas for thrips, and other plants possibly for red spider, measures being taken accordingly by fumigation or syringing. In such cases a rearrangement is desirable, so as to make the most of the room. In all cases a point should be made of thorough cleanliness; dirty pots cannot be got at so well after arrangement as during the work. Whilst doing this work look well after the drainage to see that the holes in the pots are not choked by worms. Where any signs of worms are seen in the pots, take the opportunity of watering with a weak solution of lime water to remove them.

JAS. HUDSON.

HARDY FRUITS.

PEARS.—There is a marked slackening in the ripening of Pears on the trees or gathered, and as yet the pips of such naturally late varieties as Glou Morceau, Easter Beurré, Beurré Rance, Josephine de Malines, Beurré Sterckman, Ne Plus Meuris, and Bergamote d'Esperen are quite white. All the Pears are above the average in size this season, and it may be the quality will also be equally satisfactory, or in some cases better than usual. Pitmaston Duchess, Beurré Superfin, Louise Bonne de Jersey, Marie Louise, Doyenné Boussoch,

Doyenné du Comice, Beurré Clairgeau, Comte de Lamy, Brown Beurré, Beurré Hardy, and other October and November Pears are already gathered in many early gardens, and most probably are quite fit in later localities. It is many of these that are ripening before they are wanted, and warm rooms will aggravate the evil. The plan of wrapping a portion of the fruit separately in squares of kitchen or other moderately soft paper and then packing them closely in boxes or drawers, storing these in quite cool rooms or sheds, ought to be given a trial this season. It must inevitably retard ripening considerably. Too much must not be expected from it, however, or much fruit may have ripened and commenced to decay before being noticed.

TRANSPLANTING PEACH AND NECTARINE TREES.—Where the trees have ceased growing for some time past, the young wood being well matured and the buds plumped up, transplanting may now safely be resorted to. Being properly carried out before the leaves fall, there is every likelihood of fresh root fibres being formed before the resting period arrives, the check of removal being partially recovered from accordingly. Transplanting fairly large trees need not interfere with their ability to crop well next season, and in some instances an improvement in the quality of the fruit will be noticeable the first summer after, the improvement being still more marked the following year. Many young or comparatively young trees are, however, still in a very green, growing state, and wholly lifting and transplanting these would most probably end badly, shrivelling of the leaves and young wood resulting. Transplanting is principally recommended where the wall trees need rearranging, partial lifting and root-pruning being the safer and better course when the trees are in their right places. Old trees that are moved should have their fresh site extra well prepared for them, good fresh compost promoting a strong root-action, the top-growth being improved accordingly. Let them have the benefit of as much fresh turfy loam as can be spared, mixing with it, if the bulk is insufficient, some of the best of the garden soil not previously occupied by the roots of fruit trees, adding at the same time a little well-decayed farmyard manure, ashes and burnt earth from a garden smother and a sprinkling of bone meal. In lifting, first open a deep, wide trench at a good distance, or say 5 feet from the stem of the tree, and gradually undermine, saving as many of the best roots as possible and a flat moderately large ball of soil about the stem. See that this is properly undermined, all deep-running roots being cut, before sliding the ball and roots on to a short stout plank or short-handled stone barrow necessary for the purpose of carrying the tree to its fresh site—the latter to be made quite firm, enough fresh soil being placed in the hole to raise the collar of the tree slightly above the level of the border. Slide the ball on to this, spread out the roots, prune the ends of these, also cutting away any that are badly bruised, and distribute them thinly and evenly through the fine fresh soil that is prepared for their reception. Avoid burying the roots deeply, the topmost of them being covered by about 2 inches of soil. Give a good watering if either the old or fresh soil is at all dry, and frequently syringe the trees. The latter detail is especially to be recommended during bright days, mats being also hung over the trees if they are inclined to flag badly. The trees should be only lightly secured to the walls for several weeks, as they are certain to sink somewhat.

ROOT-LIFTING AND PRUNING.—Deep root-action is responsible for many failures or partial failures with Peach and Nectarine trees, those with plenty of root-fibres near to the surface giving by far the best returns. Root-lifting and pruning are the remedies for a too deep root-action, and owing to the crops being cleared off so early, this important work may well be commenced earlier than usual. Root-pruning is also very necessary where the trees are growing too rankly to be productive. Quite young trees may be completely done in one season, but large trees that are in less robust health should only be half-lifted this autumn and finished off

next year. Treated in this manner, there will be no very severe check given or the risk run of the loss of a crop. Proceed with young trees much as advised in the case of preparing trees for transplanting, working up to the stem sufficiently near and undermining so as to be able to cut through any deep running roots there may be immediately under the stems. Very little or no fresh soil would be required by these, the roots, duly pruned so as to leave no broken or jagged ends, being brought up a little nearer the surface. Make the soil very firm under the trees, or the latter may sink to an injurious extent. In the case of old trees, the roots on the side lifted should be relaid in quite fresh compost or such as advised for those transplanted, and this, as well as bringing them up to where they will get the benefit of more food, warmth, and air, will stimulate them into greater activity, and a marked improvement in the health of the tree be soon apparent. W. IGGULDEN.

KITCHEN GARDEN.

HOW TO AVOID SPOILING CELERY.

THERE is no gainsaying the fact that much Celery is annually spoilt by either neglect or mismanagement. This season there is every likelihood of a repetition of former blunders being made, and a word of warning will not, therefore, be out of place. There are several ways of spoiling Celery open to cultivators, but none is so largely responsible for so many failures or partial failures as that of neglecting to supply the requisite amount of moisture to the roots. After a few inches of soil have been returned to the trenches, this being the first step towards moulding up the stems, it seems to be taken for granted that no more watering will be needed, yet no greater mistake could well be made during nine seasons out of ten. Placing some fine soil in the trench does certainly check the loss of moisture by evaporation from about the roots, but not from the foliage, the hungry roots soon absorbing and getting rid of what is within reach, the soil as a consequence soon becoming dust-dry. The fresh soil added to the trench may, owing to rainfall or make-believe watering, be in a moist state, while that underneath, and which is to principally support the plants, is most injuriously dry. Very often premature bolting or running to seed is attributed to a check the plants have experienced in a young state, and they may certainly be spoilt by being raised too early or subjected to too much heat, extreme dryness at the roots also doing harm, but more often than not the mischief is done after they have been planted out and are well established. This summer, owing to the great amount of sunshine, frequently accompanied by parching easterly winds experienced, abundance of water has been needed by Celery. In my case no moulding up is done in either the first or second stage until after the soil about the roots has had enough water given to thoroughly moisten it. It is an easy matter to test the state of the soil where the roots are, by means of a stout, pointed stick, and this season the final addition of soil to the early rows should not be made before enough water has been given to well moisten it if necessary. In the case of later rows, water should be given freely both before and after the first addition of soil has been made, and it may even be found necessary to water still longer. It must be a very heavy and continuous fall of rain that will reach the roots of Celery, but unless sufficient moisture is provided, not only will bolting be

the order of the day, but the growth generally will not be so strong as desirable, nor the quality of any that may reach the dining table satisfactory. It need hardly be added that liquid manure is never thrown away upon Celery, but it should not be very strong, abundance of water being what is most needed. Above all things avoid applying dribbles. If two rows cannot be given a thorough soaking at one time, then be content to water one.

Celery can be spoilt by moulding up too soon, and also by this operation being delayed too long. If soil is heavily banked up to comparatively weakly plants, it presses so heavily against them, as to quite check the development of the heart, bulging and splitting at the base being the consequence. On the other hand, when the plants are allowed to assume their natural position, the outer leaves quite touching the ground, and the rest opening out nearly as badly, the stalks cannot often be got back to an upright state without splitting many of them. Without good sound outer stalks or leaves to protect them, the hearts stand but a poor chance of attaining a good size, protection also being needed against slugs and such like. Lately it has been my duty to pass through and award points to a large number of allotments, as well as cottage gardens. In very many of them a row of Celery was to be seen, but scarcely one in a dozen promised to be good for much, owing to the plants not having been prevented from opening out badly. Very many amateurs' rows of Celery are in much the same plight. Before the plants assume the horizontal position, enough soil ought to be chopped down from the sides of the trench, and levelled about the Celery, to just keep the outer stalks nearly upright. When the heart begins to rise, the plants having by that time strengthened considerably, more soil should be added, though not to the extent of badly confining the hearts. In some, or most instances, in fact, yet another moulding up is ample, though extra strong Celery may have a fourth addition with advantage, not more than a half of the leaves of early and second early rows protruding at the final moulding, and rather less in the case of the latest rows.

Slugs spoil very much of what otherwise would be good Celery. Once they get past the outer stalks very short work is made of the hearts, and slug-eaten hearts mean so much labour and space wasted. It is the heavier soils that are most frequented by slugs, and they particularly delight in a depth of lumpy ground. More than ordinary pains should be taken in breaking down the soil used for banking up around Celery, and soot and lime ought also to be very freely incorporated with it, dusting it well against the stems being advisable in extreme cases. The soot may disfigure the Celery somewhat, but if proper pains be taken, every particle of it may be washed away from the hearts, and better this little trouble be necessary than have much slug-eaten Celery. In any case the stalks should be gathered well up together, and kept so, either by being held or tied, while the soil is distributed lightly and evenly against them. If ties are used, then must these be undone after the soiling is completed, or they will unduly confine the growth of the heart. Where the most care is needed is when two or more rows are planted in each trench, the plants when at all crowded not growing so strongly as desirable, the hearts suffering from being unduly exposed. Supposing there are several rows in a wide trench, the plants being put out squarely, two boards to reach across the trench are needed, setting these tight against two rows, and drawing

out after either soil from the sides or other added fine soil, ashes, or burnt soil has been thrown in. After a layer of soil has thus been evenly distributed over the trench the plants should be loosened, the operation including the tying up, earthing being repeated in about three weeks after the previous addition. Celery is sometimes wholly surrounded by either ashes or burnt soil, though in but few cases is this absolutely necessary either to preserve it from slugs or to ensure long keeping. A very large quantity of either is not required if boards are first placed against the plants, and, after the ordinary soil has been banked up against this and the ashes or burnt soil placed inside, they may be drawn out and similarly used further along. GROWER.

WINTER GREENS.

WHILST but a few weeks ago there seemed to be a promise of great abundance amongst all descriptions of winter Greens, that promise has been very much discounted by the later and prolonged spell of drought, though not of great heat; growth has been checked, and the robust appearance of the leafage has changed very much to blue or else to a blighted aspect. That heavy rains and cooler weather may do very much to bring about an improvement there can be no doubt, but September is the chief growing month for all descriptions of Brassicæ. I am referring chiefly to market crops in fields, and in many districts the present promise is poor enough. Where there were liberal July rains and stuff was got out at once, things are better, especially in the Brussels Sprout, autumn Cauliflower and Scotch Kale sections. In some cases Brussels Sprouts are wonderfully good, but that is due to early planting. Apart from general suffering from drought and aphids, club is also very troublesome, a disease partly due to grub or maggot in some forms, to fungus in others, but this season it seems to be chiefly due to the long-continued dryness of the ground and great sun heat. A grower told me the other day that where plants had been put out whilst the whole soil was moist after a fairly good rain, they had done well, but where watered in two or three times during drought, they had either clubbed badly, or were very much dried up now. A few waterings, with all the surrounding soil so hard and dry, had simply sufficed to create a baked condition of ground about the roots, which had rather helped to strangle or starve them than to promote growth, although doubtless efficacious so long as the moisture endured. The worst results seem to have followed when the holes made to hold the plants were first filled with water, a plan much in favour with some, but this season it seems to have created a puddle into which the roots were placed, and then the ground was baked almost as hard as a brick. Of course, watering has been done liberally enough in previous years, and plants have done very well after, but then never before under such conditions as those which have prevailed this season, for in spite of some excellent rains in July and a few here and there in August, the summer has been almost unparalleled for dryness and length of sunshine and drought. The Autumn Giant Cauliflowers are this season getting over very early, whilst the later plantings that might have given heads in November seem to be so weakened, that what heads may come will be very poor indeed. The best of all the Cabbage tribe is the Brussels Sprouts, but even these are in many places very much blighted. Kales seem as well able to endure heat as cold and moisture, and where got out early are very good. Still, in the market fields these constitute but a very moderate portion of the winter green crop. We could now do with some heavy rainfall on all of our garden and field crops; the earlier it comes the better, so that some fresh clean growth may be made before the winter frosts stop further development.

A. D.

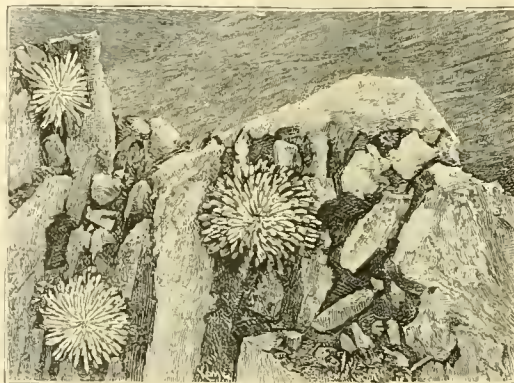
CHRYSANTHEMUMS.

SEASONABLE NOTES ON CHRYSAN-
THEMUMS.

SECURING the buds should now be attended to. It is a pity to have them destroyed for the sake of a little attention after so much time has been bestowed upon the plants. Growers of Chrysanthemums for large blooms living in a district much exposed to south-west winds know quite well the risk they run if the buds are not rendered secure when they experience an equinoctial gale from that quarter. As a rule we in the south of England experience such a storm some time after the 1st of September and before the 15th of that month. I have had many bloom buds entirely spoilt by such a gale of wind. It is not that the buds are actually blown off, but they are so "whipped," as I term it, that they are bruised and rendered useless. When once the bark tissues of a bud are damaged, it is impossible for that bud to swell uniformly, the consequence being a one-sided bloom, which is useless. It is not only the buds that are injured by these wind storms, but the succulent foliage at the apex of the plants is also damaged and much of it blown off. The leaves upon the unsecured shoots have so much more play, that the edges are often torn in pieces, the leaf-stalks also being damaged. All such checks as these cannot be otherwise than injurious to the plants. The Princess of Wales family is perhaps the most susceptible to injury from this cause owing to the flower-bud peduncle being so weak in comparison to that of many others, notably the Japanese section. Were they all like Avalanche, for instance, in this respect, they might defy the fiercest wind unsecured, but as they are not, means must be taken to afford that necessary protection. Some cultivators still adhere to the practice of allowing the points of the shoots to hang loosely for at least 1 foot and sometimes 2 feet from the point. They think they are more secure from wind in this way than when they are tied to the stakes their full length. I have heard such persons complain of the loss of as many as fifty points after a single gale of wind; whereas in my case with the shoots and buds made secure the losses have been very few.

In cases where the ordinary stakes are not long enough to secure the buds properly by tying the peduncle firmly, I advise the use of builder's laths split into widths of about a quarter of an inch. These cut from 6 inches to 1 foot long according to the length of the peduncle answer even better than round stakes, as the flat laths fit neatly to the stem of the Chrysanthemum plant and the peduncle, thus rendering all secure. Not only are these supports of great service now, but when the blooms are developing they save many a flower from otherwise coming to grief. Where they are not supported at all and have escaped the wind the buds stand erect and are apparently quite safe, but when the blooms are half or three-parts expanded they are liable to snap off just half-way down the peduncle. It is very annoying to find several of the finest blooms in this state, whereas a few minutes' attention would have avoided such a casualty. Some persons may be apt to think I am too minute in such details, but having experienced the loss of fine blooms through no other cause, I do not consider any detail is too small to pay attention to—certainly now-a-days, when the competition is so keen, and every little point tells for or against, as the case may be.

Late-flowered varieties like Leon Frache, M. E. A. Carrière and Etoile de Lyon cultivated to give quantity of flowers rather than for their individual quality are now making most satisfactory progress. My method of cultivating this section is to strike the cuttings rather later than for the large bloomed class, top them at 4 inches high, and induce them to grow freely so that at the present time each plant in 8-inch and 9-inch pots has about ten branches, which in time will throw out other side shoots and give abundance of bloom during December and the early part of January, when flowers are not over-plentiful. Some are grown two in one pot for the sake of convenience, taking from these a rather less number of branches. For decoration, either as plants or for cutting, I find the system answers really well and economises space. Most of the branches are now forming a central bud, with numerous short side growths pushing from just below this bud; these shoots will produce several blooms each, small, of course, but as they will be available in numbers and on shoots from 1 foot to 2 feet long, they will prove very serviceable for tall vases. Each plant has one stout stake affixed near to the stem; to this the branches are loosely tied, so that they are



No. 2.—Mode of planting abruptly sloping or vertical fissures.

secure from strong winds and do not occupy as much space as those plants with more shoots, obtained by constant topping of the young growth in the spring. Special attention should be paid to these plants in the matter of watering them regularly and supplying them with stimulants as required; the small pots quickly become filled with roots, and as the plants are well furnished with branches, they absorb a quantity of moisture and exhaust the soil very quickly.

The plants growing at the base of walls have made wonderful progress of late where the roots have been constantly supplied with moisture and the foliage kept free from insect pests and mildew. Such varieties as Etoile de Lyon are now showing the crown-bud, and if a few large blooms are required from these wall plants, the shoots clustering about the bud should be removed to give strength to the central bud. Continue to fasten the leading shoots to the wall; those growing from the front may be neatly tied to the main branches.

E. MOLYNEUX.

October-flowering Chrysanthemums.—This should prove a good season for what I may term the October section of Chrysanthemums. Dealers' descriptions are all very well in their

way, but the best test is to be had from the larger body of cultivators. It would prove of great assistance if those people who are in the position to do so would state, as the different varieties come into flower, what they really find to be the best. I do not mean those grown solely for the production of large flowers, but rather those which succeed well as freely-grown bushes for conservatory decoration. I have several varieties under trial, and will give results in due season if any should prove worthy. I note that "H. S." (p. 126) gives a list of the better-known varieties and also mentions a few of last year's introductions. It would prove of value if, as these come into flower again this season, he would state whether they bear out previous opinions. We do not want long lists, as these are bewildering, but rather a few kinds of distinct shades of colour and with a good habit. Those which will do well in 7-inch pots are the most useful.—A. YOUNG.

THE ROCK GARDEN.

GENERAL HINTS ON PLANTING.—II.

(2) PLANTING CHOICE ALPINES ON SLOPING
GROUND.

A SLOPING position of the ground is most beneficial to all plants enjoying a comparatively dry situation, especially during the winter months.

Many varieties of Androsace, the choicest kinds of Saxifrages, Draba, Silene, &c., prefer this position to any other, as there is no danger of their leaves suffering from the consequences of continuous winter rains. There is, however, a danger of the soil around the plants being washed away during heavy rain or watering with a hose unless due precautions are taken to prevent this, and there is also a danger of too much drought in summer. I find the best way of preventing both is to place on the lower side of the plants a few stones which would arrest the progress of water flowing over the slope, and not only prevent a wash, but enable the water to penetrate to the roots of the plants instead of simply flowing over the surface. If the soil above the plants is of a loose nature, stones slightly projecting might be placed on the higher side of the plants, as other-

wise there would be a danger of some of the tiny gems being completely buried by loose soil and grit washed down from a higher level. These protecting stones should be larger than the stones generally used for covering the surface of the soil, and they should be let firmly into the ground so as not to be easily displaced. In other respects the planting of alpine on such sloping positions, and the crevices prepared underground, would have to be after the same method as that described in my last essay when speaking of the planting of alpine on elevated level ground. I need only add that the small stones used for covering the surface of the soil should be more firmly driven into the ground than those covering more level spots, as otherwise they might roll down the slope and leave the roots of the plants unprotected. When watering such sloping spots care must be taken to water as much as possible the highest parts, as the water would naturally drain off to the lowest level.

(3) PLANTING ABRUPTLY SLOPING OR VERTICAL
FISSURES.

In every rock garden, no matter whether it be large or small, or even whether it be well constructed or otherwise, there must of necessity occur an enormous number of abruptly sloping or even upright fissures where the stones join or nearly join each other, and in my opinion

these fissures, as a general rule, offer advantages which are not nearly enough appreciated. In most cases we see them either empty, forming a hiding-place for snails and other pests, and at the same time allowing the rain water to escape before it can penetrate to the roots of the plants, or in other cases we see them stopped up with cement or mortar. On the other hand, there are hundreds of varieties of charming plants for which such crevices would be just the very thing. Even if they should occur on the shady side of rocks we have such gems as *Ramondia pyrenaica*, *Linnaea borealis*, *Saxifraga juniperina*, an endless

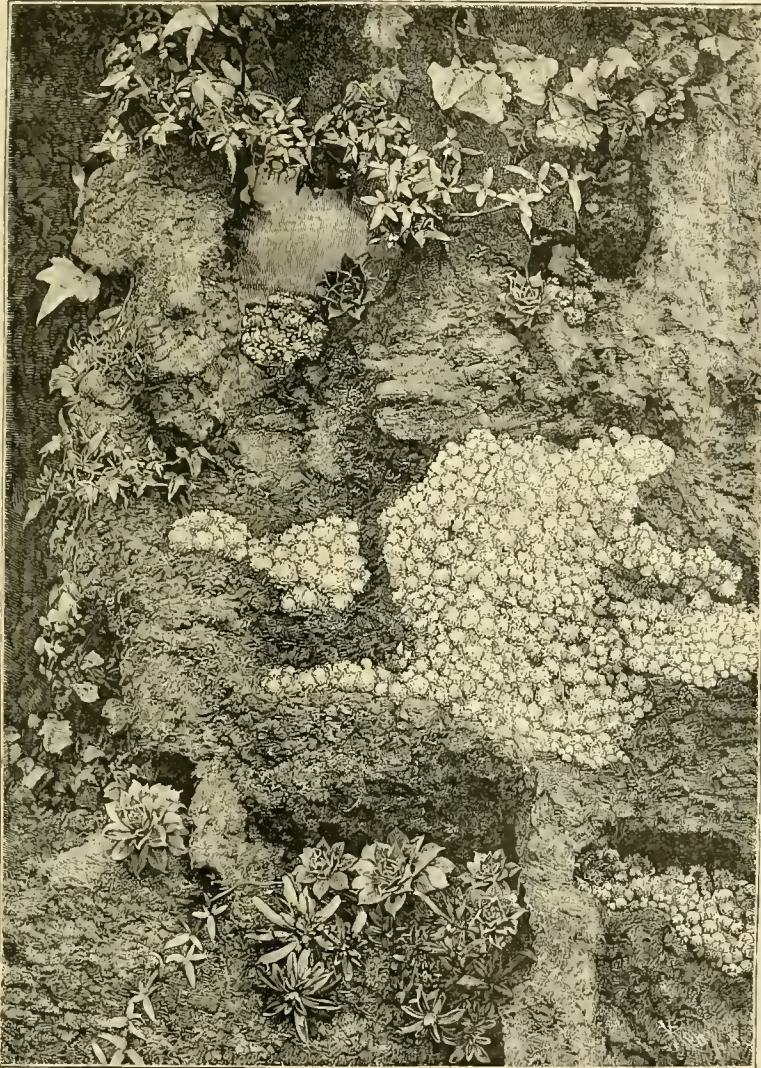
ance of others which would prefer such a position to any other. In slanting fissures on the east or west side, too, we may grow the choicest kinds of *Androsaces*, *Silene acaulis*, *Phyteuma comosum*, *Aretia Vitaliana*, *Saxifraga Bursariana* and hundreds of other gems.

Yet it is surprising how many people make scarcely any use whatever of crevices of this kind. I would, of course, not for one moment advocate that all such fissures without exception should be planted, and in an earlier essay on the construction of rocks with regard to effect I have pointed out what fissures should be stopped up; but, generally speaking, I think

difficult to approach after completion of the work and can be planted with greater facility during the progress of the work, as, for instance, the underpart of an overhanging boulder or a deep cavernous recess, whose sides after completion of the foreground would be almost unapproachable. When commencing the general work of planting (after the rocks have been at least roughly completed), the upright fissures or abruptly sloping narrow spaces visible between the stones must at all times be the very first to be dealt with, as the small stones used for filling up the exterior of such a crevice both below and above the plants inserted would form a substantial support to the little plateau thus formed on a higher level, and which could not be planted until after the crevices on a lower level had been properly secured, so as to prevent any possible chance of the soil being washed away when the plants are watered.

As a practical illustration how to proceed with the planting and filling-up of an upright crevice, I cannot, perhaps, do better than describe my own method of procedure. Supposing, then, that the crevice in question is about 2 inches or 3 inches wide and $2\frac{1}{2}$ feet or 3 feet long, I should in this case begin at the bottom by driving a wedge-shaped stone firmly into the ground so as not to project beyond the larger stones on either side. The space behind this wedge-shaped stone is then filled in with the proper mixture of stony soil, which is firmly rammed with a stick. The front part of the crevice is then built up with small stones resting firmly on the stone just referred to and held together by a tough mixture made by wetting ordinary clay, common Moss, and a little soil, and mixing them to the consistency of mortar. As the crevice is thus built up in front, so must the soil and stones intended for the roots of the plants be again filled in behind and firmly rammed. The height to which the crevice should be filled in this manner before the plant is inserted must, of course, depend on the nature of the plant to be used and the room it would require to develop its full beauty. Let it be supposed then that, in this case the plant selected is *Androsace sarmentosa*, and that the crevice has been built up to the height of at least 15 inches above the ground before the plant is inserted sideways. Small stones are then wedged in on each side of the rosette of leaves, but so that, though the plant is firmly held in front, there would be plenty of room behind for the roots to descend. When the plant is thus secured the remaining part of the crevice above the plant is built up in precisely the same manner, but care must be taken to use small stones only, which would rest on the stones at each side of the plant and not on the plant itself, and which would leave between them miniature channels through which the water could percolate to the roots of the plant below, but which would not be wide enough to allow the soil to escape. When in this manner another foot or so above the first plant has been filled up, a second plant of the same or another kind may be inserted sideways in the same manner and the crevice again filled up above this, so that the water can readily percolate.

The second illustration (No. 2) shows *Saxifraga longifolia* planted sideways on this principle. It will readily be seen that if the stones filling the crevice above the plant were not placed longitudinally (i.e., in the same direction as the crevice), rain water could not penetrate these fissures so readily, and death from drought would probably be the fate of the plant. When the filling up and planting of a vertical or abruptly slanting fissure have been completed,



No. 1.—Houseleeks and other plants growing sideways in upright fissures.

number of *Primulas*, and scores of other varieties, to say nothing of choice Ferns, for all of which no better place could possibly be found. But if these abruptly sloping fissures occur on the sunny side, we may choose from a legion of varieties which would be suitable to fill them to advantage, especially plants having their leaves arranged in the shape of a rosette. We have neat kinds of *Sedums*, *Saxifrages* and *Sempervivums* by the hundred, and the illustration (No. 1) shows Houseleeks and other plants luxuriating in such a position; we have *Androsace sarmentosa*, *Umbilicus chrysanthus* and *U. spinosus*, the lovely varieties of *Edraianthus*, many dwarf *Dianthus*es and an abund-

it would be a step in the right direction to embellish such fissures with suitable plants far more extensively than has hitherto been the case. Care must, of course, be taken, especially in the select part of the rock garden, to choose only such varieties as are not likely to become too crowded, but which will flourish in the same position for years without injury to each other.

When constructing a rock garden, I make it a practice to leave all upright or abruptly sloping crevices open till the time of planting, when the filling-up might be done in a way suited to the special requirements of the plants used. An exception is made with places which would be

all projecting small stones should be driven in with a hammer until they are flush with the larger stones and the whole appears like a mass of solid rock.

That after planting a good watering should be given, and that this must not be performed during bright sunshine are rules of such an elementary character that not even the most inexperienced amateur is likely to make a mistake in that direction. F. W. MEYER.

Exeter.

(To be continued.)

ORCHIDS.

ONCIDIUM LOXENSE.

THIS has only been introduced once in a living state, and that was by Mr. Sander, who received some plants from Edward Klaboch about ten years since. I do not think it has ever before or since been imported alive, so that "H. E." may take it for granted it is by no means a common plant. It is said to make a branching panicle of flowers upwards of 12 feet in length, although I do not think it has produced one in this country more than 7 feet long. The plant was first named by Lindley many years ago, and he includes it in the section *microchilum*, or small-lipped species. This plant, although it agrees with the small-lipped section in its habit of growth, by no means depends for its beauty upon its sepals and petals, for it has a large and handsome lip. I have seen but three plants of this species in bloom, but all three have been different varieties, differing principally in the intensity of colour in the lip. A flower from the late Mr. Wyatt's collection before it was dispersed was by far the richest and best I have seen, the sepals having a greenish-yellow ground, barred transversely with brown; the petals rich chocolate, saving the extreme tips, which were of a fine rich yellow; the lip large, thick, and fleshy in texture, and rich deep golden yellow, dotted with red at its base. The other plants had paler coloured lips and less bright sepals and petals, so that though the plant appears to be somewhat restricted in its distribution, there does not appear to be any want of variety. It comes from the neighbourhood of Loxa, in Ecuador, and grows at from 6000 feet to 9000 feet altitude in the mountains, so that it will thrive well in the *Odontoglossum* house. It does not require any rest by drying, although much less water is necessary in the winter season, but at all times the water should be kept from the young growths.

WM. HUGH GOWER.

Calanthe colorans.—"J. P." sends this for a name. It is one of the evergreen section, and appears to be very nearly allied to *C. veratrifolia*, from which species I at once distinguish it by the yellow crests of the lip and by the blade of the lip, which changes to an ochrous colour with age, characters which *C. veratrifolia* is quite devoid of. Like *C. veratrifolia*, it is suitable for growing in a mixed stove with other ornamental-leaved plants. *C. colorans* likes shade, and to be potted in a mixture of loam and peat with plenty of root room. At this season of the year its pure white flowers are very telling. I think this is still a rare plant in collections.—G.

Aerides Lawrenceæ.—I have just received a very fine spike of this, which was named in honour of Lady Lawrence, of Burford Lodge. The plant from which the flowers sent were cut is carrying four other spikes, and in this state it must present

quite a gorgeous appearance with its enormous wax-like fragrant flowers of a pure white, tipped with rich amethyst-purple, having the spur tinged with green at the tip. It is just ten years ago since this plant was introduced from the Philippine Islands by Mr. Sander, and we are told that *Phalænopsis Sanderiana* and *Vanda Sanderiana* are found on the same tree as the plant here referred to.—W.

Catasetum Bungeorothi Pottsonianum.—A flower of this beautiful variety of this fine species comes to hand from M. Linden, of Brussels. The sepals are white, faintly dotted with rose, the broader petals being suffused for about a third of their length from the tips with clear rose and profusely dotted with the same colour over their entire surface. The large ivory-white lip is stained with orange at the mouth of the cavity of the spur, and dotted with rose colour in the centre. It is a remarkably handsome and a rare variety, well deserving the attention of growers of these plants.—G.

Cattleya O'Brieniana.—This is a beautiful flower. Having a flower before me sent by Mr. Sander, of St. Albans, who first imported the plant, I am enabled to see its beauties under more favourable circumstances. At first sight the bloom resembles a good variety of *Cattleya Lodigesi*. It measures upwards of 4 inches across, the sepals and petals being of a beautiful soft satiny rose; lip three-lobed, the side lobes white, tinged with satiny rose at the rounded tips, front lobe white, marked near the end with the same soft colour as the petals, and veined with bright rosy purple.—G.

Oncidium Jonesianum.—A fine spike of this very attractive species comes from Mr. Sander, of St. Albans, who says, "We have a fine lot of this species flowering now." It is one of the most beautiful and showiest species in the genus, forming long racemes of flowers, which are individually upwards of 2 inches across, the sepals and petals large and broad, creamy white, profusely spotted with bright chestnut; lip three-lobed, the side lobes having an auricle of golden yellow on each side of the upper part, the lower rounded portion being white, dotted with chestnut; the broadly oblong blade is pure white, with a few scattered dots of chestnut.—W.

Stanhopea platyceras.—I am in receipt of a letter from Mr. Lidderdale, of Berkhamsted, telling me that seeing I had stated in an article in THE GARDEN recently that I knew of but one plant of this species in the country, he had two coming into flower in his collection and inviting me down to see them. On account of my absence from home I could not avail myself of the opportunity to renew my acquaintance with this fine broad-horned species, which was introduced from New Grenada by the Messrs. Low, of Clapton, nearly thirty years ago. I am glad to find this genus increasing in popularity with the various growers of Orchids in this country.—W.

Catasetum macrocarpum.—"H. C. T." sends a remarkably handsome form of this Orchid for a name. This plant has several names, amongst them being *C. Claveringi* and *tridentatum*. Whether these have been given to various forms or not I cannot say, but they are accepted as synonyms of *C. macrocarpum*, and so I give them here. The flower is large, the sepals and petals large, having a ground colour of greenish yellow, almost entirely covered with bright chocolate-brown; lip large, bright golden yellow on the outside, the inside spotted with reddish crimson; the point of the spur of the lip on the outside tipped with green. No wonder these plants are again coming into favour, for "H. C. T." says he has seventeen of these gay flowers open or opening.—H.

Dendrobium Phalænopsis.—"R. F." sends me some flowers which he says are from a plant imported before the name *Schroederianum* was ever thought of for this species, asking what I think of them. The sepals and petals are of a warm purple, and the lip of a deep rosy purple veined with deep crimson. It is a very beautiful form of the species, but for size of bloom, as I have seen the

variety called *Schroederianum* growing with Mr. Sander, the flowers now before me will bear no comparison. Mr. Cypher, of Cheltenham, also told me some time ago that he had the plant with growths much finer than it makes in its native country, so that we may expect something good later on.—G.

SHORT NOTES.—ORCHIDS.

Habenaria carnea, which reminds one in general expression of *H. militaris*, is in flower in Messrs. Sander's nursery at St. Albans. The flowers are much larger, however, than those of the brilliant scarlet *H. militaris* and of a very delicate flesh colour.

Catasetum cernuum.—"R. C. F." sends me a flower of this species, saying it resembles that of *C. Christyanum*, which has the sepals and petals deep chocolate-brown and a purple fringe to the lip. In *C. cernuum* the flowers are green, spotted with purple. I have had this species with as many as twelve flowers on a spike, and I have no doubt my friend's plant is very interesting with three spikes of bloom, although it is not one of the showiest kinds.—G.

Odontoglossum grande.—F. Wilkinson, of The Gardens, Highlands, Minchinhampton, sends me a grand spike of this plant having eight of its large flowers upon the scape. I think I have seen the same number upon one or two occasions before, but it is not usual by any means. I have had it with five and six blooms on a scape, but if we could perpetuate such a grand free-flowering variety as that which Mr. Wilkinson has, it would be a decided acquisition.—W. H. G.

Masdevallia Harryana armeniana.—From Mr. Seeger, of the Orchid Nurseries, Dulwich, come several varieties of this fine plant, but the form here noted strikes me as being the most noteworthy amongst the whole lot. The flower is of good size and shape, having the points of the lower petals turned inwards, the colour being a beautiful shade of deep rich apricot with streaks of fiery red, the throat being bright light yellow. What a pity the flowers of these plants do not last longer in water when they are cut.—W. H. G.

THE FRUIT CROPS.

NORTHERN.

Newton Hall, near Chester.—The fruit crop in this neighbourhood is very satisfactory so far. Strawberries were very good, but very soon over. Raspberries and Red Currants very good. Gooseberries were abundant; not quite so large this year, but very good. Apples Keswick Codlin and Lord Suffield are doing well. Some trees of the late sorts are better than others. *Mère de Ménage*, Potts' and Dumelow's Seedling are carrying good crops. I have just seen two trees of the Jargonelle very heavily laden with fine fruit. Other sorts are very good here, especially Marie Louise. Damsons are not so heavy this year as I have seen them; the trees bloomed well and set their fruit, but most of it dropped off. Plums were blighted a little in places, but the Victoria seems to be the heaviest cropper. I have not noticed so many green and black fly or caterpillars about this year. Roses here have been very clean.

Vegetables have done well with the exception of Onions and Cauliflowers. Onions were troubled very much with the maggot. My ground is very heavy, but it is trenched and liberally manured, and the season has suited it well. Some of the Onions measure 10 inches in circumference, and altogether the best crop I have had. Peas were very good, not quite so tall, and coming in very quick. Scarlet Runners are doing well with a little attention as regards water and mulching. Carrots are doing well. Potatoes are looking well. The early sorts were very clean and bright skinned

and of good flavour. No sign of disease.—R. WAKEFIELD.

Wythenshawe, Northenden.—Apple trees flowered most profusely, and the weather being favourable, there was an abundant set of fruit. A large proportion of it has prematurely fallen, which is no doubt attributable to a deficiency of moisture at the roots. There is, however, sufficient left on the trees to form a good crop. Lord Suffield, Cellini, Keswick Codlin, Wareham Russet, Alfriston, Lewis's Incomparable, Old Hawthornden, DAMELOW'S Seedling, Stirling Castle, Lord Grosvenor, Grenadier, Lane's Prince Albert and Greenup's Pippin are bearing the heaviest crops of the culinary sorts. Summer Thorle, Ribston Pippin, Irish Peach, King of the Pippins, Cox's Orange Pippin and Sturmer Pippin are the best of the dessert kinds. There was a great deficiency of Pear bloom both here and in this district generally. This applies to both wall trained trees and standards. Some sorts, such as Beurré d'Amanlis, Citron des Carmes, Williams' Bon Chrétien, Louise Bonne of Jersey, Green Chisel, Beurré Superfin, Autumn Nelis and Autumn Bergamot flowered freely and are now bearing a fair crop; there is, however, a scarcity of the later and most valuable sorts. Casting of the fruit has not been so prevalent amongst Pears as Apples, except in the early stages of growth. Cherries, both dessert and cooking kinds, have been abundant. I have never seen better crops nor finer fruit on standard Morellos than this year. Plums and Damsons were one sheet of bloom and the fruit set very freely, but owing to the scarcity of rain to wash the foliage and moisten the soil, the trees were attacked by aphids, which has seriously crippled the young growth and caused a good deal of the fruit to drop off. Gooseberries were a very heavy crop. Owing to that fact and the dryness of the soil, they have been smaller than usual. They were badly attacked by aphids, and in some instances by caterpillars, which have given some trouble to eradicate. Currants, both Black and Red, have been very plentiful, and in moist heavy land the individual fruits have been of large size. Raspberries are a very good crop, but generally of small size, except the earliest fruits. Strawberries did not flower so freely as they sometimes do, but there was sufficient to have produced a good crop had the season been favourable to their growth. On heavy retentive land the first fruits swelled to an average size, but the later ones were much smaller than usual. On light sandy soils, which quickly gave off the moisture, not only the fruit, but also the leaves were very much shrivelled. To anyone who might be in doubt as to which was the most suitable kind of land for Strawberry culture, he would have an object lesson this season that would be most convincing. All small fruits, except such as were grown in specially favourable situations, have been below the average size, but none of them have suffered so much in this respect as Strawberries. There have, however, been two gratifying circumstances, namely, that the fruit was excellent in flavour and that there has been comparatively little loss from damping off, facts which, in my estimation, more than counterbalance any deficiency in quantity.

The vegetable crops, considering the dry weather, are looking remarkably well. A good many Cauliflower plants have been destroyed by maggots attacking the roots, and Celery is not so large as it usually is at this time of year. Potatoes never looked better, and the earlier sorts are yielding most satisfactory crops of well-flavoured tubers. Our total rainfall for the first six months of the year was 8.44 inches; the average for the same period of the last twelve years 12.95 inches.—W. NEILD.

Aldin Grange, Durham.—Here in the north the drought did not affect us as it did in the south. The wonderfully fine spring gave us an abundant set of almost all kinds of fruit indoors and out. Strawberries were a good crop. Raspberries unusually abundant; also Gooseberries and Currants. Apples and Pears are quite above the average, and in most cases a heavy crop. Jargonelle Pears are as large now as I have some-

times seen them in September. Altogether it is one of the best seasons we have had for many years, a light hay crop being about the only thing we have to complain of.—W. A. JENKINS.

Seaham Hall, Co. Durham.—The rainfall has been over 7 inches this year. Bush fruit is about the average. Strawberries suffered the most, and part of the Apple crop dropped owing to the dry weather. The Codlin sorts have a fair crop, but others are poor. Pears, especially the Jargonelle, have a good crop. Cherries suffered. Peaches are not grown here, as they do not ripen.

Potatoes look very promising, but lately I found several diseased. The vegetables look well, especially the Peas, but Carrots have the grub. Field Potatoes promising.—R. DRAPER.

Underley, Kirkby Lonsdale.—Bearing in mind the wet useless year of 1892 and severe winter with us, we entered the present year with rather a gloomy forecast. February was a very wet month; then March brought glorious weather, spring coming in with leaps and bounds, giving every promise of an early season. There was a remarkable absence of frost. Strawberries began flowering in April. Some varieties did not set well, but on the whole we had a grand crop, which I account for by the common sense system of management of keeping the spade from among the roots and mulching early. We commenced the season out doors the first week in June with that excellent early variety John Ruskin, then came Sir Harry, Dr. Hogg (a grand old sort), Sir J. Paxton, and lastly Oxonian. Noble is a failure with us. Apples are a splendid crop, some varieties bearing that have not had any on for years. Amongst the constant bearers I must mention Keswick Codlin, Northern Greening, also New Northern Greening, an improvement, Annie Elizabeth, King of the Pippins, Lord Suffield, Stirling Castle and Fearn's Pippin. This year Golden Noble, Grenadier, Ecklinville and Hawthornden are bearing well. The fruits are larger now than they were last year in autumn. Pears on walls are a light crop; they were much infested with caterpillar, which caused a lot of hand-picking. Marie Louise does well. Plums Victoria and Kirke's Green Gage on walls an average crop. Standards are a failure owing to bullfinches taking the buds. Peaches under a case are a good crop, particularly Early York, Hale's Early, and Princess Dagmar, while Lord Napier Nectarine is also good. Cherries a good crop. Bush fruits good and clean. Gooseberries a heavy crop, especially Whinham's Industry and Warrington. The caterpillar was a pest, but got rid of with persistent pickings and dustings of lime.

Vegetables generally have done well. Cauliflowers are our biggest failure, so many blind ones. Onions transplanted early in March are a fine crop. Peas have done well; William I. sown in February was ready the last week in May, quickly followed by Jubilee. Early Potatoes did well, and late ones look healthy. Everything is a month earlier than usual; the much-needed rain came at the end of June, and crops have improved amazingly. Ours is a light gravelly soil.—W. A. MILLER.

Abney Hall, Cheadle.—As regards Apples and Pears, they are first-rate. As to Apples, for a week or two they have been at this early season for the district fit to use for tarts, and it is a great relief to the trees to have the fruit thinned, as those left are swelling up finely after the rains. Judging from memory, it used to be about the first or second week in August before we began thinning the Apples, so we are about a month earlier this year. As regards Plums, the crop is not so heavy, and the dry, hot weather has favoured the attack of aphids. The Czar on the wall, however, is now almost ripe. Small fruits upon the whole have been good. Gooseberries are the heaviest crop I have yet seen in this place, but, owing to the dry weather, the red spider has been very hard on some of the bushes. Where the ground was poor the spider was worst, and where the bushes had a good top-dressing of manure the spider has had least power and the fruit has been

best. Of Strawberries we have had fine fruit, and we still grow President for a main-crop. There is nothing, I find, like young runners for producing fine fruit.

In reference to vegetable crops I am able to report favourably. To begin with, and it is a good item, we never had better Peas, nor so early. The earliest sorts were William I. and American Wonder. The former is the best; still, under certain circumstances, the latter has some good points in its favour. For instance, early in the year when sparrows devour the "Pea green" whenever they can get at it, American Wonder could be started, as we did it, under glass. I planted it out, staked it with small sticks, and then threw a net over the bed, which kept the birds off till the pods were ready to gather. Our best main-crop Pea is Ne Plus Ultra, and no Peas needed to have done better than ours. On the main stems I have counted as many as twenty to twenty-four pods, not counting the laterals, which had on them as many again. On good ground with tall sticks and rows 6 feet apart they crop splendidly, and when on the table they are first-rate. Cauliflowers have not done quite so well. The dry, hot weather has favoured grub at the root, and the heads have not been so good. Potatoes have been early and good. We got Early Puritan on May 29 from the open ground, which is about a fortnight earlier than usual here for the first dish.—ROBERT MACKELLAR.

Caldy Manor, West Kirby, Cheshire.—The sub-soil of this district consists chiefly of the red sandstone, very porous, hence the soil is very light, consequently the exceptionally dry spring and summer have been very much against the cultivator in this neighbourhood, especially so with regard to small fruits. Apples and Cherries are the only crops that are above the average. Trees are making good healthy growth. Plums a light crop. Trees on walls, having been well seen to with pump and hose, are clean and making good growths, but in orchards, where time cannot be given to them, the trees present a miserable appearance, all growth being checked by green-fly. Pears light crop, but good in quality; trees vigorous and commenced to grow very early in the season; equally so in orchard and on walls. Figs average crop; trees very healthy. Peaches consist of young trees only nine months planted, consequently not in bearing yet out of doors. Raspberries average crop, good in quality, plants vigorous, making unusually long growths. Gooseberries not an average crop and fruit small; trees attacked with red spider and green-fly; caterpillars appeared very early and required strict attention to keep them under. Black Currants a complete failure. Trees and crops looked remarkably well in spring, fruit setting and swelling to the size of small Peas, then dropping off, with many of the leaves also. Red Currants light crop, poor in quality; trees attacked with fly. Strawberries: Noble exceptionally heavy crop, large in size and of good flavour, which this variety generally lacks. President and Vicomtesse Héricart de Thury fair crop, the latter small in size. Sir Charles Napier and Sir Joseph Paxton almost failures, all treated the same, mulched and well supplied with water from hose pipe. The first dish gathered from open break on May 25, variety Noble, being one month earlier than in 1892.

The season of 1893 will be long remembered here for the early dates on which the first dish of each kind of vegetable was gathered for the table, and for the short time many of them remained in good condition for use. Peas were excellent the early part of the season, especially so Exonian, Duke of Albany, and Telephone, and gave good returns up to the end of June. All about 2 feet shorter than they usually are, came into bearing much sooner, and did not give the quantity nor last so long as they do in ordinary seasons. The very hot sun of July brought thrips in its train, and Peas in bearing at present are infested with them. The only one variety that is free of them and in a healthy condition is Autocrat, which promises to be an excellent dry-weather Pea. I may state that the seed was sown in prepared

trenches (much in the same way as for Celery), mulched, but not watered. Beans, kidney, are doing remarkably well, bearing enormous crops, especially Smythe's Hybrid, beyond anything I have seen. Runners are also promising well, just coming into bearing. Early Broad Beans did well, but are now attacked with thrips and present a miserable appearance. Early Potatoes were of excellent quality, but the crop was light and many small tubers; second earlies are also small and good, but the late crop promises well since the rain on the 8th and 9th ult., and we look forward to good crops free from disease, which has not appeared so far. Marrows, Tomatoes, and ridge Cucumbers growing and fruiting well. Turnips, Spinach, and Radishes are very unsatisfactory crops in our light soil this season; Onions also disappointing, being attacked by the Onion fly. Cabbage an excellent early crop, much appreciated because of its being so early. Cauliflowers not satisfactory, many of the plants dying from the attacks of the fungus that is so often troublesome in light soils. Broccoli, Brussels Sprouts, and other winter crops are looking well since the rain. Carrots, Beetroot, Parsnips, &c., looking well. Asparagus was early, but it is a crop that does not grow well here from the effects of the very high winds we get off the Irish sea.—WM. NEISH.

Appleby Castle Gardens, Appleby.—Apples are a very good crop, and of large size for the time of year. Pears very poor. Plums good crops (on the walls some trees suffered when in full bloom with the 12° of frost we had one night); upon the whole they are good. Apricots and Peaches poor on the open wall. Currants, Gooseberries and Raspberries very heavy crops. I have not seen such crops for many years. Strawberries very poor, almost burned up with the dry weather we had.

Early Cauliflowers suffered very much from the exceptional season through which we have passed. The later crops are good; all other vegetables are looking very well. Peas and Potatoes are especially good.—DAVID LESLIE.

Warter Priory, East Yorkshire.—Considering the long drought we have had here, the fruit crops are fairly good, and quite a month earlier than last year. Apples, cooking kinds especially, are a good average crop; dessert kinds rather below average, but fruit very fine. Pears fairly good average, Beurré Giffard and Jargonelle being the best; these two kinds are remarkably good. Apricots and Plums are very good indeed, and required a good deal of thinning. All kinds of bush fruits a good average crop and very fine, especially Black Currants. Strawberries average crop, but soon over. Morello Cherries good average; no dessert kinds grown outdoors.

Vegetables have been almost a failure here, with the exception of Potatoes, which are better than usual and free from disease at present. Cauliflowers and Carrots a total failure. Onions are growing now since the rain, but at one time they looked very bad. Shallots very bad, full of grub. Peas, early kinds very good, but had it not been for one good row of Sharp's Queen our main crop might have been counted a failure, the other kinds being very poor. Has any reader of THE GARDEN found this variety do better than others this dry season?—A. F. PIKE.

Donisthorpe House, Moortown, Leeds.—Strawberries, Raspberries, and Gooseberries heavy crops. Plums, Apples, and Pears light crops.

Vegetables of all kinds extremely good. We have not suffered from the extreme drought as other parts of the country have done. In this garden we suffered very little, from the fact that we manure the land heavily with horse manure, no cow manure, except as top-dressing to Strawberries and Raspberries, being given, and we take care it is in a moist condition when used.—S. WHITE.

Crofton Hall, Wakefield.—We have a heavy crop of Apples, Keswick Codlin, Lord Suffield, Old Cockpit, and Emperor Alexander being very heavily laden; other sorts good crops. Pears a fair crop. Plums are an excellent crop, especially on walls. Gooseberries have been an enormous

crop, and other bush fruits have done well. Strawberries were a poor crop owing to the drought. I think this the best fruit year in this district since 1887.—CHARLES WATTS.

Cusworth Park, Doncaster.—Considering the dry spring (we had three months without any rain), our garden looks well. Apricots a good crop. Peaches and Nectarines a good crop. I gathered first dish of Peaches from open wall on July 7. Plums and Pears very heavy crops on both walls and standards. Apples very heavy crop. Cherries moderate. Small fruits good crops, except Black Currants, which were only light. Strawberries a good crop. Walnuts very heavy crop; Filberts and Cobs good.

Vegetables of every description are good. We had to water both trees and crops every day in the spring, or we should have had quite a failure.—G. A. KEYWOOD.

Aldenharn Park, Bridgnorth, Salop.—The fruit crop in this district taken on the whole is the best that I have seen for the last sixteen years. Here all fruits are as near as possible a month earlier than in any previous year. Apricots were very plentiful, and were all gathered by the end of July. This season, strange to say, I have not lost one branch, not even from the Moorpark. Peaches, Plums, and Nectarines are good and ripening well. Strawberries were much better than usual, especially Noble. Gooseberries and Currants bore heavy crops, but towards the end of the season the bushes were badly attacked by caterpillar and red spider, which I fear will be against their well-doing for another season. Apples and Pears when in bloom looked more promising, but as the fruit was setting, dry frosts and cold winds at night caused many of the young fruit to drop off, and most of the trees (especially where exposed) looked brown and sickly. The down-pour of rain which fell on June 14, though only falling for seventy-five minutes, added 2.08 inches to the rainfall of that month. This seemed to thoroughly cleanse the trees, and they are now looking healthy, and bearing in most cases good average crops. Morello Cherries are finer than I ever remember, but the wasps have taken full possession, and I fear will soon shorten the supply. The Morello, when it can remain on the tree till it becomes almost black, makes a very handsome dish for dessert, and is much liked.

Vegetables in general are good with the exception of late Peas, which are badly affected with mildew. Potatoes in many places are showing signs of disease.—F. CANNING.

Chetwynd Park, Newport, Salop.—The fruit crop generally is under average. The soil is very light and sandy in this district; consequently this most exceptionally dry season has been very trying. Small fruits generally have been very good. Strawberries suffered most, early ones burnt up, later ones good. Gooseberries lost a good deal of foliage from spider, but Currants a heavy crop and bushes healthy. Apples and Pears much under average, after a most promising blossom. The trees are all looking healthy and clean now, but were much infested with caterpillar early in the season. Plums only moderate; Victoria, Early Orleans, and Gages are the best. Apricots a good average crop. Everything has been quite a month earlier.

Kitchen garden crops are looking well now, but I have had great losses among spring-sown Cauliflowers, and Peas have not filled well.—N. SHERWOOD.

Teddesley Park, Penkridge, Staffs.—The Apple crop in this part of the country is very variable, some kinds only half a crop, while others are a failure. Keswick Codlin, Lord Suffield, Cellini and King of the Pippins are heavily laden. All trees bloomed splendidly, but cold, dry easterly winds greatly reduced the fruit prospects. Pears are a light crop. Plums are a heavy crop, so much so that they require thinning. Peaches and Nectarines a poor crop. Early Beatrice has been the best. Apricots good. Strawberries a good crop and of fair quality. Raspberries good, but small, owing to want of rain. Gooseberries and

Red Currants a heavy crop, though somewhat small. Black Currants fair—a very short season for small fruits. Morello Cherries fair crop, but they dropped badly when stoning. Damsons under average. Walnuts a poor crop.

All vegetables have suffered more or less from the dry season. Cauliflowers especially have been very poor. Peas have stood fairly well here, having been grown in a cooler part of the garden. Runner Beans have dropped a great many of the first blooms. Early Potatoes are turning out better than was expected. Late Potatoes are looking remarkably well with no sign of disease.—F. CLARK.

Kirklevington Hall, Yarm, Yorks.—The fruit crops in this neighbourhood are very good with the exception of Strawberries, which suffered from the drought. Apples and Pears are a very good crop. Plums very heavy. Cherries above average. Gooseberries, Black and White Currants and Raspberries are very fine and heavy crops. Apricots are thin, but good in quality.

All vegetable crops are as good as I could wish, and three weeks earlier than usual.—ALEXANDER CUNNINGHAM.

Combermere Abbey, Whitchurch, Salop.—Small bush fruit, such as Currants (Black and Red), Gooseberries, and Raspberries, in this garden have been very heavy crops and of good size. Apples, on the whole, very good; Lord Suffield, Ecklinville Seedling, New Hawthornden, Stirling Castle, Ribston Pippin, Cox's Orange Pippin, and several others very heavy and finer than usual at this time. Apricots on walls, Morello Cherries, and Plums tremendous crops. Pears good on walls, but rather smaller than usual in the borders through a long spell of dry weather. Damsons here are very scarce, but I believe the crop in the neighbourhood is fair, but not up to the average. Apples in orchards I hear are small, especially on old trees.

Vegetables have been scarce and of poor quality in this neighbourhood.—N. E. OWEN.

Greystoke Castle, Penrith.—Apples, Plums, Cherries, Gooseberries, and Raspberries very good crops. Strawberries and Pears medium crop. Inside fruit, such as Grapes, Peaches, and Nectarines, extra good. Figs medium crop.

Vegetables are remarkably good in this district with the exception of Onions, which seem to be quite a failure.—CHAS. MILNE.

Burton Constable, Hull.—Apples average, good. Pears under. Plums good and plentiful. Cherries over. Peaches and Apricots over average and good. Strawberries heavy crop, but the dry weather made a very short season. Small fruits average. Nuts average. The long-continued drought very seriously affected all small fruits except Gooseberries. The promise was very good for Raspberries, but only about one-tenth ripened. Apples have not looked so good for years, or the trees so clean and healthy.

Potatoes are splendid, both early and late, with no appearance of disease.—THOS. LAMBERT.

Waterdale, St. Helens.—Fruit and vegetables around this district are looking exceedingly well after such an exceptional season. No doubt we have benefited by our deep clay sub-soil. Peaches, Nectarines, and Apricots are not grown outside. Of Apples and Pears only a few suitable varieties are grown which are very satisfactory. Cherries cropped well, but small; Morellos very good. Plums and Damsons average crop. Strawberries with a good supply of water have been grand both in quantity and quality; the most suitable varieties are Vicomtesse Hérisart de Thury, President, and Sir Joseph Paxton. Red, White, and Black Currants had plenty of fruit on, but poor in quality, being overrun with spider and fly. Gooseberries the same. Raspberries plentiful and good where a supply of water was at hand, but otherwise poor.

Vegetables all round are very satisfactory, particularly so where the system of deep cultivation is carried out. Potatoes are very largely grown, the early sorts being good both in quantity and quality, but small and free from disease. The rain

just came in time for the main crops, and they have every appearance of producing satisfactory results.—JAMES SMITH.

NOTES OF THE WEEK.

Cuphea platycentra appears to have been overshadowed by showier things for summer bedding, but it is a very charming plant, especially when used as a groundwork, the bed relieved with taller things. The *Cuphea* is in full beauty now, each little bushy plant smothered with small vermillion coloured tubular flowers. Cuttings strike readily in autumn or spring, and the plants may be easily raised in the latter season. Against many plants used in summer bedding it is quiet, but when disposed as mentioned it has a very pleasing effect.

Rose Comtesse Riza du Parc.—A large bed of this variety is very beautiful at Kew. It is one of the finest of the Tea Roses, the flowers being produced in a large head, rose-salmon in colour, touched with white, whilst when expanded they are white, with rosy margins, so to speak, to the petals. The leafage is robust, abundant, and the plant of vigorous constitution. Even at this comparatively late date for Roses, the plants are in full bloom, and likely to continue so whilst the weather remains open.

Arctotis reptans is a very old garden plant, but one does not see much of it. It is in bloom in the herbaceous ground at Kew, and is sufficiently attractive at this season to justify a note. The plant was introduced from the Cape in 1795, and bears very large flowers, orange in colour, and like those of a magnified Marigold, the shoots creeping or trailing on the surface of the soil, whilst the leafage is of a glaucous shade. Its bright aspect in mid-September suggested the thought that such a plant might be used for edging large beds and as a groundwork to beds filled with other things. The drought seems to have had little effect upon it—just the kind of plant one requires in London parks.

Plumeria lutea is in bloom in the Palm house at Kew. It is a noble plant, but unfortunately not very free-flowering, although when in full beauty it repays for careful culture. The specimen at Kew is several feet in height, the leaves large, very handsome, and rich green, set off with lighter coloured veins. The flowers are borne in a close head and a little over 2½ inches across, of flattish form and tender colour, the segments white, touched at the margin with rose, and the centre is rich yellow. It will scent a large house, the fragrance not unlike that of the Cowslip, but more overpowering. *P. lutea* is quite one of the best of the genus, and was introduced from Peru in 1815. Even when not in flower its leafage is sufficiently handsome to retain the plant in the stove.

Notes from Almondsbury.—Autumnal days after a hot summer are very delightful. Quaint heads emerge from the bare ground, and you discover the *Belladonna* is about to bloom after four years' waiting. *Zephyranthes candida* has a fair number of blooms; the bed is two years old. *Pan-cratiū fragrans* is pushing up a huge scape, the second in two years. Other bulbs are in a very forward state—*Freesias* and *Cyclamens*, for instance, while *Chrysanthemums*, owing to the heat, are very backward with me. I cut down all my *Delphiniums* this year very early, and the amount of bloom now showing is very large. The large-flowered *Anomatheca cruenta* is doing very well. *Crocasmia aurea imperialis* I can do nothing with, whether in a pot or in the border, but nothing gives so great pleasure as *Funkia grandiflora* sub-cordata in my 9-inch pots. I think I shall have about 1400 blooms, as there are from six to eight spikes in each pot, and the fragrance is very delightful. Hardy plants of this race ought to be introduced into our villages, where a good thing is always appreciated. I can assure you we have got

beyond the stage of gigantic Dahlias and Sun-flowers, and a novelty is much sought after.—C. O. MILLS, *Almondsbury*.

Water Lilies and water rats.—"A. H." (p. 215), in writing of the enemies of Water Lilies, does not credit the voles or water rats with all the mischief of which they are capable. Growers of the new and fine hardy hybrid kinds will do well not to trust the rats too much in the neighbourhood of their plants, or they will assuredly attack the leaves as well as the flowers and soon do great damage. Here, where the common *Nymphaea alba* and the *Nuphar lutea* are plentiful enough to allow one to be amused by watching the work of these destructive little animals without fear of the plants being much affected by their attacks, I have seen them swim out to and pluck the leaves from the *Nymphaeas*, carrying them at once to the bank-side. The stem is bitten through about 6 inches from the leaf and is then held in the mouth in a position that keeps the leaf sheer out of the water. The rat then makes full speed to its destination, and as the animal swims deeply enough to be almost hidden, it is rather startling at first sight to see the leaf—sail-like—travelling swiftly over the surface of the water without any apparent means of locomotion. Amusement at the sight would, however, soon be turned to chagrin if this happened to some of the rare and expensive Lilies, so the rats had better be kept under as much as possible.—J. C. TALLACK.

Belladonna and Plantain Lilies.—Two of the successes of a year which has been none too prodigal of its favours are the *Belladonna Lily* and *Funkia grandiflora*, both of which plants are flowering with much greater freedom than I have ever before had them. The former especially is fine, many of the scapes carrying ten, and in one instance at least eleven flowers, and glorious flowers they are, showing that, in common with its near relative, the Jacobean Lily (*Amaryllis formosissima*), it thoroughly enjoys a good baking during the period that passes between the going of the leaves and the coming of the flowers. The flowers, too, are much earlier this year than they are usually. Last year they got spoilt by the 13° of frost registered on the morning of October 26. Very few hardy plants pay better than this for care taken in the selection of a suitable spot in which to plant. Close up to a south wall and with the soil raised slightly above the surrounding level, a full amount of sunshine and perfect freedom from drip, seem to be the conditions which suit it best; in fact, north of London it is useless to plant the bulbs under less favourable conditions than these. The *Funkia* succeeds with similar treatment and is well liked for the delicious scent of its flowers and its handsome foliage, which, however, is very liable to become disfigured by the attacks of slugs and especially of caterpillars, which are only found with difficulty, and probably not till they have done a lot of mischief.—J. C. TALLACK *Livermere Park, Bury St. Edmunds*.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 12.

AFTER the larger display, into which more energy was thrown, at the Agricultural Hall a fortnight back, it could hardly be expected that there would be a large exhibition on this occasion. What was lacking in quantity was, however, fully made up in quality. Orchids were decidedly better, being also shown in larger numbers than a fortnight ago. A show that lasts four days is too long for Orchids, hence the difference. *Cypripediums* in new hybrid varieties were numerous, and amongst these there were several choice and distinct acquisitions. In the floral section there was a beautiful display of autumnal Roses in great variety, constituting in the eyes of many much more interesting and instructive exhibits than when the monster flowers

are *en evidence* at the end of June and early in July. Other features here were the cut specimens of hardy flowers, including cut *Can-nas* from Chiswick, *Phloxes* from Cheshunt, and Dahlias from Swanley and elsewhere, all contributing to make a good display. Choice varieties of cut examples of the grand hybrid forms of the javanico-jasminiflorum group of *Rhododendrons* and *Streptocarpi* were also exhibited from Chelsea. There was also a very fine exhibit of tufted *Pansies*, marvellously fresh, from Rothsay; also a new race of single *Cactus Dahlias*. Fruit was shown in good quantity, and in every way excellent. Several individual dishes of Apples were all that one could desire. To all it was one of the heaviest day's work the fruit committee have had for a long time, in most cases a close scrutiny being absolutely necessary. Amongst vegetables, Onions and a few promising new Potatoes were the chief features. The lecture upon the *Pentstemon* and *Phlox* was well received, the remarks therein being practical and to the point. The small company present, however, points to the fact that many supporters are out of town.

Orchid Committee.

A first-class certificate was awarded to—

CYPRIPEDIUM APHRODITE (*C. Lawrenceanum* × *C. niveum*).—This is a remarkably fine hybrid, and must rank among the very best kinds yet raised, being so distinct. The flowers have the form of *C. niveum*, but the other parent has imparted so much additional vigour to the plant, the flowers being more of the size of *C. Lawrenceanum* with broad petals, the dorsal sepal also extra fine. The ground colour is that of *C. niveum* with faint spots and veings of pale bronzy-purple and the plant bore a twin-flowered spike. From Messrs. Jas. Veitch and Sons.

Awards of merit were voted to—

LÆLIO-CATTLEYA EPICASTA (*C. Warscewiczii* × *L. pumila*).—A decided cross with flowers of the form of those of *L. pumila*, but larger and with the colour to a large extent of *C. Warscewiczii*, the lip being well marked and of a purplish crimson shade, the throat golden yellow on the inner part. From Messrs. Jas. Veitch and Sons.

LÆLIO-CATTLEYA NYSA (*C. Warscewiczii* × *L. crispata*).—This is an exceedingly choice hybrid, very distinct and unusually rich in its colouring; the flowers are large, the sepals being of a pale blush, suffused with lilac; the lip is, however, the distinguishing feature, being of a deep, velvety magenta colour and of large proportions, with the fringe of *L. crispata*. From Messrs. J. Veitch and Sons.

CYPRIPEDIUM LEONE (*C. insigne* Chantini × *C. callosum*).—A grand hybrid, bearing twin flowers on the spike and of fine proportions; the dorsal sepal is unusually long, at least 2½ inches, with a broad white margin, the other colouring being more after that of the last-named parent, brown and green shades predominating; growth very vigorous. From Mr. H. S. Leon, Bletchley Park.

CYPRIPEDIUM CENO SUPERBIENS (*C. cœnanthum* × *C. superbiens*).—With extraordinary large flowers, much larger than in *C. superbiens*, but with its outline, the colour, on the whole, partaking more of that of *C. cœnanthum*, the petals being dark, with darker spots; the pouch also large, likewise the dorsal sepal, this latter being striped and spotted in a distinct manner; one of the noblest of all the hybrids. From Sir Trevor Lawrence.

CYPRIPEDIUM CLOTHILDE MOENS.—This hybrid takes after *C. Leeaanum* in form, being a cross between it and *C. Haynaldianum*. The foliage is somewhat erect; the petals spotted with lilac-purple. The spike bore three flowers; a distinct-looking variety. From Mons. Linden, L'Horticulture Internationale.

A silver Flora medal was awarded to Messrs. Sander and Co., St. Albans, for a group of choice kinds. This group included a grand example of *Aerides Lawrenceae* with three extra fine spikes, long, and bearing large individual flowers. This is one of the finest, if not the finest of all the genus

Oncidium Jonesianum was represented by good examples of culture, freely flowered. Other good things were *Angraecum articulatum*, with medium-sized waxy white flowers, eighteen or more to the spike; *Miltonia Moreliana* with flowers of deep vinous purple; *Habenaria carnea*, certificated at the Agricultural Hall, H. militaris, and *Cattleya Gaskelliana alba*, a pure form with fine flowers. *Oncidium incurvum album*, *Lycaste Skinneri pulcherrima* and a few good *Cypripediums* were also included.

A silver Banksian medal was awarded to Messrs. High Low and Co. for a prettily arranged group which included several plants of *Stanhopea Amesiana*, with large waxy white flowers (this might be termed a white form of *S. tigrina*). *Miltonia Roeziana* and the white variety were shown here, also *Cypripedium tonsum*, a pale yellowish green variety, delicate and beautiful. A singular plant was *Cypripedium Victoria Mariae*, bearing small flowers on an extra stout spike, more curious than beautiful. *Cypripedium Schreoderæ* and *Saccolabium Blumei* were also shown.

A bronze Banksian medal was awarded to Mr. R. J. Measures, Cambridge Lodge, Camberwell, for a collection of hybrid *Cypripediums* that included several distinct and novel forms—*C. Hebe*, after *C. Lawrenceanum*, with darker flowers and even more robust growth; *C. radiosum*, after *C. Spicerianum*; *C. Diana* and *C. picturatum*, each exhibiting signs of the same parentage; *C. Ganesa*, pale yellowish green with very glossy flowers; and *C. Schomburgkianum* (a species).

Other exhibits embraced several cut examples from Mr. Statter, Stand Hall, Manchester, of *Cattleyas*—*C. guttata Leopoldi* (Stand Hall var.), a dense spike of thirteen flowers, the colour unusually dark and freely spotted; *C. Statteriana*, a choice hybrid (cert. in 1892), after *C. aurea*, richly coloured; *C. Parthenia*, a light coloured hybrid with rosy lilac lip; *C. minuca*, another seedling, related to *C. Loddigesi*, but larger; *Laelia elegans* (Blenheim var.), a fine form; and *Cattleya Victoria Regina*, not remarkable for its beauty or size or habit of spike, or, in fact, for its colour; such a name should have been given to something better. Sir Trevor Lawrence, as usual, showed some choice things, *Cypripediums* being this time prominent. *C. conco-lawre*, paler than *C. Lawrenceanum*, with the form of *C. concolor*; *C. præstans glanduliferum*, a remarkably distinct variety with narrow petals, greenish yellow in colour, with bead-like spots of a dark shade, the dorsal sepal being striped with almost black lines on a whitish ground. Mr. S. J. Lutwyche, Beckenham, showed *Lycaste Skinneri* in bloom, one spike bearing two flowers—a vigorous example. Mr. Ingram, Elstead, Godalming, showed *Cypripedium L'Unique*, with small, but pretty flowers of novel form and colour; also *Cattleya Alexandra*, which is a form of *C. guttata*, or nearly allied to it. From the same source came *Cypripedium Adonis*, a hybrid between *C. hirsutissimum* and *C. Curtisii*, distinct in colour. Mr. Elliott, Christchurch, Hants, showed cut blooms of a fine form of *Cattleya Gaskelliana*, and the Hon. Mrs. Foley, Fordingbridge, a finely flowered plant of a *Cattleya* nearly related to *C. Trianae*, if not identical with it, the two spikes each having four flowers. Mr. N. C. Cookson, Oakwood, Wylam-on-Tyne, showed *Laelia Clive*, the seed parent of which was *C. Dowiana* crossed with the pollen of *L. præstans*; the flowers take after the latter in size and form, so also does the growth, the only exception being in the lip, which is large in proportion and resembles that of *C. Dowiana*. It is the result of the same cross as another hybrid named *Laelio-Cattleya Ingrami*, which, raised by Mr. Ingram, received a first-class certificate at the late Temple show.

Floral Committee.

No plant or flower received a first-class certificate on this occasion, but awards of merit were voted as follows to—

DAHLIA CANNELL'S GEM.—A new variety, with remarkably pretty flowers of medium size, and of a dark terra-cotta shade. From Messrs. Cannell and Sons.

SINGLE DAHLIAS.—*Phyllis*.—A light ground colour, suffused with lilac and marked with dark crimson blotches and stripes, very showy. *Demon*.—An intensely dark velvety maroon self, distinct and rich in colour. *M.C.C.*—A large flower, golden ground colour, striped and blotched with dark orange, a fine variety. *Golden Locks*.—A pale lemon-yellow self. All coming from Mr. T. W. Girdlestone, Sunningdale.

ROSE ADELINA MOREL (Noisette).—A lovely miniature Rose, quite a gem in its class, apparently profuse in flower, the colour a rich shade of apricot with lighter markings, beautiful for button-holes. From Messrs. Paul and Son.

PHLOX MOLIERE.—A pale rosy pink with lighter shading towards the centre and a dark eye; flowers large, distinct, and good. From Messrs. Paul and Son.

CANNA QUASIMODO.—A formidable rival to *Mme. Crozy*, of the same character, but of a lighter shade, the truss fine, the flowers large. From Messrs. Vilmorin, Paris.

A silver Flora medal was awarded to Messrs. Paul and Son for a splendid display of hardy flowers, in which the cut Roses in bunches and the single trusses were unusually good for the autumn. The style of showing the decorative Roses in bunches by this firm is most commendable. A lovely plant included in this exhibit was the herbaceous *Clematis Davidiana*, with small pale porcelain-blue flowers; not unlike and of the size of *Hyacinth* blooms, and produced in small clusters close down to the axils of the leaves; the foliage is that of a true *Clematis*, but of more substance. Some good *Phloxes* were included here, as *Granville*, a large blush-white; *Michael Cervantes*, a light form with dark eye; *Henry Marger*, similar, but larger; *Auguste Riviere*, a dark salmon; and *Perle*, a pure white of good quality. Hardy border flowers were represented by *Montbretia crocosmiflora* and *M. Golden Sheaf* (a pale golden colour). *Senecio pulcher* in fine form, *Coreopsis lanceolata*, *Funkia subcordata grandiflora* (too long a name), a beautiful white variety; *Cyclamen hederifolium*, pale rosy mauve; and *C. h. album*, a white form, both lovely autumn flowers. *Crocus speciosus*, a pale lavender-blue variety; *Helianthus Maximilianus*, *Rudbeckia purpurea*, *Gaillardias*, *Asters*, and other *Helianthus* in variety were also included.

A silver Flora medal was awarded to Messrs. W. Paul and Son for a splendid display of autumnal roses, an exhibit of a most instructive character; the flowers of all the popular kinds were of excellent quality and good colour, the best known sorts being drawn attention to by additional bunches stood between the boxes, a large number of which were staged. Would that such exhibits as those from Waltham and Cheshunt were more frequently seen. A silver Banksian medal was awarded to Messrs. Dobbie and Co., Rothesay, for a splendid exhibit of tufted Pansies put up in their characteristic style. The best of these were *Blue Cloud*, *Colleen Bawn*, *Duchess of Sutherland*, *Countess of Kintore*, *Hyacinth*, *Duchess of Fife*, *Goldfinch*, *Edina*, *Favourite*, *Archibald Grant*, *Dawn of Day*, *Bullion*, *Lemon Queen* and *White Duchess*. A fine strain of French *Marigold* was also shown in fine colour. A novelty in this exhibit was the break in single Dahlias, these being of true Cactus type, quite distinct from the ordinary form of singles. A silver Banksian medal was also awarded to Messrs. Cannell and Sons for an excellent exhibit of *Cactus Dahlias*, composed mostly of varieties raised by the firm; the best of these were *Emily Girdlestone*, *Miss Violet Morgan* (terra-cotta and yellow), *Mrs. Douglas*, *Duke of Clarence*, *Maid of Kent*, *Amphion*, *Ernest Cannell*, *Mrs. Keith*, *Bertha Mawley*, *Robert Cannell*, *Oban* (a dark Mrs. Douglas), *Lilacina*, a decorative variety, with lilac coloured flowers suffused with purple, and *Countess of Radnor*. A bronze Banksian medal was voted to Messrs. J. H. Crisp and Co., Clyne Valley Nurseries, near Swansea, for *Asters*, *Vallota purpurea* and *Celosias*.

Other exhibits comprised a splendid boxful of cut javanico-jasminiflorum *Rhododendrons*, hybrids raised at the Chelsea establishment of Messrs. Jas. Veitch and Sons, who never exhibited them in

finer condition than on this occasion, the trusses being of grand size, the flowers of rich and varied colours. Along with these was a boxful of newly-raised hybrid *Streptocarpus* (from seed sown in January last). These were in the colours most decided advances both in the light and dark kinds; the white grounds are perfectly pure, with well defined markings in the throat of each flower; the dark grounds show also the same distinctiveness and purity of colours. From the R.H.S. gardens at Chiswick, Mr. Barron brought up some of the best varieties of the new dwarfier race of *Cannas* that are forming important features in the garden this season; the best of these were *Quasimodo* (certificated by the floral committee) President Carnot, *Jeanne Chartan*, and *Guillaume II*.

Fruit Committee.

There was a considerable quantity of fruit staged, several varieties of seedling Apples, Peaches, and a good collection of Onions from Chiswick Gardens.

First-class certificates were awarded to—

PLUM RIVERS' GOLDEN TRANSPARENT GAGE.—This is a roundish golden-yellow fruit, and a valuable addition to our late dessert Plums. The flesh is firm, juicy, and of splendid flavour. From Messrs. Rivers and Son, Sawbridgeworth.

ONION A 1.—This variety recently received three marks at Chiswick for its size and free cropping qualities, and six large bulbs were now sent to enable the committee to grant the award obtained at Chiswick. It is a large bulb, firm, of good shape, and more globular than other varieties. Sutton and Sons.

POTATO TRIUMPH.—This, a seedling from *Magnum Bonum*, is a splendid variety and heavy cropper, tubers large, white, somewhat oval in shape, and with rough skin, an excellent keeper. It received three marks at Chiswick both for cropping and good cooking qualities. Sutton and Sons.

POTATO WINDSOR CASTLE.—This variety also received a similar award at Chiswick. It has been largely grown, and may be termed a dwarf *Magnum Bonum*. The tubers are pebble-shaped, rather long, flesh white. It is a heavy cropper of splendid flavour. Sutton and Sons.

Awards of merit were given to—

GRAPE CAPE MUSCAT.—A variety of great merit, and though not shown in the best condition, some of the berries being decayed, it possesses considerable value. The berries are large, black, oval in shape, with a decided Muscat flavour. This should make a useful late variety when well grown. It was raised from Grapes received from the Cape. Mr. Weir, Acton Park Gardens, Wrexham.

PEACH DUCHESS OF YORK.—A large pale skinned freestone variety slightly tinged with red on the sunny side. It is a seedling between *Byron Nectarine* and *Lord Palmerston Peach*, but said to be earlier than the latter and to be a heavy cropper. The fruit staged was gathered from trees in a cool house. A dish of *Lord Palmerston* was also sent for comparison. From Mr. Divers, Ketton Hall.

APPLE BARTLETT'S GLORY.—A variety of great merit, somewhat like *Beauty of Bath* in shape and colour, but with rich flavour, firm flesh, and of nice appearance, stated to be in season from December to January. The fruits staged were in excellent condition for dessert, perhaps owing to the unusual season. From Messrs. Brown, nurserymen, Wells.

A very fine collection of Pears, Peaches, Plums, and Apples was staged by Messrs. Rivers. A few very fine varieties of unnamed seedling Peaches and Pears were sent. Some very fine *Lord Palmerston Peaches*, *Grand Duke Plums*, *Comte de Chambord*, *Lebrun*, *Fertility*, *Princess*, *Conference*, *Louise Bonne of Jersey*, and *Beurré Superfin* Pears, *Peasgood's Nonsuch*, *Flower of Herts*, *Cox's Orange*, and *Washington Apples* were also included (silver Knightian medal). Messrs. Laing and Sons, Forest Hill, staged a representative collection of hardy fruits, nearly 100 dishes. The best Apples were *New Hawthornden*, *Blenheim*, *Beauty of*

Kent, Gravenstein, Cellini, Emperor Alexander, Yorkshire Beauty, Peasgood's Nonsuch, and Fearn's Pippin. General Todtleben, Pitmaston, Brockworth Park, Beurré de l'Asomption, and St. Michael Pears were also good (silver Knightian medal). Mr. Payne, gardener to the Bishop of Bath and Wells, staged a grand dish of Peasgood's Nonsuch Apples grown on a south east wall. The tree was planted seven years ago, and the fruit was thinned to sixty-two. This was a remarkable exhibit, each fruit being very fine. It was stated none of the sixty-two fruit was under 1 lb. weight, those sent being nearer 2 lbs. (bronze Banksian medal). A seedling Peach named Late Devonian was sent by Messrs. Veitch, Exeter, but too ripe. A couple of dishes of Barrington Peaches of excellent quality came from Mr. W. Miller, Ruxley Lodge Gardens, Essex. A box of Black Prince and Vicomtesse Héricart de Thury Strawberries (second crop) was sent by Mr. Slowgrove, Gulton Gardens, Reigate, also seven dishes of very good Pears, the best being Doyenné du Comice, B urré Diel and Doyenné Boussoch. Twelve dishes of Pears were sent by Mr. Bannister, Cote House Gardens, Westbury-on-Trym, the best being Durondeau, Pitmaston and Duchesse d'Angoulême. Three varieties of Melons grown in the open air (planted end of July) came from Dr. Emerson, Claringbold, Broadstairs; the fruits, though small, were of good flavour, showing the favourable season for experimenting with this fruit in the open. A very fine dish of Lane's Prince Albert Apple grown on a pyramid was sent by the Rev. J. H. Brown, Bedstone Rectory, Salop. Seedling Apples came from Miss Winckworth, Rochester, also from Miss Lever, Petersfield. Mr. A. Dean, Kingston, sent Shepperd's Seedling Apple. Apples named Monstrous Pippin came from Messrs. Brown, Wells; these were good specimens of Warner's King. Many of the Apples submitted to the committee were local kinds. Tomatoes were sent by Mr. Pitcher, Albury House, Surbiton. From the society's gardens were staged forty-six varieties of Onions grown in the open. Several of these received three marks recently at a meeting at Chiswick, the Southport Red Globe and Yellow Globe being specially noticed as good stocks. The White Southport Globe is useful for immediate use, and the Madeira Globe from Mons. Vilmorin is very fine. Prizetaker, a very fine variety from Messrs. Henderson, New York, is also a grand bulb and with good keeping qualities. Several varieties of Messrs. Deverill's noted types were staged, Cocoa-nut being very good. Messrs. Veitch, Chelsea, have a fine type in their Yellow Globe; this much resembles the Southport variety. Messrs. Carter's Hulborn Onion is of fine growth and very prolific. Messrs. Laxton, Bedford, have several varieties possessing great merits both in size and keeping properties.

The lecture on Pentstemons and Phloxes by Mr. J. Douglas was read by the assistant-secretary, the lecturer being unable to attend. He stated that the Pentstemons were most useful for the flower garden. Pentstemons are readily increased by cuttings, and this last mode of propagation is admirably adapted to obtain large blooms. They like a good deep soil, plenty of food in the way of decayed manure, and moisture during growth. The plants seed freely, and the seed-pods should be removed if not wanted, as they soon exhaust the plants if allowed to remain. The flowers are so readily fertilised by insect agency, that various colours are rapidly produced. But to get good flowers of perfect colour, size and substance combined, the florist does not trust to natural fertilisation, but selects those plants likely to give the best results. Plants are readily raised from seed by sowing in heat in February, pricking out the seedlings as soon as fit to handle into a warm bed, and gradually as growth increases hardening off and planting out in the open the first week in May. They will flower freely in the autumn if planted in rich soil and carefully tended. For herbaceous borders Pentstemons are specially adapted. He advised giving one stake to the centre growth, as this induced the side growths to make more progress and furnish a succession of strong blooming shoots.

The Pentstemon was of great value for cutting, and when used for large vases was most effective.

The Phlox is different from the Pentstemon on account of its hardiness, as it stands our winters uninjured. The lecturer referred to the various forms, their habit, and the great success obtained by selection. With so much crossing the varieties have become much mixed and not vigorous in all cases. With the older forms there are several drawbacks, such as smallness of bloom and want of vigour. Propagation is readily effected. Those who cannot get their stock from cuttings will find it best to divide in early spring, chopping the old stools into pieces and replanting in good soil. By this means varieties are secured that would be lost if raised from seed. Cuttings struck in a hot bed as advised for Pentstemons is the best mode of culture, as by this method specially good flowers are secured the following season. Cuttings struck in spring on a hotbed, choosing young shoots and planting out when hardened off, make good flowering plants by autumn. These also make specially fine pot plants for house decoration, and may be planted out afterwards. Phloxes are also secured from seed, and in such seasons as we have had this year seed is produced freely. This should be sown in February on a hotbed, planting out the seedlings in May 1 foot apart.

Mr. Wilks said that Pentstemons with him were hardy, but needed frequent propagation.

GARDENING AND FORESTRY EXHIBITION, EARL'S COURT.

SEPTEMBER 13 AND 14.

ONE of the best shows held at Earl's Court this season was that of Wednesday and Thursday last, when the chief exhibits were Dahlias, perennial Sunflowers, and fruit.

Dahlias.

The flowers were extremely fine, better even than at the Crystal Palace, and the colours remarkably pure. The largest class was for sixty show and fancy kinds, distinct, and the first prize was well won by Mr. Chas. Turner, who had exceptionally fine blooms, large, clear in colour, and even. We may point out that the best were Mrs. Gladstone, Glowworm, Mand Fellowes, Flag of Truce, Comedian, R. Dean, and Purple King. The blooms of Messrs. Keynes, Williams and Co., Salisbury, who were second, were smaller, but highly finished; whilst Mr. S. Mortimer, Swiss Nursery, Farnham, was a good third. Several competed, and the display was one of the best we have seen this season. The other class for show blooms open to nurserymen was that for twenty-four, distinct, in which the premier award was gained by Messrs. Saltmarsh and Son, Chelmsford, who had very creditable examples of well-known kinds, such as Harry Keith, T. J. Saltmarsh, Rev. J. Godday, Ethel Britton, R. T. Rawlings, and Prince of Denmark. The second place was secured by Mr. Arthur Rawlings, Old Church, Romford, Essex.

In the show section amateurs exhibited splendid flowers, and Mr. J. T. West, gardener to Mr. W. Keith, Cornwall, Brentwood, was highly successful throughout the various classes. He was first for twenty-four show blooms, having smooth, remarkably well coloured flowers. We especially noticed as of merit Arthur Rawlings, R. T. Rawlings, Mr. Glascock, Sunbeam, Lustrous, George Rawlings, Duchess of Albany, and Prince Bismarck. A very good second was Mr. T. Hobbs, Easton, Bristol; but in the other classes the flowers were conspicuously small. The best twelve came from Mr. J. G. Fowler, Glebelands, South Woodford, who had especially fine the lighter coloured flowers, as Mrs. Gladstone and Ethel Britton, whilst those from Mr. W. Hopkins, Bristol, were, if small, very neat and smooth.

One of the principal features of the show was the class for a collection of Dahlias, any types and arranged for effect. The finest arrangement came from Messrs. J. Cheal and Sons, Crawley, who had

a beautiful display, comprising all the leading kinds and many recent novelties. One wants, however, to see such a group at a distance to get the true effect of the various colours. A highly praiseworthy group was that from Messrs. Keynes, Williams and Co., who were second. The leading feature was an arrangement of cork bark, relieved with scarlet decorative Dahlias. Messrs. Paul and Son, Cheshunt, were a good third, but the flowers were small. The most interesting feature consisted of the Cactus Dahlias, and several superb collections were shown. The finest eighteen bunches were from Messrs. Keynes, Williams and Co., and such a lot it would be difficult to beat. Lists of varieties are of little practical value, but we mention the following true Cactus kinds, as they are worth cultivation: Gloriosa, brilliant crimson; Countess of Radnor, Bertha Mawley, Countess of Gosford, Sir Roger, a fine orange-scarlet kind; Apollo, scarlet; Lady Penzance, clear shiniog yellow; Delicata and Vulcan, deep crimson. This type looks remarkably handsome in bold bunches. Messrs. J. Cheal and Sons were placed second, and Messrs. J. Burrell and Co., Cambridge, third. In the amateurs' section the best nine bunches were from Mr. E. Brown, gardener to Mr. W. Morris, Oak Lodge, Horley, who had especially fine the variety Delicata, the true ideal of a Cactus Dahlia, being beautiful in shape and exquisite in colour, shining salmon-rose. The pompon section occupied much space. The chief class was for twenty-four bunches, and the first prize was awarded to Mr. C. Turner, who had very fine flowers, and we are pleased to see that this charming section is not getting spoilt by a desire, at one time prevalent, of getting the blooms as large as possible. Mr. Turner's collection included four novelties of merit—Irene is excellent, the flower white edged with crimson; Clarence, deep maroon; Captain Boyton, of a still darker shade; and Evelyn, scarlet. Messrs. J. Cheal and Sons were second. The beautifully fresh and clean coloured flowers from Mr. J. T. West won him the first prize in the amateurs' division for twelve bunches; the more important kind was Little Julia, a brilliant scarlet flower of great merit. Only one class was provided for single Dahlias, namely, for twelve bunches, and the first prize was won by Mr. T. W. Girdlestone, who had splendid flowers. Very fine were Yellow Satin, rich yellow; Pysche, buff, touched with red; Yellow Dwarf, Ruth, crimson; Demon, a superb variety, the colour intense maroon, set off with bright yellow stamens in the centre; and M.C.C., a large flower, orange with stripes of scarlet. We do not care greatly, however, for the striped flowers

Stove and greenhouse flowers were quite a leading feature. The collection of cut blooms, not less than ten varieties, from Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, was superb. We never remember to have seen a finer collection. The leading things were Hymenocallis macrocephala, Allamanda Hendersoni, A. grandiflora, Nerine Fothergilli major, Ixora Fraseri, Dipladenia Lady Louisa Egerton, white, flushed with rose, and several varieties of Bonvardias. Mr. J. Prewett, Swiss Nursery, Hammersmith, was second, but his exhibit was far inferior. The other chief classes were for Chrysanthemums, Sunflowers, and Michaelmas Daisies. As regards Chrysanthemums, we may mention that twelve very fine bunches came from Mr. E. F. Such, Maidenhead, who had the following varieties in excellent character: Mr. Selby, rose; Filberta, yellow; Golden Fleece, rich yellow; Mrs. J. R. Pitcher and Alice Butcher. For twenty-four Asters, Messrs. Saltmarsh and Sons, Chelmsford, were first, and the flowers were exhibited in bunches, a far better way than having only single blooms stuck on cards; this is most objectionable. Mr. John Walker, Thame, Oxon, was second. The Sunflowers made a great show of colour, the first prize going to Messrs. J. Burrell and Co. for a collection, in which all the leading perennial kinds were well represented, whilst Messrs. Paul and Son were second. Messrs. Paul and Son were first for Michaelmas Daisies, which comprised a most interesting lot of varieties.

Miscellaneous contributions were more numerous than at any show we have attended at Earl's Court. A gold medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a splendid collection of Dahlias relieved with *Eulalia gracillima*. Every type of Dahlia was represented, and a most interesting display was the result. A gold medal was also given to Messrs. J. Laing and Sons, Forest Hill, for a large group of tuberous Begonias, principally the double varieties, arranged in distinct masses according to colour. It was well worthy of this prize. A silver-gilt medal went to Mr. John Walker, Thame, Oxon, for a very fine display of flowers, comprising a large collection of show Dahlias and Walker's quilled China Asters, set up in bunches. Mr. Chas. Turner had a large assortment of show and fancy Dahlias (silver medal). Mr. Mortimer, Farnham, also had a similar exhibit and received a like award. Messrs. H. Cannell and Sons, Swanley, Kent, showed a large collection of Cannas, of which the principal varieties were *Souvenir de Jeanne Charreton*, crimson; *Mme. Crozy*, scarlet; and *Souvenir de Mme. Liabaud*, crimson (silver medal). A similar award was made to Mr. G. Humphries, The Nurseries, Kingston Langley, Chippenham, for Dahlias in various classes, and to Mr. E. F. Such, also for Dahlias. Miss C. B. Cole, The Vineyard Nursery, Feltham, was awarded a silver medal for three vases filled with autumn foliage and berries, a very pleasing association of quiet colours. We may mention also that Mr. W. Salmon, Ivy Cottage, West Norwood, had a miscellaneous collection of China Asters, Dahlias, &c., which gained a silver medal. Bronze medals were awarded to Mr. J. R. Tranter, Hart Street, Henley-on-Thames, for autumn flowers, to Messrs. Saltmarsh and Son for Dahlias, and to Mr. A. W. Young, South Norwood, S.E., for flowers of tuberous Begonias and Gloxinias.

New Dahlias were shown in plenty, but they have for the most part been described in THE GARDEN as having had certificates at other places. This does not pretend to be a complete list, but we may briefly refer to a few of those likely to become popular. The Cactus variety Matchless from Messrs. Perkins and Son, Coventry, is a good addition, the flowers rich maroon. The show variety Mrs. Vagg, from Mr. Arthur Rawlings, Romford, is of note for its smoothness and fine crimson-purple colour. In the same section is the variety Duchess of York from Messrs. Keynes, Williams and Co., the flowers suffused with red-dish rose on a yellow ground. The Cactus variety Lady Penzance, from the same firm, has been already noted. Pompon variety Pomponet, rose-yellow in the centre, and a shapely flower, from Messrs. Cheal and Sons, is worthy of mention. Several of the flowers, however, were far too small, not naturally so, but shown out of condition. Mr. J. T. West had the Cactus variety Mary Hillier, a very beautiful orange-buff colour, one of the true shape; but the kind named Florence Keith is a little too broad in the petals for a true type. Many sterling novelties are described in the report, as in Mr. Girdlestone's collection of singles.

Fruit.

Some very fine hardy fruit was shown, Peaches being specially good; also Pears and Apples. There was a great number of miscellaneous collections staged, these being placed in the main building. Mr. G. Woodward, The Gardens, Barham Court, Maidstone, was easily first for three dishes of Peaches, showing Princess of Wales, Nectarine and Sea Eagle; second, Mr. W. Carr, Croydon Lodge, Croydon, who had very good Grosse Mignonne, Salway, and Princess of Wales. Mr. Edwards, Sevenoaks, was the only exhibitor for a single dish, being awarded second prize. For the single dish of Peaches, Mr. J. Sanders, Poulton Gardens, Ramsey, was first with very fine Sea Eagle. For dessert Apples, first, Mr. Woodward, with very fine dishes of Cox's Orange, Ribston, and Washington; second, Mr. P. Cavanagh, the Convent Gardens, Roehampton, who had good Jefferson, Cox's Orange, and Ribston. In the class for cooking Apples, Mr. Woodward was again to the front with very fine

dishes of Stone's, Warner's King, and Peasgood's Nonsuch. The Pear class was very fine indeed, Mr. Woodward showing a grand dish of Pitmaston, the finest Pears in the show; also very fine Marguerite and Souvenir de Congrès. There was no competition in the class for collections of dessert Plums, and only two collections in the culinary class, Mr. McIndoe being first with twenty-five dishes; second, Mr. Potter, with a smaller collection. In the class for three varieties of dessert Plums, Mr. McIndoe was a good first, having very fine dishes of Transparent Gage, Jefferson and Grand Duke, Mr. T. Hester, Plumstead Common, being second. For cooking Plums, Mr. McIndoe was first with fine Magnum Bonum, Goliath and Pond's Seedling.

Mr. Payne, gardener to the Bishop of Bath and Wells, was awarded a silver medal for a dish of very fine Peasgood's Nonsuch, the same fruit as exhibited at the meeting of the R.H.S. Mr. Poupart, Twickenham, was awarded a silver-gilt medal for ninety dishes of Apples, forty dishes of Pears and a few Plums, the best Apples being Nelson's Glory, Warner's King, Cox's Pomona, Ribston Pippin, Lord Derby, Cellini, Peasgood's Nonsuch and Lady Henniker. The best Pears were Doyenné du Comice, Beurré Bosc, Beurré Clairgeau and Uvedale's St. Germain. Messrs. Spooner, Hounslow, were awarded a silver-gilt medal for a good collection of Apples, the best being Manks, Lord Suffield, Cellini, Duchess Favourite, Pott's Seedling, Councilor, Blenheim Orange, New Hawthornden and Hoary Morning; Beurré Diel, Pitmaston Duchess and Calebasse Pears also being good. Mr. W. A. Hester had a nice collection of fruit and ornamental Gourds. There were very good Beurré Clairgeau, Duchesse d'Angoulême, General Todtleben, Pitmaston Duchess and Doyenné Boussoch Pears; also dishes of Grapes and Plums. Mr. W. A. Trotter, Ledbury, again staged his collection of dried fruits. Mr. Wilkins, Inwood House, Dorset, staged a very fine collection of Onions, and was awarded a silver medal. Messrs. Paul and Son, Cheshunt, staged a nice collection of Apples and Pears. Mr. R. Maher for a collection of Pyrus fruits had a bronze medal. Mr. A. H. Richmond had good Lord Palmerston Peaches (bronze medal). Mr. W. Smith, Harrow, staged good vegetables, having Beet, Gourds, Beans and Tomatoes (bronze medal). Mr. Cavanagh, Roehampton, staged Apples, and Mr. Potter, very fine Calebasse Pears.

A full prize list will be found in our advertisement columns.

The weather in West Herts.—On Wednesday in last week the shade temperature rose to 80°, which, with one exception, is the highest reading that I have as yet recorded here in September. Thursday was also unseasonably warm, but since then most of the day temperatures have been about average. Several nights, however, proved cold, and on Tuesday night the exposed thermometer indicated 2° of frost. About a week ago the temperature of the soil at 1 foot deep had risen to 65°, and at 2 feet deep to 63°, but now stands at 59° and 60°. Rain has as yet fallen on but three days this month, and to the total depth of only about a quarter of an inch. No measurable quantity of rain water has come through either percolation gauge for nearly three weeks. On Tuesday over ten hours of clear sunshine was recorded. It may interest your correspondent, A. White, to know that on the 4th inst. the temperature of the ground here at 1 foot deep was, as with him, 64°. The soil will be found to be, as a rule, at this depth coldest about 9 a.m. and warmest about 9 p.m. The readings I quote in these notes are taken at 3 p.m., or midway between these two extremes.—E. M., *Berkhamsted*.

Two of the finest Cactus Dahlias are Delicata and Lady Penzance. They have been exhibited on several occasions this autumn, and always won admiration. The flowers are of the true Cactus shape, and if smaller than those of the coarse so-called decorative kinds, are refined,

and with the characteristic pointed petals. Delicata is of lovely colour, very difficult to describe adequately, but a kind of salmon-rose, quite a satiny lustre pervading the bloom, and the centre is touched with yellow. Lady Penzance is of a peculiarly soft yellow, almost lemon shade, certainly one of the most beautiful acquisitions to this class this year, and shown on several occasions in splendid condition by Messrs. Keynes, Williams and Co., of Salisbury. In both cases the plants are very free and the flowers produced well above the leafage, unlike the older kinds of this section.

The Flora of Mount Kina Balu, North-West Borneo.—It will doubtless interest some of our rare plant-loving readers to know that Dr. O. Stapf (assistant for India in the Herbarium, Kew) has prepared a very elaborate paper on the peculiar botany of this gigantic mountain. A total of about 400 species of plants is known from this habitat, and of these a very large proportion is new species. The specimens are mostly in the herbarium at Kew, and comprise the collections of Low, St. John, Burbidge, and P. C. M. Veitch, Burbidge on his second journey, and those of the Drs. Ilaviland. When we point out that this great mountain is the only known habitat for the finest of all the species of *Nepenthes*, some idea may be formed of its botanical riches. Here between 5000 feet and 10,000 feet altitude, in a zone of continual cloud grow *Nepenthes Rajah*, *N. Edwardsiana*, *N. Lowi*, *N. villosa* (not *N. lanata* = *N. Veitchii*), *N. Harryana*, *N. Burbidgea*, and several other fine species as yet unnamed. There are also splendid *Rhododendrons*, *Orchids*, and *Ferns* as yet unknown in our gardens. Dr. Stapf's paper is to be published in the Transactions of the Linnean Society, and will be looked for with much interest.

Names of plants.—*T. Abbot*.—*Tetragolobus purpureus*.—*H. Jessop*.—1, *Limncharis Humboldtii*; 2, *Phyllotanium Lindenii*; 3, *Arabia Guiltylei*; 4, *Cissus discolor*.—*H. J. B.*.—1, *Lythrum hysopifolium*; 2, *Solanum Dulcamara*; 3, *Galeopsis Tetrahit*; 4, *Polygonum minus*; 5, *Lychnis vespertina*.—*J. Bacup*.—1, *Odontoglossum Schlieperianum*; 2, *Oncidium Jonesianum*; 3, *Miltonia Schroederiana*; 4, *Maxillaria luteo-alba*; 5, *Philodora imbricata*; 6, *Ornithocephalus grandiflorus*.—*M. M.*.—1, *Clematis coccinea*; 2, *Cuphea jorullensis*.—*J. Campbell*.—Cannot name garden varieties of *Dracenas* and *Crotons*; send them to a grower.—*B.*.—1, *Lælia elegans prasiaca*; 2, *Cattleya granulosa*; 3, *Lælia Dayana*.—*N. Macartney*.—1, *Oncidium longipes*; 2, *Epidendrum nemorale*; 3, *Epidendrum Stamfordianum*.—*C. M.*.—*Scelopendrium vulgare* *reniforme*.—*W. M.*.—1 (with berries), *Solanum nigrum* (Black Nightshade); 2, *Verbena officinalis* (Vervain); both British plants. —*E. Semper*.—1, *Helianthus multiflorus maximus*; 2, *H. decapetalus*; 3, *Heliothis laevis*, poor form. —*A. Dickson and Sons*.—*Polygonum cuspidatum*.

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No. 1140. SATURDAY, September 23, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

ORCHARD AND FRUIT GARDEN.

VARIETY DESIRABLE.

Good as may be the advice not to plant too many varieties of any kind of fruit, it is yet possible to err in the opposite direction and not grow enough. This applies not merely to private gardeners, but also to market growers, amateurs, and cottagers. That unlimited collections are a mistake and a great nuisance in some cases there is no disputing. They are right enough where the owner is an enthusiast, and likes to be thoroughly acquainted with the merits or demerits of as many varieties of one or more particular kinds of fruit as possible, but are far from being profitable. When, however, the other extreme is touched and the collections are of very limited extent, then the chances are a good succession of fruit will not be had five years out of six. Certain seasons suit certain varieties. Take Apples for instance. If asked to name a dozen varieties that have done really well in the garden under my charge I could not do it. By doing "really well," I mean this to include other qualities in addition to free bearing. Some, owing to the drought, are much too small; others from causes which date back to the flowering period are malformed, while not a few have ripened far too soon and have kept very badly indeed. With me Cox's Orange Pippin stands out pre-eminent, being in fact the Apple of the year. The crops are heavy, the fruit of good size, well coloured, and apparently not very much earlier than usual. Yet this excellent variety was nearly a failure last year, and did not crop so well as desirable in 1891. Last year King of the Pippins was particularly good; this season not more than a fifth of the fruit on the trees is worth the trouble of gathering or storing. Last year neither Margil nor Adams' Pearmain was satisfactory in any way, but they are very good this year. Last year Court Pendu Plat was very much better than it is this season, and it is very few Ribstons or Blenheim Pippins we now have for storing. Early dessert Apples have been particularly disappointing, all of them keeping very badly indeed. Much the same remarks apply to the cooking varieties. Codlins that sometimes keep till November are already over, other soft second early sorts behaving very similarly. Luckily, we have Tower of Glamis, Lady Henniker, Flower of Kent, Reinette du Canada, and such like firmer varieties to fall back upon, though of very late sorts there are none that have produced heavy crops.

It is much the same with Pears as with Apples. I could point to long rows of trees against walls and in the open, all presumably of most reliable varieties, yet not more than half of them have borne satisfactorily this season. For the first time for several years past Beurré Diel has nearly failed, and other well-known productive varieties, including Pitmaston Duchess, Vicar of Winkfield, Easter Beurré, Beurré Hardy, Passe Colmar, Josephine de Malines, and Chaumontel are cropping very lightly on some walls, although more satis-

factory on others. With me and hereabouts Glou Morceau is the Pear of the year. Never before have I seen such heavy crops of fine clean fruit of this variety, this applying to pyramids as well as wall trees generally. So valuable will these fruits prove, the quality of this variety when in good condition being as near perfection as a Pear can well be, the season also being comparatively late, that if we do not get a similarly good crop during the next three or more years, I am of opinion the trees will yet have paid their way. Yet if very limited collections were closely adhered to, Glou Morceau, owing to its propensity to disease, in the shape of fungus spots and cracking, would be left out in the cold. Ne Plus Meuris has this season attained something like its full size, and will, therefore, be of good quality when most other varieties are over. This variety is included in but few limited collections. To all appearance, Easter Beurré is in better condition, being freer from spot than often seen, and should the fruit keep and ripen well, the summer of 1893 will have done much to bring it back into favour. Plums have not been so variable this season, all alike on walls doing well with me. This applies more especially to their productiveness as I need hardly say that the quality as well as the period of ripening differed considerably. It sometimes, very often in fact, happens that varieties succeed well in one year and fail badly in others, a very great difference being observable in a row of trees, all different varieties; and to be nearly or quite certain of a supply of good Plums every season, the selection of sorts must not be very limited in extent. It is very much the same with Apricots, though this year all alike were remarkably productive. As far as Peaches and Nectarines are concerned, there is not much difference to be noted as far as their productiveness is concerned, but they differ greatly both as regards quality and period of ripening, and a moderately large number of varieties should be grown wherever there is good room for them. Without a fairly good number of varieties there is a chance of the supplies of good fruit being scarce in some seasons, and, it may be, too plentiful in others.

That brief lists of both reliable and good varieties of most kinds of fruit can be given I do not dispute, but they are only reliable to a certain extent. They may all be of a very free habit of growth and do their best to produce good crops annually, but yet fail, owing to being either in flower, or the fruit at a critical period of swelling just when very unfavourable weather is experienced. A difference of not more than three days in the flowering period of two varieties may lead to one having all its flowers or embryo fruit crippled by frosts and those of the other escape injury. Sometimes those that flower early escape, the late-flowering varieties being caught by frosts. At others it is the early-flowering sorts only that come to grief, the rest not being subjected to trying weather. Occasionally the flowers escape damage by frosts and the fruit sets well, only to be caught by frosts before there is either enough foliage or the fruit sufficiently forward to be hardy. Another good reason why a fair number of varieties should be grown has already been given, viz., the fact of some one or more of each kind developing extraordinarily good qualities in certain seasons and under certain conditions. In addition to the productive habit of varieties being taken into consideration, the quality of the varieties ought also to be studied. Soils and subsoils vary so surprisingly in their constitution, that it need

be no matter for surprise that varieties of fruit vary greatly in quality even in a single locality. All growers cannot test the best of the varieties that may be recommended for their particular soil or locality, but they should try as many of them as they have good room for, and retain those only that do give satisfaction.

Where the mistake is often made is the retention of so many varieties that have repeatedly failed to come up to expectations. Worthless variety is not desirable, but when the selection is good, then it ought not to be limited in extent. Either gradually root out or regraft the trees of sorts that have hitherto done badly or are of poor quality, their places being taken by others bearing a good reputation, and which, therefore, are worthy of being given a trial. This is not the time of year for regrafting trees, but it is well not to be very late in the autumn before bespeaking the requisite number of grafts, or the best of them may have gone the way of very many more prunings. Now, however, is the best time to place orders for fruit trees. If delayed till midwinter or later, the chances are the stock of trees of many of the best varieties will be exhausted. W. I.

Apple Peasgood's Nonsuch.—This Apple is generally known on account of its large size and handsome appearance. But it is not so generally known what an admirable tree it forms as a standard, it being more often grown as a bush. As a standard it makes a very handsome head and bears most freely. The fruits individually are, of course, not so large as those produced by the more highly cropped bush trees, but they are large enough for any purpose.—A. YOUNG.

Apple Pott's Seedling.—This fine cooking Apple is a very desirable variety to plant where Lord Suffield will not succeed, as whatever merits this latter variety may have, it will not succeed on soils which are cold and heavy. Pott's Seedling will do this, it being a strong grower as a standard. It is a remarkably free bearer, the fruits being clean, of good form, and excellent quality when cooked. Altogether I consider it a very desirable variety for orchard culture. Although it is recommended for planting in place of Lord Suffield, it remains in condition quite a month later than that variety, and does not need to be gathered quite so early.—A. Y.

Peach Sea Eagle.—This appears to be becoming a very popular Peach, and although its quality is not so satisfactory every year as it is this, yet it is a most valuable variety for open walls. It is of very large size, handsome shape, and, where well exposed to the sun, of a most brilliant colour. It is one of the most regular bearing sorts that I know. It also has a fine constitution, the tree maintaining a healthy appearance season after season. To ensure good quality I find that it is best to allow the fruits to remain on the tree as long as possible, and then if kept in a cool fruit room for a couple of days the quality is first rate.—A. H. S.

Pear Pitmaston Duchess as a standard.—Anyone might think that, owing to the large size this Pear generally attains when produced on trees against walls, or even on bush or pyramid trees, the variety would not be suitable for growing as a standard. This is not so, however, as on account of the better exposure and the greater quantity of fruit the trees carry, the fruits, although of course large as compared with those of most other varieties, are not too large to be appreciated for dessert. Pitmaston Duchess really forms a fine standard, and this season I should not be at all surprised if the quality of the fruit exceeded that from wall trees or bushes.—A.

Apricots in heavy soils.—On warm soils fairly good crops of Apricots, and these of good quality, are obtained year after year, but on heavy

soils and in cooler districts it is different. Success with Apricots does not merely depend upon the setting of the fruit alone, as, if so, I should have little to complain of during each successive season. This year the ripening has been quite satisfactory and the trees very clean and healthy. Our Apricot wall has a western aspect; consequently the fruits ripened more gradually than on full southern exposures, the regular and high temperatures being the cause of this.—Y. A. H.

NOTES FROM WARWICKSHIRE.

DISASTROUS as the long-continued drought has been for many garden crops, it has by no means had a like effect upon fruit crops, and when the present year has passed, I anticipate that it will long be remembered. In the neighbourhood of Warwick, heavy crops of Apples are the rule, notwithstanding that much of the fruit dropped in a young state when the trees were suffering from lack of moisture at the roots. This was especially noticeable on the light soils resting on sandstone or gravel, which abound in the district, but where the trees are growing in the deep and rather stiff loams to be met with in some parts, very little fruit has fallen and the trees are loaded. The early varieties, such as Lord Suffield, Keswick Codlin, Irish Peach, and Worcester Pearmain, were ready for gathering on July 21, this being fully three weeks earlier than last year. The majority of early kinds are somewhat small, but since the recent rains midseason and late kinds are swelling up their fruits splendidly, and promise to be not only abundant, but really good. The trees generally are in a clean, healthy condition, and having made short-jointed sturdy growth, look extremely promising for another season. Among a number of varieties growing in this neighbourhood, Manks Codlin, Stirling Castle, Ecklinville, Keswick Codlin, Lord Suffield, Golden Spire, Summer Golden Pippin, and Sturmer Pippin are carrying the heaviest crops. The branches of these are wreathed with fruit. Cox's Orange Pippin, King of the Pippins, Worcester Pearmain, Kerry Pippin, and Warner's King have good average crops; Hambledon Deux Ans, a variety not much grown, is also cropping well. The whole of the above are growing on large pyramids, the branches being unshortened, but thinly disposed. On standards in orchards we have good crops of Keswick Codlin, Hawthornden, Hanwell Souring, Wyken Pippin, Cox's Orange Pippin, Domino, and Worcester Pearmain. Peasgood's Nonsuch is, I fear, a poor cropper except when grown on the French Paradise stock, for even this year we have few fruits of it. Pears are a very heavy crop. It is quite an unusual sight in this neighbourhood to see large pyramid trees so richly studded with fruit as this year. Trees of Jargonelle and Green Chisel are perhaps the most prolific of all; Williams' Bon Chrétien and Louise Bonne of Jersey are also good both on walls and as standards in orchards. Gansel's Bergamot and Marie Louise, which seldom bear well except when given wall protection, are this year carrying good crops in the few instances in which standard trees of them have come under my notice. Standards of Citron des Carmes and Clapp's Favourite have also good crops. Ne Plus Meuris, Beurré Diel and Doyenné du Comice are particularly good among trees trained to walls. Very heavy crops of Plums and Damsons are the rule throughout the district. Many of the trees, however, have suffered considerably from the attacks of white aphids. Where this has been the case the fruit is rather small. Bush fruits have been only an average crop, although at one time there was every appearance of a heavy one. The drought and caterpillar, however, did much damage among them and prevented the fruit from swelling satisfactorily. Early Strawberries were abundant and good, but insufficient moisture at the roots prevented later ones from swelling to their usual size; this rendered the crop a rather light one. Apricot trees are, as a rule, loaded with fruit, the variety grown here being mostly Shipley's, a few young trees of Moorpark having only a light

crop. Peaches are rather partial, Dymond, Royal George, Sea Eagle, Hale's Early, and Bellegarde being the heaviest crops. Figs are early and abundant. But few Cherries are grown in the neighbourhood with the exception of the Morello. These are a good average crop on walls, but I noticed recently a few standard trees in an amateur's garden carrying wonderful crops.

Turning to vegetables, a far different state of affairs must be chronicled, and I trust it will be many years before we again encounter a season so trying for them. Cauliflowers and Peas seem to be the greatest sufferers. The effect of the drought began to be felt shortly after the second early batches of the former were set out, and where they could not be continually watered up to the time of cutting a large percentage were button-hearted, and the best exceptionally small or loose. I do not remember a season during which so few good Cauliflowers were to be met with. Where the wise precaution of heavily mulching Peas at an early stage of their growth was taken, an occasional supply of water afterwards being given, the results have been fairly satisfactory. Under less favourable conditions the crop has been almost a failure, varieties which should attain 6 feet beginning to flower when about one-third of that height. Carrots and Beetroot have done well, though the roots are somewhat smaller than usual. The tops appear perfectly healthy, and the beds are as even as it is possible to have them. Onions generally are rather small, and the beds patchy on account of the ravages made by maggot. Where special attention has been given them in the matter of watering, splendid bulbs are the result. Early Potatoes, though small, have been clean, of good quality, and altogether free from disease. Late varieties have made much less top-growth than usual, but look most promising. W.

LATE GRAPES.

It will be interesting to observe how Grapes keep during the forthcoming winter. Most growers are of opinion that unless the Vines are subjected to a somewhat high temperature during the ripening period the berries are apt to shrivel if they remain on the Vines after the turn of the year. The late kinds began to colour this season a month earlier than usual, and have had the benefit of an abnormally high temperature. The temperature at night too has been much over the average, so that very little fire-heat has been needful. I much doubt indeed if artificial warmth is beneficial when the thermometer runs up daily to over 100°, and does not drop below 70° in the evening. During the month of August the thermometer seldom registered less than 50° at any time during the night, and at 8 o'clock in the morning it was up to 90° in a lean-to house fronting south on at least five days out of the seven. Under any circumstances I do not consider high temperatures advisable, and when the natural warmth is so great throughout the day, I think the Vines need as much rest as they can have during the night. Everyone knows how refreshing the cool, moist night air is, and how much better plants in the open pass through periods of hot weather when the leafage is nightly covered with dew than when the atmosphere remains in a parched condition throughout the twenty-four hours. It must surely be the same with Vines under glass, and artificially drying the atmosphere by fire-heat can scarcely be the right thing to do when the air is so parched during the daytime.

If the pipes are moderately heated at night, the house should never be quite closed. The more or less free admission of air will in a great measure counteract the aridity engendered by the hot pipes and will assist in keeping off attacks of red spider and mildew. Even when the berries are beginning to swell and the house is closed early and well damped down towards evening, the ventilators should be opened at the top of the house again a couple of inches or more. When the nights are of the still sultry nature, which in a general way has been their characteristic feature during the past

season, I consider it helps the swelling of the berries and strengthens the foliage to open the front ventilators at night, allowing a free passage of the moist refreshing night air through the Vines. I have been in vineries which were tightly closed all through the night in the months of July and August, the pipes at the same time being heated. This is a practice which common sense must condemn. In the case of late Grapes especially, the exclusion of night air when the berries are swelling and beginning to colour must be wrong. A very confined atmosphere during the night induces softness, and although the foliage may have a very green healthy appearance and the berries will swell up well, they will, to a certain extent, be deficient in solidity. In the case of Grapes that are intended for use during the late winter months, the berries cannot be too firm. If when making their growth they are subjected to a very moist confined atmosphere for many hours at a time, the skin is wanting in the toughness that enables them to remain in good condition in mid-winter. J. C. B.

OLD APPLE TREES.

THE present season has brought into special prominence the great value of old Apple trees; indeed, there can be no doubt whatever but that the old standards have proved to be not only too strong to be affected by the drought, but they have carried wonderful crops of fruit. It is one of the marked characteristics of the season that whilst the roots have been suffering from want of moisture, the exceeding abundance of warmth and sunshine has acted as an opposing agency, and now we see the finest fruits on these old standards that the trees have borne for many years. When we hear henceforth silly talk about planting for one's heirs, we may well remember the experience of the present year, for to old trees do we owe chiefly the abundant crop of Apples that we now have. It must not, however, be supposed that old trees do not frequently bear. Probably no trees are more regular than are the patriarchs of our orchards, but we do not always note their value, and much less often do them justice. When trees bear a few fruits one year and a good crop the next, and so continue in that way almost for generations, we may well ask whether it would be possible under any other conditions to obtain from the same area of soil so much of value as many of these old trees give. Of course, it is said that many produce only small inferior samples. That is to some extent true, but when we meet with others that are of fine varieties and carry splendid crops, we see ample evidence that the fault lies not in the form of trees or in age, but rather in the ignorance shown by our fathers in planting sorts that are now found to be comparatively worthless when others of greater value could be had. Then the existence of these old trees has a moral, which we should be quick to utilise. It is that where they do so well and are so fruitful, there are the soil and situation on which to plant other trees for the keeping up of our Apple supply. Of course, I do not mean in the same orchards; I rather mean in the same localities. Still further should we plant only varieties that are proved to be fine and good in those localities, or have a good reputation for health, size of fruit, and endurance elsewhere. I have seen many very fine trees this season that may be 100 years old, and yet look as if under good conditions they would endure for yet another half century. It seems not at all improbable that amongst these old varieties are many that have merit worthy of perpetuation. It was fondly imagined that the great Chiswick Apple

congress brought together all the best old Apples in the country, but that was far from being the case. A few districts were well represented, but myriads of varieties in orchards and gardens were not shown. Some of these may be found in commerce, some not. Most of them have local appellations, and it is very probable that many of the ancient trees are seedlings; indeed, that fact may to some extent account for their great age. Still, many wonderfully fine trees of such a variety as the Hambledon Deux Ans that must have been worked are to be found in Hampshire, and in other counties varieties of similar old reputation are to be found. The Deux Ans is far from being classed as of the best merit, and yet it is a most valuable Apple for use from March to June, one of the heaviest croppers and best keepers. There are not so very many Apples that are really good for cooking after March sets in. That it is possible in many cases to materially improve the condition of some of these old trees by harder thinning of the heads there can be no doubt. It is not easy to mount aloft so high and into such huge heads and thin out the branches so much as is desirable, but work of this description needs to be done in such cases only about every three years. It is quite remarkable to note how many of these giants may be seen literally without a dead shoot, whilst we may see others only fit for the woodstack. These latter are sorts that may have done very well for a few years, but did not possess the stamina essential to old age and long bearing. They soon exhausted the fertile properties of the soil, and then began to decay. These are sorts to be avoided when trees are being planted for endurance. Nearly all the finest of these growers are good keepers, a special point in their favour, and such sorts as Blenheim Pippin, Deux Ans, Shepherd's Seedling, very fine in Surrey, Warner's King, Annie Elizabeth, Waltham Abbey Seedling, &c., are typical of the old trees that are yet to be found in plenty, and which whilst we strive to sustain we should also strive to continue to future generations by planting them as freely as our forefathers planted for us. A. D.

AUTUMN PRUNING OF FRUIT TREES.

THIS season should afford an excellent opportunity of giving fruit trees growing in the open a general overhauling in the matter of cutting out any superfluous branches or growths not required for the extension of the tree. Fruit generally will have been gathered earlier, so there will be quite a long time for trees to recuperate their energies before the leaves fall, as I suspect the earlier ripening of fruit will not affect in the least the maturation of the foliage. By cutting out branches whilst the leaves are still on them, a better idea is gained than if this operation were left over until the dormant season, of the amount of pruning necessary for the well-being of the tree. At this time one can see at a glance whether the branches are crowded or not. At this time the wounds quickly heal over and the fruit-buds are decidedly strengthened through this operation, at least those which were over-shadowed on account of the shaded state of the trees or branches. With tall standards a limit must be allowed, as on account of their form these are not so easily manipulated as in the dormant season, but with pyramids and bushes the case is different.

All pyramid trees should have the branches far enough apart to allow direct light to reach right up to the main trunk, and not merely at the outer edge. When this latter is the case the trees only produce a mere tithe of the fruit they will do with more rational treatment. This will also be found to be the most suitable time for thinning out crowded branches of Plums and Cherries, more

particularly in the case of the latter, which are so liable to gumming when the thinning out is left to the dormant season. I am also very much of the opinion that much of the gumming which affects Morellos when growing against walls may be traced to hard winter pruning. This will be found to be the most suitable time for both pruning and nailing in the growths of the Morello. It is work which I always attend to at this season, not only for the benefit of the trees, but because the work is more quickly performed than in the winter. Apricots also are the better for having any of the spur-like growths pruned in now, and it is the same with Plums growing against walls. Pears either growing against walls or as espaliers are often crowded up with spurs, and instead of thinning these out at the winter season, they may well be shortened in now to the sure benefit of those remaining. It is just the same with these as with trees growing in the open, for whilst the foliage is still fresh it is a gauge to go by as to the extent of pruning necessary. Y. A. H.

Peaches and sunshine.—In a discussion which took place in THE GARDEN some months ago on the comparative merits of home-grown and imported Peaches, a writer stated that hot sunshine exercised a deteriorating effect on flavour, and that was one reason why we could never expect to get Peaches from abroad so good in quality as those produced in this country. This was quite contrary to what the nature of the Peach would lead one to expect. I always thought that the warmer the summer the better the quality of the fruit, and for this reason one might reasonably expect to get really good-flavoured Peaches from abroad, where the sun is more constant and has so much more power than is the case in ordinary seasons with us. I find that I was not mistaken as regards the influence of sunshine on quality, for Mr. Young, in a note on hardy fruits in a recent number of THE GARDEN, says that with him Peaches have this year been unusually fine and good. This has been one of the hottest summers the present generation of Peach growers has ever experienced, the temperature probably ranging as high as in California. If the fruit has under its influence come good in flavour, it is evident that Peaches of fine quality can be grown both in California and at the Cape. —J. C. B.

Lord Suffield Apple.—It may add a little further interest to Mr. Beaven's article on Lord Suffield Apple on p. 241 if I state that it was raised by a Thomas Thorp, who had a garden at the top of Boardman Lane, at Rhodes, near to Middleton, Lancashire, and who brought out several varieties of fruit, but none so good as the Apple Lord Suffield. It is supposed to be something like sixty years since the variety first fruited. It was not long since stated in one of the Manchester papers that the original tree still stood in the garden at Rhodes, but Mr. James Percival, of Rochdale, informs me it is not now in existence. He states, "Some sixteen or seventeen years ago I was in the garden where the Apple was raised, and what remained of the tree was then lying on the garden walk, it having then been dead about twelve months; the bole was about 7 inches in diameter, and the trunk was devoid of branches, which had probably been used for fire-wood." Mr. Percival further states that one of the earliest propagated trees was brought to his grandfather's garden at Prestwich some fifty years ago, the tree about 2 feet in height; it missed fruiting the first year, but the second year it bore two fruits, one of them weighing 8 ozs., and the tree produced fruit each year afterwards. It was named Lord Suffield after the nobleman who was at that time lord of the manor of Middleton, and who took a great interest in fruit growing.—R. DEAN, *Ealing, W.*

Late Pesches.—This has been a splendid season for late Peaches, and will help to redeem their character in the estimation of many cultivators. Every kind of fruit in this garden is about a month earlier than usual, and this in cold fruit houses as well as outside. The late Peaches which

ripen early in October are now ripening. I find late kinds very useful to help make up the number of dishes of fruit for shooting parties, &c., and although they are very poor in flavour in a general way, they are nevertheless useful, especially for cooking. I grow all the Peaches in a cold house, and this year the late kinds are infinitely better in flavour. Walburton Admirable I think the best flavoured large late Peach. This I grow on a back wall and get grand fruit. Sea Eagle is doing well. The latest kinds are Gladstone and Late Admirable. With me both of these kinds are given to stone-splitting, and a goodly portion drop off before they are ripe. Gladstone is a fine looking kind and bears freely. I had last year fruit of it from a cold house in the middle of October, and this season it has coloured up grandly. I found a tree of Royal Vineyard here. It is a fine grower and bears a heavy crop, but the flavour is very poor. The old Noblesse gives fruit till the end of September from trees growing on a front trellis, and the flavour is very fine.—J. CROOK, *Forde Abbey.*

An Apple from Ireland.—Can it be that Mr. W. B. Hartland's Gibbon's Russet or Cherry Brandy Apple (see p. 228) is the Brandy Apple once fairly popular in England? Only Mr. Hartland's experience of getting a whiff of exquisite perfume from his Apple the third day after being placed in a drawer would hardly apply, as the Brandy Apple was a good keeper. By the way, we are sadly in need of more Russets, for they are all good in their season—at least I have never known a bad one. Has any reader of THE GARDEN? I note that Gibbon's Russet is a mid-winter sort, as was the old Brandy Apple, at one time the most orthodox of all Apples for mincemeat.—D. T. F.

NECTARINES.

THE hot weather has suited Nectarines, as the trees have borne excellent crops, the fruit being of a splendid colour and of better flavour than usual. Though the soil in this district is very light, yet by mulching and plentiful supplies of water there are generally excellent crops. Wasps and red spider have been most troublesome, also earwigs, but I never saw the trees more promising than they are now, the buds and new wood much resembling those of indoor trees, thus showing the effects of a warm season. Many complain of Nectarines cracking, and this is one great failing, as the smooth skin is soon injured. In my case Elruge is the worst offender. Lord Napier is the best doer on open walls, and though in light gravelly soil I cannot get the fruit so large as from trees grown in good sound loam, yet this variety can always be relied upon. I have not yet seen the new seedling recently sent out by Messrs. Rivers tested in the open, but should it succeed like Lord Napier, which it much resembles, it will be a great gain if it can be obtained much earlier. The impression often prevails that cold injures the bloom; whereas, this season during the setting period we had from 18° to 20° of frost and no injury followed. Coddling by thick covering is worse than cold. Shelter from east winds and a good coping are better than a thick protecting material. Nectarines should always occupy the best position, that is the warmest wall, and be given plenty of moisture at the roots, and if the trees could be regularly damped down every day as the sun declines, there would be few complaints as to spider.

To prove how injurious a hot dry wall is to these fruits, I saw some new walls cemented all over. Very large trees were planted in the best way possible as regards soil and position, but they were burnt up, the cement being too dry and not retaining the moisture. I also object to fixed wide glass copings, as the trees do not get the rain and dew so beneficial to them. Lifting, so often overlooked, is often required, as once the trees go down into poor soil there is never fine fruit. When the roots are kept near the surface, well mulched twice a year, and the border given plenty of moisture, there are good results. Thinning the growths in summer

will do much to prevent bad or cracked fruit, as it allows the wood to get hard and the buds to plump up. This season our Pitmaston and Pine-apple Nectarines have been equal to indoor fruit; indeed I never saw them do better in the open even on east walls; the fruits have been good and from two to three weeks earlier than usual. There need be little fear of failure if trees not doing well are lifted early and new material given them, adding lime rubble to soils requiring it, and good stiff loam to light soils.

S. H. B.

TREES AND SHRUBS.

THE JAPANESE HORNBEAMS.

OF the Oak family, it is in *Carpinus* only that the forests of Eastern Asia are superior to those of America, where we have a single species of Hornbeam, a small tree confined to the eastern side of the continent. Europe possesses also a single species which extends to the Orient, where a second species is found. The forests which cover the Himalayas contain two species; at least two or three others are found in the Chinese empire; and to the flora of Japan six species are credited. One of the Japanese species, however, *Carpinus erosa* of Blume, is a doubtful plant; another, the *Carpinus Tschonoskii* of Maximowicz, from the Hakone Mountains and the region of Fugi-san, I have never seen; and a third, *Carpinus yedoensis*, a small tree cultivated in gardens in the neighbourhood of Tokio, is, perhaps, like many of the plants cultivated by the Japanese, a native of Central Asia. Three species are certainly indigenous to the Japanese soil.

CARPINUS LAXIFLORA resembles, in the character of the bark, the size and shape of the leaves, and in the structure of the flowers, the European and American Hornbeams. It is a graceful tree, occasionally 50 feet in height, with a trunk 18 inches to 20 inches in diameter, covered with smooth pale, sometimes almost white bark and slender branches. The leaves are dark green above, pale yellow-green below, 3 inches to 4 inches long, 1 inch to 1½ inches broad, prominently many-veined, and in the autumn turn yellow or red and yellow. The fruit is produced in lax hairy catkins 4 inches or 5 inches long. This fine tree is common in all the mountain forests of Hondu, where it is most abundant at elevations between 2000 feet and 3000 feet above the sea; in Yezo it reaches the southern shores of Volcano Bay, where, near the town of Mori, it is common in the Oak forests, and grows to its largest size.

The other Japanese species of *Carpinus* differ from *Carpinus laxiflora* and from the American and European species in their furrowed scaly bark, in the stalked bract of the male flower, in the closely imbricated bracts of the fruiting catkins, which look like the fruit of the Hop-vine, and in the form of these bracts, which are furnished at the base with a lobe which covers the fruit and is more or less enclosed by the enfolding of the opposite side of the bract. On account of these differences these two trees are often referred to the genus *Distigocarpus*, founded by Siebold and Zuccarini to receive their *Distigocarpus Carpinus*. Botanists now pretty generally agree that the characters upon which *Distigocarpus* was founded are not of sufficient importance to justify its separation from *Carpinus*; and *Distigocarpus Carpinus*, if the oldest specific name is used, becomes

CARPINUS CARPINUS. By Blume, who first united *Distigocarpus* with *Carpinus*, it was called *Carpinus japonica*, the name under which it has appeared in all recent works on the Japanese flora. It is a tree 40 feet to 50 feet in height, with a trunk often 12 inches to 18 inches in diameter, and wide-spreading branches which form a broad handsome head. The branches are slender, coated

at first with long pale hairs, and later covered with dark red-brown bark often marked with oblong pale lenticels. The winter buds are half an inch long, and covered with many imbricated thin, light brown, papery scales, and at maturity are nearly an inch long and hairy on the margins. The leaves are thick and firm, dark green on the upper surface, paler on the lower, 3 inches or 4 inches long and about 1½ inches wide, with stout midribs and many straight prominent veins slightly hairy below and deeply impressed above. The nutlet is slightly flattened, with about ten straight prominent ridges extending from one end to the other. *Carpinus Carpinus* is common in the Hakone and Nikko Mountains, between 2000 feet and 3000 feet elevation above the sea; it apparently does not range very far north in Hondu or reach the island of Yezo. This interesting and beautiful tree, which is remarkable among Hornbeams in the character of the bark and in the female inflorescence, appears to be perfectly hardy in New England. For a number of years it has been grown in the Arnold Arboretum, and during the last two seasons has produced flowers and fruit here. In its young state it makes a handsome, compact, pyramidal, bushy, and very distinct-looking tree. The most beautiful of the Hornbeams of Japan, as it appears in the forests of Yezo, is

CARPINUS CORDATA, which often attains the height of 40 feet, with a stout trunk sometimes 18 inches in diameter, covered with dark, deeply furrowed scaly bark. The stout branchlets are of an orange colour, or, when they are three or four years old, light brown. This species is remarkable for the size of its winter buds, which are fully grown by midsummer, and sometimes nearly an inch long. The leaves are thin, 6 inches or 7 inches long and 3 inches or 4 inches broad; they are light green on both surfaces, although rather lighter coloured on the lower, with conspicuous yellow midribs and veins slightly hairy below and impressed above. The catkins of fruit are often 5 inches or 6 inches long and 1½ inches wide. This is the only species of Central Yezo, where it is one of the common forest trees, growing with Oaks, Magnolias, Ashes, Walnuts, *Acanthopanax*, Birches, &c.; it is also grown in Hondu at high elevations, although it is here much less common than farther north. This fine tree is apparently still unknown in American and European gardens; it is one of the largest of the Hornbeams, and certainly one of the most distinct and beautiful of them all. As it grows in its native forests with a number of trees which flourish here in New England, it may be expected to grace our plantations with its stately habit, large leaves and long clusters of fruit. An abundant supply of the seeds, with those of *Betula Maximowicziana*, was the best harvest we secured in Yezo.—*Garden and Forest*.

Hydrangea quercifolia (H. P. W.).—This is the plant of which you send me a specimen, and it is a plant but seldom met with. It is a hardy species with white flowers, and presents quite a beautiful appearance; the leaves are about 6 inches long, obtusely lobed, and the terminal trusses of bloom are not arranged in a dense tuft.—W. H. G.

Halesia diptera.—A correspondent in *Meehan's Monthly* calls attention to the fact of a difference between *Halesia diptera* and *Halesia tetraptera* that has not before been noted—namely, that *H. diptera* does not commence to flower until a considerable time after *Halesia tetraptera* has gone out of bloom, this rendering any chance of hybridisation between them, as has been sometimes suggested, still more doubtful than some have supposed.

Dwarf Pomegranate in flower.—For some years a plant of this has with us on a south wall in the immediate neighbourhood of London been a very attractive object during the autumn months, by reason of its richly coloured blossoms, but this season it has surpassed itself in consequence of the profusion in which they are borne, for though the plant itself is little more than a yard high and about the same in diameter, it is thickly studded with expanded blossoms and unopened buds.

These last are of a bright sealing-wax-like tint, but when fully expanded they are more of an orange-red and wonderfully showy. The intense heat of the past summer is no doubt the cause of such an unusual display of bloom. For a low wall in front of a hothouse I know of nothing during the autumn prettier than this Pomegranate, while before it flowers the neat growth and bright shining foliage form a pleasing feature. There yet remains another item to note concerning this Pomegranate, and that is, on a sunny wall the leaves usually change to a bright golden tint before they drop. This dwarf form of the Pomegranate is said to have been introduced into this country as long ago as 1723. For higher walls the other varieties are equally as valuable as this is for low ones.—H. P.

***Erica multiflora*.**—This is a near ally of the Cornish Moor Heath (*Erica* or *Gypsocalis vagans*), from which it differs among other features in being later flowering, for it is generally in full bloom at the time the other is almost if not quite over. The flowers, which are crowded together towards the points of the shoots, are of a rosy red colour, and as a rule a succession is kept up for some time. It is especially valuable from the fact that, with the exception of *Erica stricta*, this is usually the latest of our hardy Heaths to flower, for it will often continue the Heath season till November, while the pretty little *Erica carnea*, which commences the season, will in some winters produce its earliest blossoms soon after Christmas, but its flowering period extends well on into the spring, and after that other forms keep up a succession till autumn is well advanced. The different varieties of the Grey Heath (*Erica cinerea*) and of the Ling or Heather (*Erica* or *Calluna vulgaris*) would alone form a very interesting collection, as they vary greatly from each other and from the type.—T.

Pancreatium speciosum is an old plant, but, nevertheless, very beautiful, and not always in such splendid condition as a specimen in the Palm house at Kew. This is one of the finest examples we have seen, and is bearing upwards of half a dozen large heads of bloom, which present a mass of purest white, relieved only by the yellow stamens. It is interesting to note that this is the second time of blooming, as the plant was in full beauty about the month of June. This fine species came to us from the West Indies in 1759, and it would be well if a little of the attention given to Orchids were paid to the many beautiful stove plants which have been long neglected. Nothing in its way is more beautiful than a large specimen in full bloom of *P. speciosum*.

***Plumbago capensis* and var. *alba*.**—Both the blue and white-flowered varieties of this old Cape of Good Hope plant are used with good effect in the large temperate house at Kew. The blue one, now beautifully in flower, is trained up one of the double pillars of the house, which it covers from top to bottom, and is consequently some 30 feet high. The effect produced by the abundance of clear pale blue flowers amongst the surrounding greenery is very pleasing, and suggests that it might well be used more frequently in this way in cool houses. The flowers are gracefully borne in large trusses at the end of long slender shoots. The white-flowered form is also in bloom, but, although well worth growing for the sake of variety, is apparently neither so robust nor so free-flowering as the older blue form. Grown in the cool house these plants only bloom once during the year—in autumn; but in intermediate or stove temperatures flowers are produced in early summer, and thence more or less continuously up to autumn. The plants require to be pruned back almost to the old wood each winter, and this amount of pruning suffices for cool-grown plants. In the warmer houses it is necessary to prune during the summer, although this often means little more than removing the old flower-heads. As pot plants the *Plumbagos* are useful, but it is only when planted out in rich soil and given abundance of water that their full value can be seen.

ROSE GARDEN.

ROSE GLOIRE LYONNAISE.

WHEN first introduced this was spoken of as a yellow Hybrid Perpetual, but pale lemon-white is a truer description; nor does it belong to the Hybrid Perpetual section, being one of the so-called Hybrid Teas. Gloire Lyonnaise, raised by Guillot et fils in 1884, was the result of crossing H.P. Baroness Rothschild with Tea Mme. Falcot. The issue of this was crossed with the latter again, and the result crossed a third time, so that we see there is very little of the Hybrid Perpetual blood left in it. The shape and size of the bloom are exactly what might be expected from a cross

would have produced such a tall and vigorous seedling. The Brier, Manetti or De la Grefferaie suits Gloire Lyonnaise equally well, and by far the best way of growing it is to cut away the shoots after flowering, thus allowing the whole strength of the plant to go to the production of more wood for the following season. As a button-hole Rose it is grand, keeping its long, pointed shape well when cut in a young state. It is singularly free from mildew and red rust. Most of the Hybrid Teas are quite as badly affected by the latter disease as the Hybrid Perpetuals, but this variety seems exempt. The true Teas and Noisettes are also free from it, and probably being crossed three times with a Tea Rose is the reason Gloire Lyonnaise is more proof against red rust than the remainder of its class. This would seem confirmed by the following Hybrid Teas being equally free, viz.,



Rose Gloire Lyonnaise. Engraved for THE GARDEN from a photograph sent by Mr. C. J. Grahame, Croydon.

between these two varieties, while in substance it is also midway between the two. Its colour I have already described, but when we come to its growth and foliage, one fails to find the least trace of either parent. At first it did not bloom freely, but when it came to be better understood and was cultivated upon the pegged-down system, we got a really splendid show of flowers.

The strongest plants of Gloire Lyonnaise that I have ever seen were in a Sussex garden. Here they annually produced shoots of 6 feet to 12 feet long and of proportionate substance. Pegged down in the spring, these shoots produce large quantities of bloom during early summer. This Rose is not perpetual in the same sense as General Jacqueminot and other Hybrid Perpetuals. Among pedigree Roses one often finds some startling developments of growth. Taking this variety as an example, who could have expected that its parents, both short growers,

Cheshunt Hybrid, Gustave Regis, and Reine M. Henriette.—RIDGEWOOD.

— It is interesting to note how some Roses which at first show no inclination towards autumnal blooming afterwards develop that character, although, of course, never to the profuse extent which characterises the true Teas. Gloire Lyonnaise has been giving some splendid flowers of late, solitary, but very fine at the end of its 6-foot wands. When pegged down this is a wonderful Rose, all the shoots for pegging down next year standing up erect and straight, most of them averaging 6 feet in height. Whatever may be necessary for the production of exhibition blooms, our group of this Rose proves that a quantity of manure and high feeding are unnecessary. To enjoy Roses in the garden only, they need no extra encouragement, otherwise we should not get such shoots six years in succession without a particle of manure during that period.—A. H.

— Mr. C. J. Grahame, who kindly sent the photo from which the engraving was prepared, says:—

Gloire Lyonnaise, although not very generally known or much grown, should be in all good collections. It was raised in 1884 by the great French house of Guillot et fils, of Lyons, and this is certainly in its favour, as most of this firm's productions are desirable. The Rose is a Hybrid Tea, and, like others of that class, is not so suitable for exhibition as Roses of the true Tea race. This fact may have acted as a deterrent to its more general cultivation, but it has other and good qualities which should be considered.

The colour is correctly described by the raisers as "coloris blanc, chrome au centre, passant au blanc pur," and they also call special attention to its habit. I think that Gloire Lyonnaise is well worth growing. It is very free flowering, and if the buds be cut when about half open, they will develop in water into Roses of good size. It has hardly sufficient substance to be quite depended on for exhibition, although I have staged it two or three times this season, knowing it to be most effective. The petals of the Rose being large and their form attractive, the light lemon tint is of decided advantage in contrast with other Roses of darker colour. It makes a good standard.

Rose W. F. Bennett.—In THE GARDEN for August 26 (p. 178) Mr. Fish writes as if he were disappointed with the reception that the above-named Rose has met with at the hands of the public. I, however, do not see why he should be, seeing that, in my opinion at least, it has only its fragrance to recommend it. As to its colour, we do not want any red Teas unless they possess more characteristic features of the class than does W. F. Bennett. Indeed, I do not think we want that colour at all in the Teas. Raisers of new varieties may let us have the fragrance of the Rose under notice, but to be acceptable it must be associated with some other colour but red. I should like W. F. Bennett better if the flowers had more staying power. If grown under glass half an hour's sunshine in the month of March is sufficient to spoil the most promising flowers, so quickly do they open and show an objectionable eye. There is another so-called red Tea Rose, Reine Maria Pia, that has no other merit but a vigorous constitution to recommend it, and I am surprised that nurserymen should give its name room in their catalogues. Mme. Etienne Levet approaches the Teas in habit and constitutional tendencies perhaps more than any others in the same line of colour.—J. C. CLARKE, Taunton.

Tea Rose Souvenir de Therese Levet.—What a remarkable contrast this deep-coloured Rose affords in a box of blooms of Teas. It was particularly noticeable in stands of twelve Teas shown both by Mr. A. H. Gray and Dr. Budd. It has been described as a "crimson Niphetos," but the blooms at Bath, and especially Mr. Gray's, were something more than crimson, for the petal edges were shaded with a darker tint. In both flowers there were great strength of petal and substance, and indeed the brilliant appearance of the flower suggested that a bright Hybrid Perpetual had become mixed up with the Teas in error. Messrs. Geo. Cooling and Son, of Bath, describe it as of a "deep rosy crimson colour," which, I think, is a correct one. The rich shading seen in Mr. Gray's bloom was probably the result of high cultivation.—R. D.

Autumn blooming of Roses.—The season of 1893 will long be remembered by all lovers of Roses in the south and west for the absence of any really good Rose blooms in the summer. In this garden I hardly saw a good Rose from the first flowering, as before the blooms were expanded they were injured by insects and burnt by the sun. During the month of June I looked over Messrs. Cooling's Rose grounds, and although a portion of the Roses is in low-lying ground, I could hardly find a really good bloom. Not so with the

autumn blooming; with me this is most satisfactory. After the rain the plants started into fresh growth, making fine strong shoots and leafage. Many of the shoots on the Hybrid Perpetuals are from 5 feet to 6 feet high. On these sturdy growths there have been some very fine blooms. In some varieties these shoots are crowned with from three to five blooms in a cluster, and many of them come very fine. All the smaller growths are bearing one or two blooms, and these are very beautiful, being shaded somewhat. Most of our kinds have bloomed more or less, but the following I have noted as extra good: *Magna Charta*, *Mme. Victor Verdier*, *Jules Margottin*, *Cheshunt Hybrid*, *John Hopper*, *Fisher Holmes*, *Celine Forestier*, *La France*, *Marie Baumann*, *Peach Blossom*, *Senateur Vaisse*, *Alfred Colomb*, *Souvenir de la Malmaison*, *Duke of Edinburgh* and that good old variety *Gloire de Dijon*. According to present prospects we shall have a good supply for some time to come.—DORSET.

STOCKS FOR ROSES.

THERE are few, if any, points in the culture of Roses that have caused more discussion, or upon which some few rosarians have expressed more emphatic opinions than the selection of stocks. While agreeing that it is right for everyone to speak as he finds, I cannot help remarking that, in my opinion, many writers have unduly tried to force a certain stock upon the public, simply because it thrived well with them. When writing upon manures for Roses I endeavoured to point out the great importance of applying manure most suitable for the soil. The question of stocks and Roses is very similar, although not quite so clearly defined as in the former case. Both the variety and soil must be borne in mind when deciding what stock to cultivate upon.

THE DE LA GREFFERAIE

is a grand stock for almost all soils when extra strong growers are cultivated. Before going further, I may state that when a Rose is worked upon any given stock, the strength and root power of the latter are considerably affected by the former. For example, if we work a strong grower upon a strong-growing stock, we shall get extra vigorous growth; but if we place a weak-habited kind upon the same stock, the latter will not grow and root so freely, because there is no outlet for its natural energies. Similarly, if we work a strong grower upon a weak stock, the latter is forced to make root more freely than usual in order to meet the demands of the vigorous-growing Rose. It is simply a question of supply and demand, and what we should aim at is to fit these two as nearly as we can. The *De la Grefferaie* making very strong root-growth and supplying an abundance of sap is an excellent stock for the extra vigorous growers, especially upon heavy soil. I also fancy that it puts more colour into the blooms than the *Manetti*, while I am certain it is an excellent stock for many Roses which are liable to break out from the latter. Hybrid Perpetuals, as *Marie Verdier*, *Louis van Houtte* and *Sultan of Zanzibar*, also *Teas*, like *Bouquet d'Or* and a few more, do not form a strong union with the *Manetti*, although other Hybrid Perpetuals and *Teas* like *Gloire de Dijon*, *Kaiserin Friedrich* and others do. All of these varieties, with *Captain Christy* and *Reine Marie Henriette* among the Hybrid *Teas*, do well upon the *De la Grefferaie*.

BRIERS,

both cutting and seedling, are great favourites, and deservedly so. I do not know of any Rose that will not thrive upon them, according to

the strength of the variety; but with me, *Maréchal Niel*, *William Allen Richardson*, and *Bouquet d'Or* make an even better union upon the *De la Grefferaie*. Cutting Briars are rather more suitable for shallow soils than the seedlings. The latter make deep roots, while the former are inclined to root much nearer the surface. In the case of a light and naturally dry soil, provided it is of a fair depth, I would prefer the seedling Brier, as it would be better able to stand against a dry season like the past has been. Respecting the varieties, their strength, &c., there seems to be no choice between the cutting or seedling form. When a seedling is planted out while very young, it is apt to make one, or at most two strong tap roots. In the case of its remaining in the same position after being worked, it is difficult to secure any surface roots that might benefit from future mulchings. For this reason I would strongly advise that all plants worked upon the seedling Brier be transplanted in their maiden stage. We do not want the extreme of deep rooting, and this is avoided by transplanting, as when the tap roots are cut, they will only be slightly more given to deep rooting than are the cutting Briars.

THE MANETTI

has suffered a great deal of abuse during the past six or seven years, often wrongfully. True, it is not suitable for all Roses, but then it is eminently so for many. More easily and cheaply propagated than any other, besides being more certain to live when transplanted for working upon, and also when removed to its permanent quarters, this stock has undoubtedly brought the Rose into far greater popularity, owing to the small cost at which a good plant can now be produced. I am not going to prefer it to the Brier, as if I had to make choice of one stock only, it would be the latter. But I do honestly think the *Manetti* is a much better stock when properly handled than many amateurs would have us believe. It is grand for pot Roses, also for the majority of Hybrid Perpetuals and Bourbons out of doors. Some complain that plants worked upon this stock are short-lived. I do not find such the case; in fact, not more so than the same variety upon any other stock, provided they are suitable to one another. Many *Teas* and *Noisettes* will do well upon it. Recently I saw a *Maréchal Niel* that was worked upon this stock ten years ago, and which was in grand form. All *Teas*, Hybrid Perpetuals, Bourbons, &c., will thrive upon it when grafted and cultivated in pots better, in my estimation, than they do on the Brier stock. Still, I am not recommending it for *Teas* and *Noisettes* out of doors. In this case I prefer the Brier. I would not have written so much in favour of the *Manetti* did I not feel that it has been unjustly abused by many, and I would like to point out what I fancy is one reason for this. It is only since the cultivation of Roses has been better understood, and reached a higher standard, that the newer stocks have come into more universal use. Previous to this, *Manetti* stocks were made carelessly. No eyes were removed from their base, or, at any rate, the importance of doing this thoroughly was not so clearly recognised as at present. The cuttings were also made longer and budded without being transplanted. Consequently the Rose bud was not inserted upon the base of the roots, and an enormous lot of suckers frequently resulted. The other dwarf stocks came into use just as the great importance of this was fully realised, and hence to a great extent the disrepute of the *Manetti*. Made as the cuttings are now—or at any rate should be—and transplanted, this stock is no more prone

to suckers than any other. It is considerably earlier than the Brier, and for longevity I can show plants that have thrived upon it for the last twenty years or more.

For many *Teas*, especially those with a drooping tendency, such as *Souvenir d'un Ami*, &c., I would strongly recommend the short hedge Brier. It keeps the flowers off the ground and prevents much of the splashing from thunderstorms. Nor do we get such succulent growth as many dwarfs produce, and I am certain that the majority of the blooms are better finished when cultivated upon this stock. A stock may be made from any strong growers of the *Polyantha* section, or from such as *Aimée Vibert*, *Miss Glegg*, and others among the *Noisettes*. *Gloire de Bordeaux*, too, makes an excellent stock, so do *Dundee Rambler* and others of similar character. RIDGEWOOD.

Rose Celine Forestier.—A short time ago there were some notes in *THE GARDEN* in favour of this Rose. I, too, have much to say in its praise. I have a small plant growing against a north wall in the kitchen garden, and during the latter half of July and the month of August this gave a second bloom, which came in useful. This Rose is considered by many to be tender. It is true it is not as hardy as *Gloire de Dijon*, &c. Nevertheless, it cannot be considered tender compared with many kinds. The plant above mentioned stood the severity of the two last winters unprotected. I well remember this Rose many years ago when living at Ven Hall, Dorset, making a fine show. In this garden the plants never received any protection and they made large bushes. I believe the secret in getting many tender Roses to succeed is to use every effort to ripen their wood.—DORSET.

Strong v. weak plants.—What many amateurs consider a strong plant is really only a coarse and over-fed specimen. Different varieties have distinct habits of growth; therefore we must not expect to get a plant of *Louis van Houtte*, *La France*, or *Comtesse de Nadailac* equally as strong as one of *Mrs. John Laing*, *Duke of Edinburgh* or *Gloire de Dijon*. No wood that has grown succulent and pithy is of much service, nor will it pass through any but the mildest of winters without being seriously affected, if not quite killed. Fortunately, the present season is not likely to produce much growth of this description; indeed, I fancy that many amateurs will complain about the smallness of their plants when received from a nursery. Now, provided the wood is healthy and ripe, a small plant is preferable to one having strong growth. In the first case, all of the wood will survive the winter and transplanting; whereas, in the second case you will probably lose a good bit, nor will the coarser plant produce such satisfactory results later on. What most amateurs look upon as being strong plants have generally been grown in very rich soil, either with the object of getting a large and showy plant, or else in the endeavour to secure a few extra-sized blooms for exhibition. In justice to the nurseryman, I may remark here that the majority of good show blooms do not come from coarse, over-fed maiden plants, but from a generously treated subject of fair strength. What maiden plants I have seen this year are looking wonderfully well, beautifully firm in growth and in many cases already possessing wood that is hard and servicable and which is likely to pass through the winter well. A strong and coarse specimen not only fails to do this, but much of the young growth in the spring is also unsatisfactory.—R.

SHORT NOTES.—ROSES.

Rose Mme. Elie Lambert.—Among recent new *Teas* this looks decidedly promising, and it is certainly distinct. Its flowers are full, fine and erect, very pale, almost white externally, but deepening from

flesh into rosy pink toward the centre. It was raised by Elie Laubert, a name quite unfamiliar among Rose growers.—A. H.

Rose Paul Neyron.—This is a fine Rose when seen at its best. With me it has produced some very fine blooms this autumn. I never had it do so well before. It is very sweet scented, which is more than can be said of many large Roses.—J. C. F.

Rose Mme. Welch.—This fine Tea Rose is in danger of being overlooked. It is very constant in flower, free, and striking, with an erect habit which displays its rich colouring to advantage. Pale externally it has many tints within, and glows with peculiar brightness.

Rose Archiduchesse Marie Immaculata.—This appears to be a promising kind. It was sent out in 1887. A group planted last winter, however, has thrown some striking flowers lately. The colour is almost indescribable, being an admixture of coppery and metallic-red hues, such as are found in *Ideal*, only the flower is larger, fuller, and has a bold appearance. Its name will hardly commend it to general notice.—A. H.

Rose Duchess of Albany.—This is the deep tinted form of *La France*, and own-root plants have lately been giving splendid flowers of rich colour and full fine form. It is said to be sometimes dull in colour, but we were recently looking at some fine flowers with the setting sun shining on them, and they were very beautiful.

Rose Augustine Guinoisseau.—This was noted quite early in the season as giving great promise. There has been no more constant Rose throughout the year, and it is as fine in autumn as it was in early summer. It is a sterling addition and a noble Rose. The heat is supposed to favour light Roses, and this has certainly been matchless in form, tender in colour, and exceedingly free. It is described as a white *La France*, but this is misleading. It has affinities to *La France*, but, far from being white, it is refined and delicate in colour, and of a clear flesh tint, more beautiful by far than if it were pure white.

FLOWER GARDEN.

NOTES ON TIGRIDIAS.

THE two new varieties of *Tigridia* which a few of our dealers are offering, *T. grandiflora rosea* and *T. grandiflora liliacea*, are both very handsome, with large showy flowers. They have not borne as many flowers as *T. pavonia* or the variety *alba*. I believe they are natural crosses between the other older varieties, because I have found both of these among plants of *T. conchiflora*, and not only good types of them, but flowers of various shades of red and yellow, so that occasionally it was hard to tell whether certain plants should be classed as *T. conchiflora* or *T. pavonia*. There were some that seemed to be intermediate between the yellow and white, having a creamy shade, so that it would seem as if they might as well be placed with *T. pavonia alba* as with *T. conchiflora*. But this variation seems to be nearly all in *T. conchiflora*, with very little in *T. pavonia*. *T. pavonia alba* shows no varieties of shades. Occasionally a plant of *T. pavonia* or *T. conchiflora* is seen among the plants of the variety *alba*, but each plant of the variety *alba* is like all the rest, seeming not to have become mixed by the insects as the others have. The bumble bees are the most numerous visitors of the Tiger Flower here, and I believe are aids to their fertilisation. Occasionally honey bees are seen among them, but only a few. In the new

T. GRANDIFLORA ROSEA the outer portion of the flower has a rosy tinge and the inner lighter variegations are yellow, while in the variety *liliacea* the outer portion of the flower is reddish purple and the inner variegation is light or nearly white. In all

of the flowers that I have noticed, rose and yellow go together, and white and reddish purple. I could not find a flower in which the inner variegation was white and the outer one rose. I believe that the variety *rosea* is a cross between *T. pavonia* and *T. conchiflora*, and the variety called *liliacea* is between *T. pavonia* and the variety *alba*. Last summer in an old Mexican garden, Mr. Pringle found a rose-flowered variety of *T. pavonia*, which was so distinct from any other form of *T. pavonia* which he had seen, that he secured a hundred or more bulbs. The flowers of this variety are not so variegated in their inner portion as in the variety *rosea* above mentioned, but in what variegation there is, the yellow predominates.

TIGRIDIA VAN HOUTTEI was first discovered by M. B. Roezl, about twenty years ago, in Mexico. A few seeds were sent to Belgium from which flowering plants were raised, and these were illustrated by a coloured drawing in the *Flore des Serres* of August 20, 1875. Last year Mr. Pringle secured an ample supply of these bulbs from the original locality where Roezl found this *Tigridia*, and I believe these are about the only plants of this species now in cultivation. The plant grows about 10 feet high and bears in long succession fifteen to forty and perhaps not rarely sixty flowers; they are erect, bell-shaped, lilac and purple, and each $1\frac{1}{2}$ inches wide. The flowers are not striking. The red, yellow and white, which so quickly catch the eye in the varieties of *T. pavonia*, are almost entirely lacking in this, and one might pass it in full flower without notice. Yet, upon examination, the flower is beautiful; its delicate markings of lilac and purple of various shades are so unlike those of all the other *Tigridias* that it is the more interesting, and who can tell how useful it may be in crossing with other species and in increasing the number of new varieties? Its flowers are more durable than those of most species and remain open late in the day when others are all closed. After what has been said in favour of the other species of *Tigridia*, the little

T. BUCCIFERA, which I believe is the only species yet found in the United States, is, in my estimation, second to none. It is certainly a most charming little plant, and if it could be had at a reasonable price it would be largely grown. It is very scarce.

T. PULCHELLA is also very distinct from the others. It is a shy bloomer than most species, and bears from one to four or five flowers. The inner portion of its flower is in the shape of a cup, white, with purple spots, while the three outer segments are very dark purple, or almost black. The flowers vary in size from half an inch to $1\frac{1}{4}$ inches or more across in the strongest plants.—F. H. HORSFORD, in *Garden and Forest*.

Pink Ernest Ladhams, which was shown at the recent exhibition in the Agricultural Hall, is an interesting variety, as it throws up a succession of the large, fragrant, delicately coloured flowers pale lilac in colour, with a dark coloured blotch at the base of the petals. Its perpetual blooming character adds greatly to its value.

Heuchera sanguinea flowers freely with me in a rather heavy clay loam, no peat or leaf-mould being used. The situation is in the front of a flat border with full exposure to the sun. After blooming last summer, I divided some of the plants, and this spring replanted them in their old position next to their old neighbours. Both the old plants and those divided bloomed freely this season.—H. C. EGAN, *Egandale, Highland Park, Illinois*.

Crocsmia imperialis.—This is, as stated on p. 218, vastly superior to the ordinary form, and that this superiority is generally recognised is shown by the fact that the price is well maintained; indeed, it will probably be some years before it can be regarded as cheap, for this variety cannot be increased to anything like the same extent as the ordinary form, which will take possession of a piece of ground and fill it with a mass of roots, as from each corm numerous creeping shoots are pushed forth; whereas, on the other hand, *C.*

imperialis will seldom produce more than one. As far as a limited experience of it in a warm border in front of the greenhouse will allow me to speak, it does not appear to be so hardy as the common kind, but that might possibly be accounted for on the ground that the newer form was grown for a time under glass. A few seeds will often ripen from which young plants can be raised. The groups of this in the succulent house at Kew have been really splendid.—H. P.

The dwarf Antirrhinum.—This type of *Antirrhinum* is referred to in *THE GARDEN* (p. 215) by "D. T. F.," but if the Tom Thumb *Antirrhinum* race is the dwarf *Antirrhinum* of this note, then I hope no one will have such plants in the garden. They are very dwarf, only a few inches in height, the flowers resting closely upon the dense leafage. All the natural grace, freedom, and beauty of the plant as we know it in most gardens are gone. I have seen many flowers spoilt, either by making them of abnormal size or erratic colours, but nothing quite so ludicrous as this new race of *Antirrhinums*. They are useful, perhaps, for edgings, but many other better things can be selected for the purpose, and a bed of the ordinary white and crimson varieties is far more beautiful.—F. P.

NOTES FROM CLITHEROE.

IN spending a few hours at Holden Clough, near Clitheroe, or, more strictly, in Bolton-by-Bowland, the residence of Mr. R. Milne-Redhead, I was struck with many things growing and flourishing in the beautiful gardens in nearly every aspect, and in such a manner as to make one wonder why common and uncommon things could grow so differently in one place to what they do in another, where the climate is practically the same. Of course all the conditions of plant life where we see such facts are not really the same, and it is precisely at this point where, when we read and learn aright, we may draw some useful conclusions for every-day practical gardening. Holden Clough is close on the boundary dividing Lancashire and Yorkshire, the great valley of the district being drained by the river Ribble, a pretty tributary of which passes through the Holden Clough grounds, where, owing to its swiftness and force, it has cut for itself gorge-like features, and liberally furnished its bed with massive or exposed boulders. Not only is the bed of this small river deep, but the Clough has long steep slopes at each side. At the entrance to the Clough the ravine is narrow, the carriage drive in one part being on a shelf above the river. Soon the view widens, continuing to do so until the residence is reached, when a little beyond it narrows again to a sort of ravine higher up. It is in this charming natural enclosure that horticulture and arboriculture are indulged in with rare taste by the proprietor personally. The general aspect is to a degree one of natural quiet and rest. Ferns from almost all parts of the world were flourishing on the wood and river banks between shrubs and big stones, and by little rills falling into the river from the hill sides.

I made a guess that the Clough would enjoy some 6° or 8° of higher temperature in winter, and I suppose it is so. Certainly I saw many things that I could only attempt in my part of Yorkshire in a cool greenhouse, and many things were growing fully exposed that we generally consider to require shade from mid-day sun as well as sheltered aspects from winter cold. Conifers were charmingly clean, and showed their foliar bloom or tints as rarely seen. Conifers are a feature of the place, though the gardens are comparatively young. Rare climbers festoon the house, and nearly every one for that position has been selected for its double use of beauty and perfume. Everywhere is the ground clothed, excepting the hard walks and drives, and a garden promenade may be undertaken almost without leaving the sod. Daffodils and other hardy bulbs are grown in vast quantities. In the gardens at Holden Clough, *Cistus ladaniferus* is quite at home as a tall climber on one of the house gables. *Roses*

open their buds here as they only do in few places. I saw growing in full sun plants of *Ramondia pyrenaica* that would have been burnt up if grown in a similar aspect in more exposed gardens or an atmosphere less tempered with moisture.

Primula scotica grew with such robustness as to more nearly resemble *farinosa*, and *farinosa* had more the appearance of young Cos Lettuce than aught else. Even the Killarney Fern was thriving in exposed places, so far as plant positions could be termed exposed in this sheltered garden. *Adiantum pedatum* was nearly 2 feet high. The Holly Fern had fronds nearly a foot long of an olive-green and leathery texture. Within the limits of the Clough every form of gardening almost is attempted, at least short of glass structures for tropical plants, and all seem to be successful. The orchard houses were especially attractive in the centre of the kitchen gardens; large quantities of fruit had been picked, and still there remained great profusion on the small trees—mostly in pots.

The rockeries, which are artificial, are delightfully covered with hundreds of the choicest alpine, many of which have been collected by the lady of the house. New rockeries have just been constructed, and though of but very recent date, they have a natural and quiet effect already. There are a few beds on the main lawn, but no bedding, in the gardener's acceptance of the term. Natural flowers, herbage and shrubs have not been trimmed away with a too ruthless hand, and I noticed that in many instances such natural vegetation afforded the most delightful shield for setting off a good tree, a group of conifers, or a batch of flowers. Even the common Burdock on the upper banks of the river gorge and fringing the dressed lawn could not have been improved upon by many things we grow as rarities.

The Gunneras were there and *Saxifraga peltata*, but I could not see that they gave a better effect than many of the wild things that existed in profusion, and which, as I noticed, were singularly free from the ravages of grubs and insects. Having mentioned a few things and the way in which they grow under the conditions described, may we not draw a lesson of a useful character therefrom. It has long been clear to my mind that if we can get the protection of tall trees sufficiently far away, and if we can grow companion shrubs so as to increase surfaces for radiating heat and evaporating moisture, we shall begin to find that our plants are helping each other to flourish rather than, as we often see, fighting to kill their neighbours.

J. WOOD.

HARDY WATER LILIES.

JUST a line to say that I have growing here not only the Water Lilies not mentioned by me in my former article, as alluded to by "A. H." at p. 215, but several others obtained from other raisers. My idea was to mention only the very best of M. Marillac's seedlings, but he is by no means the only raiser of choice hybrid Water Lilies on the Continent, and in America these flowers are appreciated even more highly than so far with us in Britain. In addition we have a good many seedlings of our own, and it was this fore knowledge of potentialities far beyond our present actual attainments which led me to see that the water garden of the future was as yet merely in its infancy.

I believe that there are varieties of M. Laydekeri rosea, but at all events ours is so far simply a rosy carmine phase of N. pygmaea just as N. pygmaea Helvola is a yellow phase of that plant with reddish instead of green leaves. All who have so far seen our pond Lilies are simply astounded that such beauty of form, size, colour and perfume are possibly obtainable except from under a glass roof. No one had seen such Water Lily beauty in the open air and in a common cold water pond. Of course I know wherever a tank or pond is heated by exhausted steam, &c., even sub-tropical Water Lilies may then be grown, and

have been, and still are, beautifully grown in the open air.

As no one replied to my inquiry as to the origin of N. candidissima, perhaps the finest of all wild white Water Lilies, or Nymphaeas, I may say that in referring to Boissier's "Flora Orientalis," vol. i, p. 104, under N. alba, he says that it varies much in foliage and flower, and adds further that a gigantic form two to three times larger than the type exists in Lake Siavo, in Macedonia.

Just as I write, Mr. Ed. Whittall, of Smyrna, tells me that his collectors have found a most exquisite rosy Water Lily high up in the mountains, where the climate is not unlike our own. This is good news for all Water Lily growers, and very encouraging to botanists as well. Of course, it may be only an upland form of N. stellata, but even so if it prove to be hardy here with us we shall not complain. All who travel where Nymphaeas grow or are wild in Europe or in America, cannot be too careful in their observations of these lovely flowers, which are far more variable than even the most sanguine of us had supposed to be the case.

F. W. BURBIDGE.

The Japanese Anemone.—About Philadelphia, and possibly elsewhere, says *Meehan's Monthly*, it is nearly impossible to keep it, as the Spanish beetles devour the foliage. Clematis, Ranunculus, and all plants to which the Anemone is allied suffer likewise. They can be destroyed by sprinkling the plants with Paris green, though this is not a nice article in a flower garden.

The Belladonna Lily in the open.—Your description of this in last week's GARDEN reminds me of a border of it in East Anglia many years ago. The border in front of a conservatory was formed of about equal parts of peat, loam and sand and about 30 inches deep with a sharp pitch to the south. The only protection ever given was a few handfuls of common Bracken during the severest portion of the winter, and this border became a perfect thicket of bulbs that used to bloom superbly every season.—D. T. F.

Nemesia floribunda.—This is sufficiently attractive to merit a note, and is pretty in a mass. It is of a neat, dwarf, but spreading habit, blooms profusely and for a long time. It grows about 1 foot in height and branches out freely, each shoot flowering as it grows. The flowers look so much like those of the annual Linarias that they might be mistaken for them, having the same form and characteristic spur. The flower is chiefly white, but has a rich boss of lemon-yellow near the mouth of the flower. It is also sweetly scented.—A. H.

Double dwarf bedding Begonias.—When at the Taunton flower show in August I was much interested in a group of dwarf Begonias, double flowered, for bedding, shown by Mr. B. R. Davis, nurseryman, Yeovil. Seeing that the tuberous-rooted Begonia is destined to be largely employed as a bedding plant, Mr. Davis turned his attention to obtaining double varieties of dwarf and compact growth, small flowered and free blooming, and he has succeeded to a remarkable extent. Mr. Davis holds the opinion that these small-flowered free-blooming Begonias, being more persistent in holding their flowers than the single varieties, stand rough weather better and are more durable in consequence. A few attractive varieties were to be seen in Mrs. Hope, scarlet; Lafayette, deep scarlet, very fine; Robin Adair, crimson; Colonel Lausedot, deep yellow; Louis d'Or, pale yellow, and Gardeniaeflora, white.—R. D.

Cockscombs in Hyde Park.—This was one of the surprises of my visit to the park at the end of August. Nice Cockscombs of a good dwarf strain were being planted out of 8-inch pots almost thick enough to touch each other, and gave the beds a rich, if rather a formal appearance. On the spot I longed to mix them with Celosias, as I notice from THE GARDEN has been done in Regent's Park. These or the older fashioned Loves-bleeding would go well with such formal stiff

plants as the old Cockscomb. Of course, the latter are costly bedders, and unless in small quantities or with national resources behind them, may hardly be worth the candle. But it is worth noting as an illustration of our national enterprise in decorative gardening, that Cockscombs almost full grown were being planted out in quantity in the last week of August. Most of the gardening between Hyde Park Corner and the Marble Arch, and especially the more picturesque style at the park end of the Serpentine, furnishes a useful school for the nation, as well as a fair illustration of our style and resources in decorative gardening.—D. T. F.

The autumn Crocuses.—One of the most striking plants or groups in Mr. Barr's fine collection of hardy plants at the Agricultural Hall, Islington, the other day was that of the Colchicum variegatum. Its vigour and the richness of the marking in the flowers suggested the question so often recurring, Why are these lovely Crocuses not more generally grown? Unless in botanic gardens, or with commercial growers and collectors, one seldom meets them in quantity. Occasionally, too, but rarely, one lights on them wild or semi-wild in mead, lawn or home woods; but we really need them in infinitely greater variety and in tens of thousands instead of units.—D. T. F.

The Hollyhock has bloomed in many places extremely well this season, and we have seen little of the disease which for years practically banished this favourite from our gardens. Recently we saw a row of a primrose-coloured variety, at least the outer segments were of this refined shade, whilst the centre was of rich yellow. The plants were against an outer fence, and made a charming autumn picture. Hollyhocks require a thoroughly deep and rich soil, and during dry weather plenty of water at the roots, and if a mulch of manure can be given, the results will be more satisfactory. Many beautiful shades of colour occur amongst a good strain of Hollyhocks, but the most delicate tones, such as creamy white and primrose, are the more pleasing. At exhibitions this fine flower cuts a sorry figure. We recently noticed several stands in which not a particle of foliage was to be seen; the flowers were simply stuck on the boards like Chrysanthemums or florists' Carnations. Unfortunately, the Hollyhock is so formal, that it has a more grotesque aspect thus seen even than the other flowers mentioned.

MICHAELMAS DAISIES AT CHISWICK.

THOSE interested in the perennial Starworts will find a very large and interesting collection in the Chiswick gardens of the Royal Horticultural Society, where an entire border running the whole length of the large vinery is devoted to them. This year, owing to the drought, the plants are blooming much earlier than usual, and the brilliant sunshine of the past few days has told upon the masses of flowers. A large number of the finest kinds were recently in perfection, and a few notes upon them may prove interesting. This collection is extensive, and comprises a number of rare and charming varieties not easy to get in nurseries. It is such types as these that one wishes to see in gardens to take the place of the many weedy kinds often grown.

Two of the more important are A. acris and A. Amellus, both dwarf kinds, which make a gay mass of colour. The former seems to vary greatly, and some of the forms are poor, but the true variety is about 2½ feet in length, bushy, dense growing, and smothered with lilac-purple flowers. A. Amellus varies little. The varieties bessarabicus and major seem practically the same, the latter perhaps the taller, all having large, rich violet-purple flowers. The principal varieties in bloom are those of A. Novi-Belgii. We made careful notes of the finest, and all those mentioned deserve a place in our gardens. Purity is in the way of the variety Harpur Crewe, and both are not required in the same garden; the former is the better of the two, of pyramidal habit, the flowers white. This is

of course not a good year to judge of the height of the plants, as many, naturally tall, are of medium height by reason of the dry season. The very tall kind named Robert Parker is a case in point, and this variety is blooming freely. It is a very fine kind, graceful, yet compact, and the flowers are of a light lilac-purple colour, quite distinct from those of other Michaelmas Daisies. Janus is very free-blooming, the flowers white, starchy, but very pleasing against the narrow leafage. One of the more distinct is Ravenna, the flowers rich lilac, yellow in the centre, and showy. Arcturus is charming; the flowers deep violet-blue, and the leaves of an intense deep green. A good group of this in the garden would create a fine feature. A. Shorti, a beautiful Aster now well known, also A. ericoides, must be mentioned. A bright bit of colour is contributed by A. Linosyris, synonymous with A. linarioides; its flowers are yellow, hence the popular name of Goldilocks. We shall note others as they bloom.

THE WAND FLOWER.

(DIERAMA (SPARAXIS) PULCHERRIMA.)

THE plant now illustrated is perhaps the most graceful of all the Cape Irids; indeed, it is so distinct and effective as seen at its best, in borders or rock gardens, that the wonder is it is so rare. One reason may be the fact that it is not perfectly hardy in all soils and positions. It is like Romneya, Fremontia, Mutisia, Berberidopsis, or Embotrium, and requires not only a specially suitable position in deep sandy soil, but careful and special culture as well. It is easily raised from fresh seeds sown two or three together as soon as they ripen, and placed in a cold frame or on a shelf in the greenhouse. As a rule they germinate not later than the following spring, and the seedlings may be planted out in May in positions where they are to flower. A deep, rich, sandy border in full sunshine or a nook on the rockery suits it best, and it is next to impossible to plant too deeply. On the approach of winter cover the clumps with peat earth or dry coal ashes so as to keep out frost, and when growth commences, a plentiful supply of water may be given with advantage. I have seen this species and its ally, D. pendula, with spikes 8 feet to 10 feet in length, hung with their bell-shaped flowers in the most elegant manner on hair-like pedicels. The movement of its flowery wands swaying to and fro in the slightest breeze is very beautiful, and a good group of these plants always forms a focus spot for visitors to admire in the garden. They are plants that all Iris lovers should grow, and their beauty and grace are worthy of any little extra trouble and cultural attention.

D. pendula is the hardier kind of the two, with paler rosy flowers, those of D. pulcherrima varying from lilac to rosy crimson.

F. W. B.

Dahlia Flambeau may be described as a decorative variety, although, fortunately, not coarse. A mass of it we made note of recently was very showy, the scarlet flowers, held well up above the foliage, having a bright effect. It does not follow that all the beautiful kinds one sees at exhibitions are of value in the garden.

Sphenogyne speciosa.—This is a really beautiful annual, and is most generally known under the above name, although it is called Ursinia, under which name a pretty cut appeared on p. 217, which shows the graceful form of the blossom, but does not convey any idea of the free, graceful spreading growth of the plant. Like all the best annuals, it must have abundant room to grow, and cannot possibly reveal its beauty when a dozen plants are languishing where there is only room

for one. It makes a dense cushion of rich growth, each plant capable of covering nearly 2 square feet of ground. When the plants have such freedom they go on blooming for about three months. The starchy flowers, borne on slender stems, are especially brilliant in sunshine, but they close at night and remain closed on wet days. From seed it gives a little pleasing variation in colour from pale lemon-yellow to deep orange, some of the flowers having a broad black band around the disc, and others little or none at all. It lasts quite long enough to be used with good effect in summer flower gardens with other annual or tender things.—A. H.

Venus's Looking-glass (Specularia).—This is one of the pretty old annuals which was frequently met with in gardens at one time, but is now rarely seen. There are several species and varieties. They resemble the annual Bell-flowers very much, but long known under a popular name, they are still kept distinct by those who



The Wand Flower (*Sparaxis pulcherrima*).

care for them. The typical kind has flowers of a deep violet hue, and is a good annual in every way, whilst there is a white-flowered form of it. Another species flowering abundantly at the present time is S. pentagonia. It is lasting and showy, and has the largest flowers of any. Its colour is violet, shading to blue and white at the base of the flower. It opens wider and is deeper in the throat than the commoner species. Its habit is dwarf, but it branches freely and flowers profusely.—A. H.

Daffodils for naturalisation.—From a purely decorative point of view a few of the Daffodils stand out well above their fellows as being always good and effective. For growing amongst Grass, N. princeps is perhaps the best, as the flowers lose none of their size and are borne in the greatest profusion year after year. A large group planted in the orchard here six years ago flowers splendidly and increases rapidly. Some of the kinds tried have not done nearly so well. N. pseudo-Narcissus comes dwarfier every year, and the flowers of such as Horsfieldi and the double Orange and Sulphur Phoenix get fewer. N. obvallaris (Tenby Daffodil) and N. Telamcnus plenus, however, with N. prin-

ceps are all that I could wish. I planted large groups of various kinds before Grass was sown between the orchard trees. The ground had previously been cultivated for some years, but this was discontinued, as the trees were covering most of their allotted space. Groups of Crocus were also planted, and others have since been added; these, too, are doing well. The present being a good time for planting Daffodils, all who have the opportunity should plant bold groups of these fine and fairly cheap kinds; the effect in April will be glorious and the flowers will form a fine addition to the cut-flower basket when needed. No manure should be used when planting unless the ground be very poor, as this often gives rise to disease and decay.—J. C. TALLACK.

NOTES ON HARDY PLANTS.

Clematis Davidiana.—Whether this is likely to prove a good and useful plant in the common acceptance of the word, I should not like to say, but it has obtained good credentials from high places. What the flowers lack in size is made up in numbers, and when the bulky clusters are seen in profusion, the colour is by no means wanting in effect. The flowers show up in round, compact masses of lively heliotropemaue colour. The scent is another good feature for a Clematis; this is in the way of Mace and Lavender. The habit is also distinct. A specimen here has been in flower a month, and there are yet buds enough for several weeks' succession.

Philesia buxifolia.—Doubtless this can be grown out of doors, as I have so cultivated it for several years, but—and this word is full of meaning here—it rarely flowers in the open. When we recall the charming little bell-shaped flowers, in the way of those of Lapaeria, the disappointment is all the more keen that the flowers do not appear. I take it that the muggy winter season harms the evergreen foliage and so hinders flowering. Anyhow, the plants thrive in summer, making both twig and sucker growth, and they are propagated entirely in open air conditions, so whatever may be the reason why the flowers are so few, the plant is of proved hardiness. It flowers much better, I know, in a cool greenhouse. It loves moisture in the growing season and peaty soil.

Orchis foliosa.—This is the very best time to plant this the noblest of hardy Orchids suited for the ordinary border. If planted this month the roots push with remarkable promptness and vigour compared with later plantings; whilst roots left till spring, if not growing in pots, will have both deteriorated and be liable to die off, as well, if they live, as have little chance of forming good new tubers. I think it is advisable to plant the tubers at least 6 inches deep, measured from the apex, for I have known some to be killed by very severe frosts in damp soil, especially where not protected by shrubs or old leafage of neighbouring plants. We cannot wonder very much at this with a Madeira species; the surprise is rather the other way—that the plant so rarely suffers, though so early in its growth as to get all the most trying late frosts on its new foliage.

Micromeria montana is a soft-wooded minute shrub, flowering when most things are past; the upper halves of its branches are changed into spikes of small blossom of a rosy soft blue or purple. Though not showy, it is charming, and, of course, the perfume of both leaves and flowers, and especially when both are combined, is one of the sweetest and most spicy I know. It enjoys plenty of sunshine, and you get a better, dwarfer habit by growing it in stony soil. Under these circumstances you may depend on it as a fairly good evergreen. Height 6 inches to 10 inches.

Stachya corsica.—It would be hard to describe the loveliness of this as seen in a good-sized patch of, say, 9 inches or a foot across. On a pale green cushion of small leaved herbage the Orchid-

like white flowers have a pretty and uncommon effect. It flowers nearly all summer, and it has the merit of divesting itself of its dead flowers in such a way that the plant and flowers always look fresh; this is no mean feature with any plant, and in the present case of white flowers produced in long succession, it makes all the difference between neatness and shabbiness.

Bellium bellidioides.—Though but a small Daisy, when plants are propagated after the first summer crop of flowers, they not only form vigorous verdant tufts, but come into flower again in the autumn, and at no time could this simplest form of flower be more acceptable than when the wild kind is all but invisible. Besides, it is well marked in its dissimilarities, and its long stems of thread-like thinness allow the dainty flowers to pose in a fashion quite their own. It may be made a good showy thing in the autumn by simply midsummer root-division.

Cornus canadensis.—Many people say they cannot grow this. I do not pretend to say what the reason is, but I will give a few facts. In black soil—nearly all decayed leaves and peat—and in a position where, though the soil is light, it cannot get dry, a dish or depression being formed in the midst, the plant grows rampantly; aspect south-east. I find also that it does quite as well in pots in turfy loam and peat always kept cool and moist, plunged in sand. I have seen it planted in other gardens where it has been said it would never grow before, and under similar conditions as I have described it has begun to flourish the same as with me. I think, therefore, that the soil and moisture are the main points to look to. Just now the plant is lovely in its autumnal tints, and all summer the showy white bracts with their crimson tips gave the plants quite another character. No plant is more fascinating and at the same time more unlike all other rock garden species. True, it rambles at the root, and let it ramble on, for nothing can be more delightful.

Arctostaphylos (Arbutus) alpina.—This is just beginning to put on its glorious autumn glow. Though the fruits of this Bear-berry are of a duller colour than those of the more common *A. Uva-ursi*, it gains by comparison by its rich fiery red foliage. It is a mountain plant, as implied by its name, but no evergreen creeper is more easily accommodated in gardens of a low elevation. Indeed, I used to see it grown splendidly by the late Mr. Niven in the Hull Botanic Gardens. I have not tried it in chalk, and possibly it might not do in that, but in all other sorts of soil it seems to do, and better with a mixture of peat. It is also invigorated by liberal and frequent top-dressings over its long trails during summer. Indeed, by this process you get it to spread quickly and thickly, and when other patches are desired they may be soon made by taking a few rooted layers from the older plants that have been so treated. The one essential thing for this deep, glistening, green creeper is plenty of sunshine, and with that its stems and leaves become beautifully coloured in the autumn. I may mention that it is one of those plants, of which we have all too few, that may be used as a foil for bulbous plants, through which they may grow in winter and spring, and so sustain their flowers erect and save them from splashes, and then all the rest of the year look no worse for the service rendered to the bulbous flowers. Its habit is perfectly flat and neat in the extreme. It is also a fitting subject for stony ledges, over which its trails may extend. It is a decidedly better plant than *A. Uva-ursi*, though both are worth growing where there is plenty of space.

Eupatorium purpureum.—Tall coarse grower as this is, it doubtless deserves a word of praise as a good hot-weather plant. Specimens here have been in flower for six weeks, and are yet showy. The plants are 5 feet high, and the colour of the flowers a red-purple; still there is something in the shade which would warrant one in describing it as a rich colour, though sombre. The fact that many people have admired it may somewhat indicate its value. There is, however, another point

that should be noted: it is a variable species, and a group in another part of the garden, the original plant of which came from another source, is not so rich in colour, being paler. I fear, therefore, intending planters would have to take their chance as to getting hold of the more desirable variety.

Androsaces.—These often go off in an unaccountable way about this season. The death of these plants is often caused by worms, which in a dryish season work hard on the surface during the dewy night, drawing vegetable refuse and green stuff into their holes and forming small hillocks of little stones over the opening. It is by a loop action that they take hold of these plants, which are of convenient form to enable them to break away pieces. Especially such kinds as have stolons—*sarmentosa*, *villosa*, *Chamejasme*, and even the long-stemmed *carnea*—are easily broken by the larger worms, as they offer button-like tufts of foliage to pull by, and it is because these tufts are too large and firm to permit of their being taken into the holes, or even securely covered by small stones, that we see them and grieve about them, otherwise many of us would wonder how in a few nights our plants become so much less. This is no mere theory. I have watched the whole thing, as others may do, and I venture to submit that more of our alpine "go less" in this way than we are apt to believe. Of course, this business cannot go on if there are no resident big worms within, say, a foot of the plants, because they do not altogether leave their holes when they do it, but hold by their natural rough skin, anchor-like. It is not an uncommon thing to see these plants in detached pieces, and others (including *Gentiana verna*, almost more than any other) mixed with bits of stone and rough soil, as if done by means of a small rake. The only remedy is to get rid of the worms by one or other of the well-known methods.

Helenium Hoopesi is really most distinct, and in fact the true thing is scarce. It may be known just at present by its big strap-shaped radical leaves, so much resembling those of *Helonias bullata* or the better-known *Lilium candidum*. They are fleshy and glabrous, with a distinctly pale midrib. It flowers early and has large heads of a glorious deep yellow on silvery or lanate stalks. It is by far the best *Helenium* I know.

Trillium grandiflorum.—Could planters of this favourite now see the amount of root action going on, they would no longer hesitate as to the best time to plant it. The roots from the base of the crown, as well as from the lower parts of the tuber, are pushing rapidly, and I fortunate are those who have got their plants into their permanent places, so that such rooting can all go to the credit of the future well-being and establishment of the plants.

Aster pyrenæus is one of the earlier bloomers and now out somewhat sooner than usual. The true plant is vastly superior to any of the Michaelmas Daisies that have done duty for it in commerce, for hardly any species has been more misrepresented. The heads are large, and if the colour is a pale purple, it is bright and effective. The plant, too, is dwarf.

Rhexia virginica.—I have not had much to do with this. I am shy of Virginian species, especially those requiring moist places, because if you have, to begin with, a plant of doubtful hardiness, it is hard to winter such as must have damp soil unless you take them up in winter and store the roots, and this, to my mind, is all too artificial as hardy gardening. Still, some things are worthy of any care if it will bring about successful results, and perhaps this is one of them. I think the very warm summer has suited the plants, as some weaklings here have quite renewed their vigour and will shortly flower.

Primula Sieboldi and all the *cortusoides* group would have been much better if divided and transplanted in June whilst in a leafy state compared with similar treatment at this time. The difference would have been that the June batch would now have been well established, their newly-formed roots would have been made in the new soil, and

frost could not have lifted them. As the old plants are now, they cannot have much more root to make this year, and what they have will be more or less broken during removal; still, being a very hardy and vigorous class, the transplanting may yet be done safely, but the results cannot be so good. J. WOOD.

Woodville, Kirkstall.

FLOWER GARDEN NOTES.

A REVIEW of the flower garden at the present time and a retrospect of the same during the last four months (always an essential feature at the close of summer) emphasise the fact that many bits of the garden have shone prominently during the present season a long way in advance of other beds and borders. One of the best things at the present time is a long north border, which, having been cleared of old shrubs, was planted in the autumn of 1891 with *Polyantha* Roses, *Paquerette* and *Anna Maria de Montravel* predominating. The space between the Roses was sown last April with *Mignonette*, which has stood its ground better in this cool spot than anywhere else in the garden, and is still flowering freely in conjunction with goodly clusters of *Roses*. This race of *Polyantha* Roses might with advantage be more extensively planted; they make a brave show in large beds, closely planted to monopolise the whole space or thinly, as above mentioned, with a carpet of *Mignonette*. There is not a large number of varieties, but a nice bed can be made with, in addition to those already named, *Gloire des Polyantha*, *Golden Fairy*, *Little Dot*, and *Perle d'Or*. If facilities for watering were not to hand, the best beds have been those planted with old-established stuff that was able to hold its own against the drought. Two specially bright beds consist of alternate plants of *R. V. Raspail*, *Pelargonium* and *Centaurea ragusina*, the *Pelargoniums* being old winter-flowered stuff turned out of 6-inch pots, and the *Centaureas*, early sown seedlings that had been potted on into 4-inch pots. This is a very bright combination, the contrast between the white and the glowing scarlet being good. Quieter, but none the less pleasing, beds are formed by planting *Lady Molesworth*, *Heliotrope* thinly and filling in with *Centaureas*. To break the flatness of such beds, it is well, unless they make very strong growth, to put a stake occasionally to *Pelargoniums* and *Heliotropes* and lightly tie two or three shoots to the same. If these are encouraged to mount the stakes as quickly as possible and then left to their own devices, there will be nice elevated bits of colour here and there in the beds without any apparent stiffness. Double *Zinnias* with a little help at planting time have done remarkably well, and must rank among the best of the summer bedding annuals. An excellent strain and assortment of colour are obtainable from a half-crown packet of seed. They make very handsome beds associated with tuberous *Begonias*, always provided the colours are nicely blended and the plants are not crowded. They may each be set at intervals of 4 feet, that is, 2 feet clear throughout, the bed being finished and carpeted with *Mesembryanthemum*, *Koniga* variegata or *Cannell's dwarf Ageratum*, as may be thought best. Foliage as opposed to flower bedding has come well through the dry season, *Coleus*, *Iresine*, *Beet*, and the white-foliaged plants, as represented by *Centaureas*, *Cineraria maritima*, *Gnaphalium*, and the variegated Grass (*Dactylis glomerata*) having all done well. I cannot say so much for the *Alternantheras*; the amount of water given essential to secure growth seems to have developed luxuriant growth at the expense of bright, well-defined colour, and it is very doubtful if they will be seen at their best this season, as the nights are getting cold, and this morning (September 12) the outdoor glass dropped to 31° at 2 feet from the ground. I should say there would be a ground frost of quite 3°. *Marguerites* have done well, especially the small-leaved variety, not so strong in growth as usual, but very full of flower. *Marguerites* make bright beds, associated with alter

nate plants of *Dahlia Fire King*, or thinly with *Annette Fuchsia* on a carpet of dwarf purple *Petunias*.

Reference has already been made to the occasional use of flowers in connection with ornamental shrubs and trees of small size, the mixture of *Dahlias* and *Hollyhocks* with small *Cupressus* and *Retinospora*, the backing of groups of *Delphiniums* with the double-flowered *Deutzia scabra*, &c., and as the planting season is fast approaching, it may be well to note any additional work that may be done in this direction. Thus, if on small lawns where few flower beds are to be found, occasional groups of plants are placed to give a bit of bright colour through the summer months, a background can be formed with a plant or two of *Ailanthus glandulosa*, of the large-leaved *Magnolia tripetala*, or *Prunus pissardi* if that colour is required. A very pretty group that came under my notice this summer had *Ailanthus* in the background, with excellent spikes of *Campanula pyramidalis* rising through its foliage, the front of nicely-grown plants of *Rose of Castile* and *Covent Garden White Fuchsias* and *Raspail Pelargonium*, interspersed with *Francea ramosa* and *Areca lutescens*, plants used as an edging being double seedling *Begonias* (a nice strain), dwarf *Campanulas* and *Onychium japonicum* Fern. Now groups of this description might with advantage be employed on many lawns, and, given a background of certain height and colour, an effective display could be made. Nice plants of *Ricinus Gibsoni* would, for instance, contrast well with any bright variegation, and white-flowered *Campanulas* associate well with the *Castor-oil* plants, also *Galearia candelicans* and some well-grown summer *Chrysanthemums*. These are merely a few examples of what may be done with pot plants. A happier arrangement is the effective association of herbaceous plants in their many classes with ornamental trees and shrubs, and to provide for and carry this out satisfactorily should be the aim of all true flower gardening.

E. BURRELL.

Claremont.

KITCHEN GARDEN.

THE MUSHROOM SEASON.

THE Mushroom season has now fairly commenced, and failures there will no doubt be in abundance, as I daresay there is no other crop which has to be produced by the gardener that has caused so much anxiety as the Mushroom. Why there should be so many failures it is difficult to say. It is not my intention to enter upon imaginary causes of failure, but rather to point out some of the shoals to steer clear of, so that success may be assured. The best of cultivators are apt to have a failure with a bed occasionally through some unforeseen circumstances, but I do not see any reason why failure should follow after failure, that is where there is suitable material to work upon. In the majority of gardens where Mushroom growing has to be carried out there is generally the right kind of material at command, even if only in limited quantities. Those who can collect sufficient for a good-sized bed in the course of a week have a decided advantage over those where this process extends to three or four. With these small quantities there is danger of the manure becoming too dry for the perfect growth of Mushrooms either by having much of the manurial elements dried out or burnt out, both being of very frequent occurrence. Whenever I have had a small quantity to deal with, it has been laid out in a layer of about a foot in thickness as it is being collected. There is a mistaken impression that the droppings only are the best for forming into beds, but a bed which is formed of quite one-half of the bulk of

short litter is much to be preferred. The temperature of the bulk is steadier, and it is maintained longer than when only the droppings are used. Another advantage is that it can be prepared more quickly. Even where there is ample material this is very often spoiled in the preparation by being allowed to become overheated before it is turned again. Manure which is allowed to become white before being turned is in danger of this, as when such occurs, much of the manurial properties is lost, and the moisture necessary to maintain a steady heat when the bed is made up is burnt out. By being turned daily after being thrown in a heap, the moisture and the violent heat are gradually disseminated and the whole mass becomes well divided. In the course of a week or so the most violent heat will have been dispersed, when turning will not be needed quite so often, but very likely on alternate days for a few times. A good guide is to have a stout stick thrust into the centre, when the heat of the bulk could be gauged by feeling this. When ready for making up, the material should just feel warm. If made up into the bed before this stage is reached, the temperature is apt to rise very high and then to drop too low. When a bed acts in this manner, it is quite evident that a crop of Mushrooms will not be secured. What is needed after the bed is made up is a steady and regular heat. It will also be noticed that a bed which has been made up before the material was ready for the purpose will, if it is examined, be found to be quite dry on account of the violent heat.

With a supply of good material, it matters little where the bed is made as long as the atmosphere is sufficiently confined and an equable temperature maintained. The worst positions are those which are naturally dry and arid. There are, no doubt, many Mushroom houses of this description, and which are the cause of many failures. The young Mushrooms may appear all right, but they do not grow so vigorously as they ought. This is the reason why Mushrooms generally grow so well in underground cellars. It is no criterion to go by that because a Mushroom house is elaborately fitted up, it is suitable for the growth of Mushrooms. I have a vivid recollection of the fine crops which were produced annually from a low underground shed. The bed cannot be made too firm; in fact, the firmer in reason the longer is the heat maintained.

The spawning of the bed is the next consideration. It is highly important that the very best spawn be obtained, as even in these days of supposed advancement in the making of Mushroom spawn there is much that is inferior. I like fresh spawn, although some growers maintain that old spawn is equally good if it has been kept in a cool and dry place, but of this latter I am not so certain, as the most of my failures have been brought about through using old spawn. After the bed is formed and there is every likelihood of its being ready for spawning in the course of a few days, the spawn is the better for being started. This is best managed by laying the bricks on the surface of the bed. If it is good the spawn will be seen to have commenced working. As regards the most suitable temperature for spawning the bed, I have the best results when this is at about 80° or 85°. This is not by any means a high temperature, but I take the gauge from the centre of the bed, so that the heat of the place where the spawn is placed would be a few degrees lower. As regards soiling over the bed, as long as it is known that the spawn is good, there is no benefit whatever in deferring this. If the soil be placed on whilst in a

fairly moist state it will bind quite sufficiently. The practice of adding water, and also of smearing the bed over afterwards with water and the back of a spade, is not at all a good plan. As the temperature declines in the bed, an old mat or two thrown loosely over the surface will assist in maintaining an equable temperature and also prevent the bed from becoming too dry. In a close Mushroom house or shed a light covering of old mats is much to be preferred to either hay or straw. It is a great mistake to use artificial heat too freely. If the structure could be maintained at a temperature of 55°, artificial heat should not be used, and when it is found necessary to use it, do not allow the temperature to rise above this. I have also found it a good plan after the young Mushrooms commence to appear to remove the loose older mats from the surface, and in their place to lay a clean mat over the whole bed, keeping it from resting on the surface by strips of wood laid on bricks. This maintains a genial warmth about the surface of the bed, and is a good system to adopt in close and darkened structures. In more exposed sheds, dry hay or even long litter from the stables forms the best covering.

A. YOUNG.

POTATOES AND THE DROUGHT.

As far as early and in some instances second early varieties are concerned, the great heat and drought of the summer we are just leaving behind only had the effect of forcing maturation and lightening the crops. It is only of the latter consequence that we have any reason to complain, for it is very certain Potatoes freer from disease and of better quality were never lifted. All things considered, we have every reason to be satisfied with the effect of the heat and drought on early and second early Potatoes, for not only were the crops moderately heavy and the quality excellent, but early maturation gave good opportunities for getting in successional crops that many have taken full advantage of. It is not often that so many and such good breadths of winter stuff, including Brussels Sprouts, Broccoli, Savoys, Borecole, and such like, are seen in all directions as they are this season, nor do I remember having previously seen such promising crops of winter Turnips as are generally observable at the present time.

When, however, we come to look into the effects of heat and drought on the later varieties of Potatoes there is less reason for congratulation. Tuber growth of these ceased at much the same time as in the case of second early varieties, the crop being both light or much under the average and the tubers small. Before maturation was complete, that is to say, before the growth of haulm had wholly ceased and the skins of the tubers had fairly set, the rains came and restarted them into active growth. Instead, however, of the tubers growing afresh in the usual manner, that is to say, by forming a series of small Potatoes, the protuberance quite unexpectedly took the form of a considerable lengthening out. To such an extent has this taken place, that there are actually very few really round Potatoes to be seen in this part of the country, all more or less partaking of the kidney shape. For instance, Holborn Prolific, which with me has hitherto given a good crop of roundish oval tubers, is this season quite altered in outline. The first growth was right enough, but to this was added another length, so that many of the tubers are 9 inches long, and in shape resemble what remains of an old wooden doll after

the legs and arms have been broken off. Laxton's General growing alongside has behaved very similarly, and very few round tubers are to be found on lifting Reward, Abundance, or other varieties that should be round. The Gentleman, a long thin kidney variety, has added another length, and so also have Magnum Bonum and Bruce, a form scarcely distinct from Magnum Bonum. On the whole, the crops are heavy, or more than double in weight to what they would have been had the rain not fallen when it did.

The question is, therefore, what effect will this second growth have on the quality of the tubers? Opinions vary somewhat at present, some that have cooked a few or many of these dual tubers reporting that they are wretchedly bad, tasting much the same as frosted Potatoes; others saying that they are very good indeed. On examination it is found that the two growths can readily be separated, the skin on that portion of tuber first formed being set hard, while the later growth is still very tender, and can be scraped much as early Potatoes are prepared for cooking. All or most of them have a "waist," that is to say, a contraction between the two growths, so that if need be it is an easy matter to separate the new parts from the old, and to cook them separately. Thus treated, the older portion is dry, mealy, and full flavoured, no great absence or loss of starch being apparent, while the newer portion requires rather less boiling and meets the taste of those who like a rather close or firm Potato. One way out of the difficulty that has been found to answer well in the case of tubers that cook very badly nearly or quite entire is to cut them up into 2-inch lengths, put them on in cold water, and boil slowly till all are well boiled through. Thus treated—salt being added when the drying or steaming commences, they are "good enough for anything." It may be that as the newer portion of the tubers becomes more matured there will be little or no difference in the quality generally, all being cooked together in the usual manner. Should this, unfortunately, not prove to be the case, it will be next to impossible to separate the two ages, and the other alternative, viz., that of slicing up the tubers, ought to be given a fair trial.

Somerset.

W. IGGULDEN.

Onions.—"A. D.'s" statement on p. 226 that large bulbs of Onions will not keep needs to be accepted with some reservation. It is generally admitted that the season of 1892 was prejudicial to the proper maturation of some vegetables that have to be kept through the winter for cooking. In November last I had four large exhibition Onions given me, and for some four months I carried them about with me, as I employed them as illustrations of high culture, symmetrical appearance and solid weight of flesh, using them more as showing what can be done with this esculent when grown for a definite purpose. In March they were stood on a bed of soil in a cool greenhouse and in April planted in the open, for the simple purpose of testing the produce in the form of seed. Each bulb produced seven and eight seed stems and a remarkably good crop of seed of excellent quality. This case appears to me to afford substantial proof that large Onions do keep, and from what I have seen during several winters, I am convinced that if the bulbs be properly matured and carefully preserved, they will remain firm and solid for a considerable time. Why, then, should there be so much condemnation of large Onions, provided they are solid and symmetrical, I cannot conceive. In relation to fruit exhibiting, large bunches of Grapes, Apples, Pears, Currants, &c., always find favour, provided they are sound, handsome, and of good quality. Why it should be neces-

sary to demand of competitors that all Onions exhibited should be raised from seed sown in the open ground, I cannot understand. If an Onion grower chooses to sow his seed in boxes in a vinery or other warm house in order to get a good start, I fail to see why he should not do so; besides, upon whom is the burden of proof of having been sown in the open air to rest? I know gardeners who say they get the best produce from a bed of Onions the plants forming which had been transplanted, and Mr. A. Young states distinctly in his capital article on the "Onion Fly" on p. 225 that transplanted Onions are seldom, if ever, affected by the fly. Let the gardener have a free hand, and if he finds the production of what are termed "monstrosities" is a mistake and leads to loss, the matter will soon right itself. Freedom in such matters is far better than restriction.—**ALLIUM.**

TREATMENT OF SEED POTATOES.

THIS season early and second early Potatoes matured exceptionally quickly, and in most cases were lifted and that portion of the crop available stored fully a month sooner than has happened for many years past. The weather since these tubers were dug has been very hot and close, the warmth reaching all places where Potatoes are ever placed, whether above or below ground. One effect of this has been to cause an early sprouting of all not kept in a cool, airy place, those in particular that were placed in cellars and other dark places being remarkably forward. Unless, therefore, steps are immediately taken to check rapid sprouting this will have a most injurious effect on next season's prospects. When the first strong sprout is grown to waste, that is to say, owing to its earliness and great length, it has to be pulled off, those that follow rarely, if ever, equal that first formed. Especially is this the case with Ashleafs and the choicer kidneys of the Lapstone type. Now, unless there is a strong sprout from a seed tuber either on it when planted or forming soon after, a full or heavy crop cannot be had by any chance. The aim of all good growers, whether professional gardeners, amateurs, or cottagers, ought then to be the careful preservation of the seed-tubers, now being stored, in as dormant a state as possible. Nothing in the shape of a heap of them should be formed. At lifting time let them be separated from the ware and quite the smallest Potatoes—good medium-sized uncut tubers being the best for planting—and kept stored thinly till next spring. Greening Potatoes by exposure to the light and air is so far advisable, inasmuch as it slightly retards sprouting, but this ought not to be brought about by leaving them for several days or weeks lying on the ground or on paths, boards, or mats in the open. Years ago when I tried this old notion, it became evident before planting time arrived that not a few of the tubers had taken disease between the lifting and storing times, this being effectually hid by the coat of green. Tubers thus diseased do not decay rapidly, and perhaps the first indication of its presence is in many cases the weakly growth of the sprouts. It need hardly be added that diseased sets cannot support a strong growth of haulm till it has time to become self-supporting, and ought never to be planted. Disease germs are far more plentiful in the air than most of us are aware of, but if they cannot reach the tubers before their skins are dry and well set they will not affect them afterwards, always provided the Potatoes have been properly stored. So certain am I that it is possible for the tubers generally to be lifted in a sound state and yet become diseased in the interval between lifting and storing, that it is always my endeavour to do all the digging of crops that are to be stored in dry weather, and while also the ground is in a semi-dry state. This admits of the tubers being placed under cover or in heaps and lightly covered up almost as fast as they are dug, and in any case I greatly object to leaving a lot of newly-dug Potatoes on the ground to dry all night long. It is a bad practice frequently resorted to, especially by cottagers.

Premature sprouting is detrimental to ware or cooking Potatoes, though not to any appreciable extent if the shoots are rubbed off before they are more than 1 inch in length. Nor can it well be prevented, as they must be stored in heaps, either under cover or in the open, and also be kept quite in the dark. As already intimated, seed Potatoes are very different, and sprouting must be prevented as much as possible by storing thinly as well as exposing the tubers to light and air. Keeping them in single layers, resting in the case of Ashleafs on the smaller end or that previously attached to the plant, cool and fairly light, are the best preventives of premature sprouting and also the surest way of having the sprouts stout and strong when the proper time arrives for growth to be made. Shallow trays with the corner blocks 2 inches higher than the sides are very handy for storing seed tubers in, as these can be packed one above another and yet not unduly shade each other. Any kind of flat box or shallow basket blocked up well one above the other is preferable to storing in deep boxes, hampers and such like. The tubers should at planting time be quite firm and the sprouts short, yet how often do we see cottagers turn them out from a spare room or elsewhere all matted together and shrivelling. Protection must certainly be afforded during the prevalence of severe frosts, and if the room or outbuilding when closed cannot be depended on to protect sufficiently, then ought mats, blinds, strawy litter, or even several coverings of paper to be used as well.

M. H.

GARDEN FLORA.

PLATE 928.

WHITE VARIETIES OF LÆLIA ANCEPS.

(WITH A COLOURED PLATE OF (1) L. A. SCHREDERIANA, (2) L. A. SANDERIANA.*)

THE beautiful plants represented in this week's coloured plate are varieties of the well-known species *L. anceps*, which was introduced from Mexico nearly sixty years ago by the Messrs. Loddiges, of Hackney. This species has always been a great favourite with Orchid growers, as its blooms open in mid-winter and produce a charming bit of colour at the very duldest season of the year. The flowers last in perfection a very long time. White Orchid blooms have always been highly appreciated by growers at home, and their value is also being found out by the natives that bring in flowers to those who are collecting plants. The first of these white-flowered forms of *Lælia anceps* was sent home by Tucker, then collecting for the Messrs. Low, of Clapton. This plant passed into the hands of Mr. Anderson, then gardener to the late Mr. Dawson, who had a far-famed collection at Meadow Bank, Uddingstone, near Glasgow, and with whom it flowered in the autumn of 1869. It was dedicated to Mr. Dawson by Professor Reichenbach. This variety has never again been found. Mr. Sander, of St. Albans, has given us the albino forms of *Lælia anceps* which now adorn our plant houses, and he tells us that most of the white-flowered species that he has imported have been sent by his collectors from the side of the country bordering on the Pacific, and not from the Atlantic side, where the typical plant abounds, and where *L. anceps* Dawsoni is stated to have been found, as well as *Percivaliana*, *Hilliana*, and others. These plants, which come from the Pacific side

* Drawn for THE GARDEN by H. G. Moon, in the St. Albans Nursery, February 25, 1893. Lithographed and printed by Ben George, Hatton Garden, London.



1 LAELIA ANCEPS SCHROEDERIANA 2 L A SANDERIANA

of the country, with which communication is more difficult, are necessarily much longer on the way, and when unpacked are found to be much shrivelled and exhausted. Then again, as these plants come from a warmer part of the country, they will not grow with their native vigour in so low a temperature as the species and varieties which come from a cooler latitude. The most of our growers quite ignore this fact, and suspend them side by side. Here they make fair-sized growths, but they cannot be ripened sufficiently to form flower-spikes; consequently they have obtained the character of shy-bloomers. This, I think, can be obviated readily by different treatment. Mr. White, who has the care of Sir Trevor Lawrence's collection at Burford Lodge, has the plants growing most vigorously in a bright and hot house, and sending up many spikes which will yield a fine display of bloom during the coming season. These plants should be grown in well-drained baskets, and they should be kept near the glass exposed to the full sun and light. During the growing season they require an abundance of water and a very moist atmosphere, but after growth is finished and the flower-spikes made up, much less will be necessary. The plants should not be allowed to get too dry. In potting use good peat fibre, from which all the fine soil has been shaken, mixing with it a little clean chopped Sphagnum Moss and pressing the whole down firmly.

L. ANCEPS SCHROEDERIANA.—This variety appears to be the giant of its race, for not only does it make very strong growth, but its flowers are exceptionally large, stout, and of good shape and substance. The sepals and petals and the front lobe of lip as well as the exterior of the side lobes are of the purest satiny white, and it is only in the throat where any colour occurs; here it is streaked with numerous broad lines of purplish crimson. Of this variety Mr. Sander observes in his "Reichenbachia": "It is very curious and peculiar that these forms are not to be found growing wild in the forests. Every plant we have sold had been cultivated and grown on trees in front or near the huts of the Mexican Indians, and had to be purchased separately. In these trees the plants had been growing for centuries." It appears to be as rare as it is beautiful.

L. ANCEPS SANDERIANA.—This is another charming form with pure white flowers, saving the lip, which is coloured very much in the way of the variety Dawsoni, but the flowers are smaller. It is an exquisite variety.

L. ANCEPS WILLIAMSII.—This is another white variety introduced by Mr. Sander. It has larger flowers than the typical plant, and these are of the purest white, saving the orange-yellow in the throat, where it is also marked with broad radiating lines of rich crimson. The variety called Stella comes very near to this plant, but the radiating lines within the throat are of a deep rich purplish crimson.

L. ANCEPS VIRGINALIS.—A variety with somewhat smaller flowers than the usual form. The flowers are of the purest white, saving a tinge of yellow in the throat, where it is quite destitute of any coloured lines. It is very often called variety alba.

L. ANCEPS DAWSONI was the first white-flowered variety brought home to our gardens in a living state. It is a very chaste and beautiful form, the flowers large, measuring nearly 5 inches across, sepals and petals pure white, the side lobes of the lip stained with rosy purple on the outside. The throat is marked with numerous forked lines of rich purple, the crests on the disc yellow, the front portion of the anterior lobe of a rich deep magenta-purple, white at the base. Although the oldest of the albino varieties, it still retains its position as one of the handsomest forms known.

L. ANCEPS PERCIVALIANA.—In this variety we have one of the smaller-flowered kinds, but it is one of the freest that I know; the sepals and petals

are white, flushed with a tinge of blush-pink; lip three-lobed, the lateral lobes deep purple at the tips, below which are some purple dots, the throat streaked within with purplish crimson on a deep yellow ground, which passes into a creamy yellow on the base of the front lobe, broadly tipped with purplish magenta. It is one of the most beautiful of the white forms of the old *Laelia anceps*. It appears to be a much freer deer than the forms from the warmer parts of the country.

L. ANCEPS HILLIANA.—A very beautiful kind, which comes from the same district as the two last-named varieties. It is a very free grower. The sepals and petals are pure white, the lip three-lobed, side lobes somewhat pointed, and having the tips blush-pink. The inside of the throat is yellow streaked with purple, the front lobe of a delicate blush-pink.

L. ANCEPS VEITCHIANA is a charming variety, with large flowers of good substance; the sepals and petals are white, slightly tinged with pale lilac, the side lobes of the lip streaked with lines of pale rose within, the front lobe rosy purple. It is a very charming and distinct form.

L. ANCEPS VESTALIS.—A large-flowered beautiful variety, with broad, pure white sepals and petals. The lip also is white, with a soft yellow ground, some purple stains on the side lobes, and a few darker purple veins.

The above are the principal white forms of this fine old species. There are many other kinds, but these differ only in some slight degree. I hope to see as grand a display made by these white forms as I have seen made by the many-hued varieties of the normal plant.

WM. HUGH GOWER.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

PROTECTING VEGETABLES FROM FROST.—The temperature has fallen dangerously low of late, and as frost may be expected now at any time, any vegetables which will assist in prolonging the supply should be protected, as very often a slight covering only will be sufficient to ward off a moderate amount of frost. At this season an early frost may occur, and be sufficiently severe to injure tender crops. It may be several days before another visitation, and the weather in the meantime be sufficiently favourable to keep the uninjured crops in good order for a few weeks longer. This shows the necessity of covering such crops as French and runner Beans, Vegetable Marrows, Globe Artichokes, and exposed heads of Cauliflowers. French Beans which have been prepared for late crops, to be eventually covered with frames, should have these placed over at once. Others may be quickly protected with mats, waterproof canvas, or even tiffany, with supports for keeping the coverings off the tops. Light tiffany will form the best covering for runner Beans, this being lightly thrown over the top. A frame may be placed over a portion of the Vegetable Marrows. In the case of Globe Artichokes, any good heads and also later ones from this season's planted suckers will be sure to prove acceptable as long as they can be secured, and any form of light protection should be devised. Cauliflowers, of course, can be saved by bending the leaves over the heads.

LEEKES.—Leeks where growing on well-manured soil or where planted in prepared trenches are growing very well this season, and if it is desired to further increase the size, a soaking of liquid manure may be given with advantage, at least to those growing in trenches, pouring it along each side in sufficient quantity to reach the roots. The amount of soil to be added to ensure blanching will depend upon the depth they were planted. If they were planted with the roots near the surface, very little blanched stem will be secured unless they are well moulded up. When they are to be

blanched each plant should be drawn up carefully together and the soil added lightly, care also being taken that the hearts are not smothered up. In the case of the very large Leeks the practice is sometimes adopted of placing folds of brown paper around previous to adding the soil, so as to ensure the shanks being quite clean when required for special purposes, but for all ordinary use the soil is sufficient. If the plants are of a good size earthing may take place at once. If previous instructions have been carried out as regards planting in deep holes formed with the dibber, a shank long enough for all ordinary use will be secured, but to further increase the length the rows may be moulded up, drawing the soil for the purpose from between the rows with a hoe.

WINTER SPINACH.—Up to the present time the plants have done well, the seed having germinated freely, but unless the rows are unduly crowded on account of thick sowing, thinning should not be carried out too early. Not but that early thinning is beneficial to the plants, but on account of the often sudden appearance of grubs it is best not to be in too great a hurry, but to carry out the process gradually until the plants are eventually about 6 inches apart. The surface should now be occasionally stirred with a Dutch hoe, both to disturb any grubs that may be present as well as to destroy weeds. It is best to defer gathering until the winter season really arrives. A sowing may also well take place at once, so as to form a succession to the above next spring. This latter will come into use just as the former has run to seed, and will prove useful at a time when there is often a dearth of other vegetables.

PROTECTING OPEN-AIR TOMATOES.—With a continuance of fine weather, quantities of fruit should be secured, as rarely have plants in the open air carried such fine crops as this season. But as the nights are now colder, it is not safe to leave them unprotected, and as the fruit is of much better flavour when ripened on the plant, ripening may be hastened by placing spare lights in front of the plants. Of course, there are quantities which will not ripen on the plants, and these should be cut with a fairly long length of stem and hung up in a dry and warm plant house or even in a warm kitchen. The smaller green fruits may be used up for pickling, &c., as so fully detailed by "W. I." in a recent number of THE GARDEN, as there are now several useful recipes for using up green Tomatoes for winter use.

A. YOUNG.

ORCHIDS.

It is very seldom indeed that Orchids in the British Isles have the advantage of such a long-continued spell of sunshine as they have enjoyed this autumn, and as this was preceded by an exceptionally brilliant summer, it will be interesting to note the effect of it upon Orchid collections. We have now gone through the period of bright sunshine, and colder nights, with much shorter days, warn us that we are within a short period of the winter season again. Week by week there is a shorter period of light, and it behoves us to note this and alter our treatment accordingly. It is easy to make a mistake in respect to overdoing the plants both with water in the atmosphere and at the roots. During the hot, dry summer weather the paths and stages might be deluged with water, and but little harm would be done to the plants even if a few dull days should occasionally intervene in a period of sunshine; but it is different now, for the nights are cold, and even by day moisture does not evaporate very fast. It is very desirable that the moisture should be allowed to evaporate to the extent of the floors and stages being dry for a few hours in the day. We may expect heavy rainfall soon, and this will cause the outside air to be thoroughly moist at all times, so that heated dry air cannot pass into the house from outside. Some houses require much more damping down than others. Span-roofed houses, which have a great surface of glass exposed, require more moisture than a half span, and the lean-to house needs less than either. From the

end of this month until cold weather sets in, when a good deal of artificial heat has to be applied to keep up the temperature, the Cattleya house need only be damped down in the morning and again in the afternoon. The East India house may be damped more frequently, and for the cool house, where no artificial heat is really needed at present, once on dull days will be enough; but after a day of bright sunshine the house should be damped down both morning and evening. Many Orchid growers have an idea that the atmosphere should be kept at saturation point. If it is intended to promote and encourage disease, especially "spot," in the warmest house, I would say keep up a constantly moist atmosphere and shut up the house entirely, except a little ventilation in the daytime. To keep such choice Orchids as Phalenopsis and Saccolabiums clean and healthy, let the house become dry at mid-day, damping down moderately in the morning and about 3 or 4 p.m. The temperature may rise to 85° or 90° by sun-heat, but be careful not to allow the sun at the hottest part of the day to shine upon the plants. The house should be shut up in the afternoon with this temperature, and be damped down at the same time. In a few minutes the glass becomes slightly obscured by condensed moisture, and the sun does not cause any injury through the glass when in this condition. The Cattleya house may be freely exposed to sunlight—in fact, after this, shading the division where the Lælias and Cattleyas are growing may be considered a necessary evil, and the blinds should only be let down if it is seen that the leaves are likely to be scorched. The temperature of this division at shutting up time may be from 75° to 80°, and when the temperature of the warmest house falls to 70° and the Cattleya house to 60°, it must be maintained about these figures by artificial heat. A little heat should be kept in the cool house; it is not necessary to keep up the temperature if the ventilators are closed, but heat should be used with a little ventilation to keep the flowers in good condition. They are apt to spot if no artificial heat is used, and very soon decay at this season. The temperature should be about 50° as a minimum, and rise about 10° by day.

Continue to clean and repot any plants that need it. A good time to repot *Odontoglossums* is when they are starting into growth, and any very choice varieties should have their wants studied in this respect. They do best when fairly well rooted before repotting, and the roots should not be disturbed more than is necessary. Any plants that have gone wrong at the roots should have the bad soil removed with all traces of decay on the roots of the plants themselves, and be repotted in a much smaller size. *Maxillaria grandiflora* has now passed out of bloom after giving a profusion of its beautiful white flowers for two months. I am now about repotting it, and it seems to thrive best with a portion of fibrous loam amongst the peat. It is a vigorous growing plant, and should have a good shift, and soon fills the new potting material with the fibrous roots. Get all the repotting in this house done if possible by the middle of October. Most of the *Dendrobiums* have been removed from the warm house wherein they made their growth to a warm greenhouse temperature with moderate ventilation at first. If no other convenience can be had for them, they may be placed in a vinery from which the Grapes have been removed, or at least where they are ripe. The dry atmosphere seems to suit them, but it is not well to allow a draught of cool air to blow directly upon them. I find they do well on a stage against the back wall of the vinery, but it is much better to keep them in a house that can be specially adapted for them. A few late plants of *Dendrobium nobile* have not quite finished their growth, but they were June flowering specimens, and will be reserved for late blooming next year. *D. Dalhousianum* and *D. Brymerianum* will not finish up their growths for a few weeks yet, but they are earlier than they were last year. All the *D. Farmeri*, *D. thyrsiflorum*, and *D. Paxtoni* types have made their growth and are now placed at the coolest and also the lightest end

of the Cattleya house. On the shady side of the Cattleya house we have our plants of *Aerides Fieldingi* and the *A. crispum* type. They are now making their growth and require to be kept moderately moist at the roots, in order to keep the Sphagnum Moss growing freely. They do not like a close, stuffy atmosphere, and seem to enjoy their position in this house. *Cypripedium caudatum* also does well in the same position, and *Cœlogyne cristata* has done much better since we used a little loam in the compost and placed the plants in a shady part of the house. They also being in full growth require plenty of water. *Cymbidium eburneum* and *C. Mastersi* are also grown in this position; it is well known that they succeed best in good yellow loam. Most of the Cattleyas have finished up their growths, but a few have not yet done so, and where this is the case, be careful not to allow water to lodge between the peryony coating of the pseudo-bulb and the bulb itself. The outer coating in bulbs that have not finished their growth is soft, and contains much moisture. As the bulbs ripen the covering gradually dries up, but in this process much moisture is given off, and in the rather confined air of the house it lodges between the sheath and the bulb, and I have known this natural moisture itself cause decay. If much moisture is present lay the plant on its side, firmly grasp the base of the bulb in the hand, and draw it up the sheath; in this way the moisture may be pressed out at the top. Watch such plants until it is seen they have passed through the critical period. We have not yet finished repotting all the plants of *Lælia purpurata* that really need it, but they will all be finished in the course of next week.

J. DOUGLAS.

FRUIT HOUSES.

PEACHES FLOWERING PREMATURELY.—Trees of early American varieties that were rather hard forced and some time since lost their leaves, either in due course or from red spider attacks, are showing a tendency to flower again. This is what has happened, or is happening, with other fruit trees in the open, and no one need be surprised if Peach trees under glass behave similarly. All the same, the occurrence is much to be regretted. If it is the whole of the young wood that is flowering thus prematurely, then the best thing to be done is to attend to the pruning, cleaning, and re-tying at once, and if crops set, leafy growth also commencing, do all that can safely be done to sustain this activity. By the time more heat is required, it may perhaps be safely accorded to the rest of the trees, an extra early and, it may be, very valuable supply of fruit being the outcome. If only a few of the short spurs show signs of flowering, then probably the right course to pursue would be to remove these unnaturally early flowers, and to retard the rest of the tree as much as possible. To all appearance very little excitement would also start the buds of all early forced trees, and the aim of the cultivator should be, therefore, to keep the houses as cool and airy as possible. *Chrysanthemums* are largely stored in high lean-to Peach houses, but they must not be unduly favoured this season, or some of the trees, notably those that are most shaded by the tall plants, will be in flower before they are got ready for next season. Much of the liquid manure given to *Chrysanthemums* finds its way into the Peach borders, and if the latter are not new and somewhat rich, it will do good. Give abundance of air, leaving a chink on even in frosty weather, and fire-heat will not under these circumstances greatly affect the trees. Shade the blooms from bright sunshine, and there will then be little or no damping off to complain of.

EARLY VINES.—These seem disposed to hold their leaves longer than desirable, especially where the pruning is usually done late in this month. All that can be done at present is to half prune the laterals, cutting them back, say, to the third, or, at the most, fourth joint, and to keep the house as cool and dry as possible. Pot Vines are also fresh in appearance. These should still be kept

against sunny open walls and prevented from becoming very dry at the roots, the pots being eventually covered over with enough strawy litter to ward off both heavy rains and severe frosts. If the short laterals on these young canes have not already been cut out, do it while yet the leaves retain their freshness, as winter pruning is apt to be attended by bleeding when the Vines are started.

SUCCESSIONAL VINES.—Many of these will have been nearly or quite cleared of their crops, this admitting of a heavy syringing with clear water being given occasionally with a view to getting rid of red spider and other insect pests. First remove all sub-lateral growth, and then, if a garden engine is available, use this in preference to a syringe. While yet the leaves are green is the best time to renovate the borders, this taking the form of either a fairly rich top-dressing or the substitution of fresh compost for some of the old exhausted soil at the front of the borders. If a top-dressing only is applied, this being sufficient if the border has not been long made, let it consist principally of turfy loam, adding some good flaky manure, burn-bake, a sprinkling of wood ashes and bone-meal. Before applying this, loosen the surface of the border, give a good soaking of water, next day carefully remove the soil down to the roots, and then give a liberal top-dressing with the compost. Where the crops have been heavy and the borders are naturally much exhausted, a good soaking of fairly strong liquid manure might be given with advantage, nothing answering better than either sewage water or diluted drainings from a mixed farmyard. Fresh soil is what Vines like, and, in addition to top-dressing as just advised, it pays well to renovate the fronts of either inside or outside borders. Supposing the Vines are in good health, no ill results from an injuriously deep root-action having been apparent while the crops were ripening; then all that is necessary is to remove a width of about 3 feet of soil from the front of the border to be renovated, saving the best of the young roots found as the soil is forked away, the older or naked roots being freely pruned. All, after bruised or broken ends have been cleanly cut off, should be relaid in fresh compost, consisting largely of roughly chopped up fibrous loam to which a little good decayed manure and the other ingredients recommended for the top-dressing have been added. This should be very firmly packed up against the old soil, or otherwise when it settles there will be a bad division and the breakage of roots to deplore. Many fresh roots will be formed in this fresh soil before root-action ceases this autumn, and next season it will afford good support to the hard-worked Vines.

PARTIALLY LIFTING VINES.—When the crops fail to ripen satisfactorily, shanking being very prevalent, and when also the wood ripens badly in spite of a free application of fire-heat, then it may safely be assumed that the root-action is much too deep and altogether faulty. Market growers who are not bound to have a full crop of Grapes every season in each house can afford to root out exhausted Vines and to form fresh borders in their own rough and ready fashion for a fresh stock of young Vines. Private gardeners are differently situated, these finding it imperative to restore their old Vines to good health and a productive state without the loss of a season. As it happens, it is possible to do this effectively, the restored Vines sometimes fairly eclipsing much younger ones in wholly new borders. It is useless attempting these restorative measures without a good supply of fresh soil, not necessarily all turfy loam, though this is what most growers prefer. Failing a good heap of fresh loam, roughly chopped up, procure as much of this as possible and supplement it with the requisite quantity, or say to the extent of one-half of the bulk, of strong garden soil. In either case add very little decayed manure, and "burn-bake" (the residue from a garden smother), wood ashes and half-inch bones freely. When this heap is ready, or at the same time as it is being prepared, commence searching out the roots of the Vines to be operated upon. Commence at the front of the

border and gradually undermine till about two-thirds of the border has been forked over and wheeled away, and by that time most of the deep running roots should have been found, cut through and the reserved parts taken care of. If this work is done in either bright weather or during the prevalence of cold drying winds, syringe the bared roots occasionally and keep them matted over as much as possible. All should be duly lightly pruned, the older ones, if very woody and bare of fibres, being also cut rather freely. Whether the same space as before shall be occupied with fresh soil should depend upon circumstances. The roots not being very long or worth preserving to a great length, then it may be possible to remake the border piecemeal. In any case renew the drainage if much clogged and bring the roots up to nearer the surface, distributing them thinly throughout the fresh soil. They will form fresh fibres more quickly, and most probably this autumn if surrounded by a little of the best compost in a fine state, the burn-bake in particular coming into contact with them. The advice to make the new part of the border firm, especially adjoining the older part, must be repeated, as it is of vital importance. If the fresh compost is somewhat dry, give water in the course of three or four days, while in the case of outside borders precautions will have to be taken against their becoming badly saturated later on. When Vines have been very roughly handled at the roots they are apt to flag badly when the sun shines. In extreme cases this should be prevented by shading them, but, as a rule, keeping the house rather close for a few days and syringing the foliage very frequently are all that is necessary. It is important that the old leaves be kept fresh as long as possible, root action being brisker in the autumn and while they last.

PRACTICAL.

PLANT HOUSES.

PLANTS FOR FORCING OF SHRUBBY HABIT.—No time should now be lost in turning attention to any additional stock of this description. It is a mistake to defer potting-up till the winter is upon us; far better get it done early, so that the plants by fresh root-action can overcome in some measure the check they have received in its performance. The potting of this class of plants is oftentimes done in too much of a hurry, or only in a superficial manner. It pays, on the other hand, to give it good attention, more particularly if the stock of any kind is to remain under pot culture for a few years to come, as may be done in the case of *Azalea mollis* and the Ghent varieties, the *Dentzias*, the shrubby *Spiræa confusa*, the early-flowering *Rhododendrons* and the *Guelder Roses*. When the potting is done well the plants receive more benefit from the start, standing much better when in flower and giving less trouble with respect to watering. Let soil suitable to each kind be chosen and as nearly in accordance with that in which the previous successful growth has been made. In most cases this will consist of loam, either heavy or light, with some peat for *Azaleas* and *Rhododendrons*. In every case pot firmly, not giving too large pots, but sufficiently so to make provision for a proper supply of water. After potting has been done and a thorough good soaking of water has been given, plunge the pots over the rims in coal ashes if sufficient are to hand; if not, use leaves instead. This plunging will keep the roots in a congenial state as regards moisture without needless waterings, and when frost comes, the work of protection is already done. The evergreen kinds may have a few syringings if they exhibit any distress in the foliage. A position for these plants should be chosen where they do not get much sunshine, a little being beneficial, either of the other extremes being prejudicial. The best plants for the foregoing purposes are *Andromeda floribunda*, *Azaleas* (both *mollis* and Ghent varieties), *Dentzia gracilis* and *D. crenata flore-pleno*, *Hydrangea paniculata grandiflora*, *Kalmia latifolia*, *Lilac Charles X.*, and the beautiful white variety *Mme. Legraye*, *Prunus sinensis fl.-pl.*, *Rhododendron Early Gem*,

R. Nobleanum in several shades of colour, *R. caucasicum album* (Cunningham's dwarf white) and other early-flowering hybrids, *Staphylea colchica*, *Viburnum Opulus* (Guelder Rose), *Spiræa confusa*, &c.

PLANTS FOR FORCING OF HERBACEOUS HABIT.—As in the case of the foregoing, these also should be potted up early whether they be forced early or not, and generally the same remarks apply save that a somewhat richer soil with manure in it will be an assistance to them. In the case of these plants the utmost has to be got out of them the first season, the second year being more of a resting one; hence they will take a considerable amount of feeding. Large pots are not in any case desirable. *Spiræa japonica*, for instance, is oftentimes over-potted. As soon as all of these plants are potted they should be stood fairly close together, being plunged and well watered as in the case of shrubby plants, but the positions should be different, a more sunny spot being the better for them. These have not any shrubby or leafy growth to maintain, the ripening process being facilitated rather than otherwise by exposure. Do not let *Helleborus niger* (Christmas Rose) escape notice; this is very useful in pots, being more of an Evergreen, or at any rate retaining its foliage much longer. This plant should be kept fairly shaded after potting. Besides such every-day plants as *Spiræa japonica* and *Lilies of the Valley*, note should be made of *Spiræa japonica compacta multiflora*, *Spiræa astilboides*, *Solomon's Seal*, and *Dielytra spectabilis*, the last named always requiring potting carefully. Another plant, but one of a more shrubby habit, is *Clethra alnifolia*, profuse flowering, and strongly recommended as a distinct thing for pot culture. Do not let any stock of the foregoing lie about after being received or lifted if of home growth, but get the potting done at once. If the plants of home growth are large, such as large bushes of *Lilacs* and *Rhododendrons*, then boxes and baskets even can be turned to good account in place of pots if more convenient.

OTHER AUTUMN POTTING.—*Campanula pyramidalis*, where grown to any extent in pots and of large size, may possibly require another shift. I have some now in this condition, the plants, having got far too large to be left as they are for the winter, being much pot-bound. These will now have a shift, using good loamy soil and potting firmly; it would have been all the better if attended to a little sooner, but there are at least six weeks left for them to re-establish themselves before being put into winter quarters. Most of these plants will take 10-inch pots, thus making large stuff to flower next summer. Where it is seen that no repotting is really needed, none will be given, a selection of the most vigorous plants being made.

MARGUERITES.—Any stock of these, whether white or yellow, and which may be starved in their present pots, will be all the better for a shift, otherwise they will not improve as time goes on. If potted and a fresh growth now obtained, they will prove useful again after Christmas. Young plants also will take a shift if they are wanted of larger size. Cuttings, too, may now be struck readily enough in cold frames for a successional stock. It is never advisable to keep leggy or scrubby plants of either colour when young ones can be worked up so easily.

PRIMULAS AND CINERARIAS.—Where it is seen that a further shift will be of real benefit to the plants it should be attended to at once. This will be mostly the case where young stock has come on rapidly, and not so much so where already in pots of 6 inches or so in diameter. In both cases it should be borne in mind that large pots are an evil rather than otherwise. All the exposure possible to light and air should now be given these plants; the only thing to guard against in doing this is a slight frost. The *Cinerarias* in particular must be kept quite cool, otherwise green-fly will be troublesome. The *Primulas* ought not to be allowed to suffer in the slightest from excess of moisture.

JAMES HUDSON.

Autumnal Croci.—These are now quite gay, and are thrusting up their diaphanous cups along

with the *Zephyr Flowers* and the *Meadow Saffrons* or *Colchicums*. *Crocus speciosus* and *C. zonatus* are so far the prettiest, the former being blue with delicate lines on its perianth segments, and the latter is delicate rose-lilac with a yellow throat. *C. nudiflorus* is also in flower along with others less showy.—F. W. B.

ORCHIDS.

LÆLIA PUMILA AND LÆLIA DAYANA.

I AM in receipt of flowers of both these plants from the neighbourhood of Derby, asking me to tell the sender which is *Lælia præstans* from amongst them. I cannot do this from the flowers sent, for Nos. 1, 3 and 5 are forms of *Lælia pumila*; whilst 2 and 4 are varieties of *L. Dayana*, which by some authors is considered but a variety of the first-named species. The true *L. præstans* is a very unusual plant to find in collections. *Lælia pumila* was first named by Hooker *Cattleya pumila*, and it was thought to be a native of the hot parts of British Guiana; but some few years afterwards it was found to be a native of Southern Brazil in a far cooler latitude, and about fifty years ago it arrived in Europe in some quantities under the name of *Cattleya marginata*. This name well described the flower, for the lip has a well-defined white marginal border. The plant had already been figured under the name of *C. pumila*, and although the generic name could be altered, by the rules of botanical law its specific name must remain. It is a lovely little plant, which grows and flowers freely annually under much cooler treatment than was formerly considered requisite for it. I do not like the block system of culture for it, because it is so very apt to suffer from neglect through the resting season, this neglect causing the pseudo-bulbs to shrivel, and bringing about weak growths the next season, which could not flower. It appears to grow naturally at a moderate elevation, and in the summer season does well at the cool end of the *Cattleya* house with a slight protection from the sun's rays. In the winter it should be stood in a temperature varying from about 50° to 55° and be kept slightly moist, just enough water being given to prevent the bulbs and leaves from shrivelling. It does best in small hanging earthenware baskets, which, well drained, do not allow of a great quantity of soil being put on to the roots. *L. pumila* is a very dwarf grower, seldom exceeding 6 inches in height. The flowers, usually solitary, are very large for the size of the plant, each measuring between 3 inches and 4 inches across, the sepals and petals varying from purplish lilac to rosy purple or mauve, the lip being of a rich deep crimson, front lobe bordered with white and usually having a light triangular patch in the centre; the side lobes mostly white.

LÆLIA DAYANA is one of the Brazilian discoveries of Boxall about eighteen years ago whilst collecting for Messrs. Low, of Clapton. This plant will grow and flower freely in the same house and under the same conditions as the *Odontoglossums*, and as it and *L. pumila* are found growing in company, the same treatment under cultivation answers for both. *L. Dayana* is of about the same height, but is slightly more robust in habit, I think, and it should be potted in precisely the same manner. The flowers, produced singly, each measure 4 inches across, the sepals and petals being of a rosy mauve or rosy purple, lip large, the large undulated front lobe of a very deep purplish magenta, which extends right round. It has seven raised keels on the lip and a white throat.

L. PRÆSTANS more nearly resembles *L. pumila* than *L. Dayana*. The true kind is very distinct and beautiful; the flowers are very thick and fleshy in texture, the front lobe of the lip having usually a light triangular patch in front, and the remaining portion deep rich purple, the throat orange-yellow. This is the true plant; it is very rare in collections, and I have frequently seen the ordinary form of *L. pumila* made to stand for it.

WM. HUGH GOWER.

Cattleya labiata Eldorado.—The value of this *Cattleya* lies in its naturally blooming during the later summer months when Orchid flowers are generally scarce. Unlike the majority of other *Cattleyas*, it requires to be grown somewhat warmer. In fact, I find the best position for it is in the warmest house, as the increased heat and moisture throughout the summer months are just what are needed to cause a healthy growth, the flowers also appearing at the same time. As the resting season is throughout the winter months, it requires to be kept well on the dry side and also freely exposed to light. The temperature of the structure in which I keep it throughout the winter months ranges from 60° to 65°, this appearing to suit it admirably.—A. Y.

Vanda Sanderiana comes from three readers. One from "G. B." is with a note complaining that it is a bad variety. I am under the impression that there is not a tad variety of this plant known. At the same time I am quite willing to admit that some forms are far better than others, but it is such a wonderful species that I cannot say I have ever seen a bad one, the flowers being upwards of 4 inches across, and borne in a raceme of twelve or more together. Thos. Ross also sends a very nice form, but from Mr. Denny comes the most highly coloured and best variety, although not the largest known, for in point of size that from "G. B." is the largest, but the petals are narrow and the lower sepals are not well developed, so that the flower appears starchy, besides which the colours are very pale. Perhaps these are the first flowers from a newly imported plant which has been treated to much shade, whilst naturally it gets plenty of sun. It may improve. Those from Mr. Ross appear to be quite of the normal character. Mr. Denny's flower is very good; the dorsal sepal and the petals are of a deep bright rose, the petals tinged with buff and freely spotted; the lateral sepals large, having a ground colour of pale nankeen, suffused and netted with purplish crimson, but the ground colour is more visible towards the margin; lip small and spurless, side lobes erect, nankeen-yellow, front lobe somewhat heart-shaped, reddish purple, with four or five ridges or keels in the centre. It is a wonderful flower.—H.

Phalænopsis grandiflora.—In the size and purity of its flowers this species is unsurpassed by any of the *Phalænopsids*, beautiful and chaste as nearly all of them are. Properly speaking, it should now be called *P. amabilis*, whilst what is known as *P. amabilis* in gardens is *P. Aphrodite*. It is difficult, however, after half a century's use to alter the names without creating confusion. *P. grandiflora* was the first *Phalænopsis* known to European botanists, having been discovered on the island of Amboyna by Rumphia in 1750. It was not the first in cultivation, however, the species known generally as *P. amabilis* (properly *P. Aphrodite*) having been introduced from Manilla by Cuming in 1836, whilst *P. grandiflora* was sent to Messrs. Veitch in 1847, or within three years of a century after its first discovery. Like most of the *Phalænopsids*, it possesses very handsome foliage, the leaves being large, bright green, and very thick and leathery. Its huge blossoms, sometimes between 4 inches and 5 inches in diameter, have the petals very broad and rounded, and much larger than the more pointed sepals, the two lower ones of which the petals overlap. Both sepals and petals are pure white. The lip is three-lobed, with the middle lobe again divided at the apex into two thin curling horns; it is also white, except that the margin of the side lobes and the

horns on the middle one are yellow. Where a number of plants are grown this species will be in flower for half the year, from April to October.

Lælia pumila var. Dayana.—In several respects *Lælia pumila* deserves to be included amongst the most noteworthy of autumn-flowering Orchids. It is easily grown, never fails to bloom, and its flowers remain long in good condition. There are some three or four forms of it under cultivation, all of which possess first-class merit. The variety *Dayana* is now in flower. In habit it is the same as the typical *L. pumila*, a dwarf plant with leaf and pseudo-bulb, together only 4 inches or 5 inches high. The flowers are remarkably large in proportion to the size of the plants, occasionally measuring nearly 4 inches in diameter. The sepals and petals are bright rose-purple, the petals, which are much the larger and broader, being of a deeper shade. The lip is very beautiful—it is funnel-shaped—the throat and disc white, marked with several parallel purple lines, whilst the outwardly spreading margin is of a rich glowing purple-magenta. In the typical *L. pumila* the lines on the centre are yellow. The original form first flowered in this country in 1838; it is a native of Southern Brazil. The variety *Dayana* was described as a species by Reichenbach in 1876. It had been introduced from Brazil by Messrs. Low, and had flowered in the autumn of that year with Mr. John Day, whose collection at Tottenham was at that time one of the oldest and most valuable in the country.

Spathoglottis Fortunei.—This is a pretty little Orchid not very frequently met with now in gardens. It is a native of the granite mountains of Hong Kong, from whence it was introduced in 1845. It is well worth growing for the sake of the numerous brightly coloured flowers it produces at this season, as may be judged by several panfuls flowering now at Kew. Its one defect, which pertains also to some other species of *Spathoglottis*, is the meagreness of its foliage. The flat, tuber-like pseudo-bulb bears only two or three leaves, which are each a foot long and plaited, but thin and narrow. The flower-scapes are as long as the leaves and carry from four to eight flowers, which are each 1½ inches in diameter. The sepals and petals are ovate and bright yellow, as is also the conspicuously three-lobed lip with the exception of a chocolate-coloured patch on the tips of the side lobes. This *Spathoglottis*, like all the other species of the genus, is terrestrial, and should, therefore, be potted in a mixture of turfy loam, sand, and leaf soil. The plants like to be kept moderately moist when growing, but after flowering, and as the leaves die off, the supply of water should be gradually reduced until finally it is stopped altogether. In spring when signs of growth become evident, the pseudo-bulbs should be repotted and started in a little heat. At all other seasons the temperature of the cool house suffices.

Stenoglottis longifolia.—When South African Orchids become better known in English gardens there is every likelihood that this species, if it can be found in sufficient quantity, will become one of the most popular. Several plants growing in a broad shallow pan in the cool Orchid house at Kew are flowering very prettily now. The dark green leaves, which are long and narrow, spread in rosette-like fashion near the surface of the soil, and from the centre rises the tall slender flower-spike. This is quite 18 inches high, and bears on the upper half numerous rose-purple flowers. The flowers are small, but are produced so freely as to produce quite a gay effect. This little Orchid is in fact as charming as it is unconventional. It has been grown at Kew for six years, and, judging by its appearance, is perfectly at home under cultivation; the plants have indeed got stronger each year. The species is terrestrial, and is found in Natal, generally in moist places, and sometimes on stones on which a layer of vegetable humus has accumulated. It may be grown in loamy soil lightened by the addition of silver sand and leaf soil. It should be given the coolest place in the *Cattleya* house dur-

ing the early part of its growth; afterwards the cool house is better. It continues in bloom for two or three months. A figure of it was published in the *Botanical Magazine*, t. 7186.

SHORT NOTES.—ORCHIDS.

Cattleya Harrisoniæ maculata.—I have flowers of this variety from Mr. Denny, the sepals being of a soft rose freely dotted with purplish crimson. It is a very striking form of this old favourite, well deserving attention.—W.

Cattleya bicolor.—Three very handsome flowers of this species come from Mr. G. Draper, asking if any one is worthy of a name. They are very fine, yet I should not give them distinctive names. The most distinct appears to be very like the form called *Measuresiana*; hence one requires to be careful in giving additional names.—W. H. G.

Cattleya Dowiana.—Mr. Denny, of the Gardens, Down House, Blandford, the residence of Sir W. Marriott, Bart., sends me a nice flower of this species, the petals having a streak of crimson at the tips, the lip beautifully netted with golden veins and bordered with the deepest crimson-purple. Most people appear to have discarded the typical plant in favour of the variety.—W.

Dendrobium Phalænopsis Schroederianum.—Quite a batch of these flowers comes to hand from Mr. Cypher, Queen's Road Nursery, Cheltenham. Mr. Cypher says the plants have made remarkably fine growths. Many of the plants have three spikes of bloom, some racemes bearing as many as twenty flowers. Those sent comprise many varieties, some being deeply coloured, whilst others are almost white in the sepals and petals. Mr. Cypher tells me he has about 100 flowers open, with more to follow.—G.

Odontoglossum Insleayi splendens.—The first flower which has come under my notice this season came to hand on the morning of the 14th inst. from Mr. B. Whitworth. It is a superb flower, measuring upwards of 4 inches across and beautifully coloured. The sepals and petals are of a rich shining brown, with a few transverse lines of deep yellow; lip large, clawed, the claw deep red, banded with bright yellow, the blade bright yellow in the centre, with a broad marginal band of rich spots and blotches. The flowers of this plant, although open quite a month before the usual time, do not appear to have suffered either in substance or colour.—W. H. G.

Cattleya Hardyana.—From R. Elphinstone, gardener to Mr. J. C. Parr, of Grappenhall, comes a very fine form of this plant, with deep rosy purple sepals and petals. The lip is large and broad, and it has unusually large bright golden yellow eye-like spots at the opening of the throat, the front portion of the anterior lobe being of a very rich magenta-purple, the same colour being carried up through the golden yellow in a broad band connecting the side lobes, which are heavily marked with lines of the same colour. The lip, too, is prettily frilled. Grand as this flower is, it is not equal to that of the original plant in the possession of Mr. Hardy, Timperley, which has a lip three times as large and heavily frilled and undulated.—G.

Asters at Kew.—The rich collection of Asters, or perennial Starworts, in the Royal Gardens, Kew, is full of interest now, and they will be found at the lower end of the herbaceous ground. We hope that the Starworts will also be planted in other portions of the gardens, amongst shrubs and so forth, as they are very beautiful thus used. Several lovely varieties were in bloom a few days ago besides *A. acris* and *A. Amellus*, which have been already noted. The following forms of *A. Novi-Belgi* are well worthy of mention: *Niveus* is remarkably free, the shoots laden with huge white flowers, the centre yellow. *Densus* is, as its name suggests, of dense, compact growth, the flowers

ric's lilac purple; whilst another good kind is *laevigatus*, better known as *longifolius formosus*, which is also dwarf, the flowers of a rose-pink colour. *Janus* is tall, fully 5½ feet in height, the flowers pure white, tinged with purple-rose; and *Arcturus* is of note for its deep green leaves and intense violet-purple flowers. *A. puniceus lucidulus* is one of the tall-growing kinds, rising nearly 6 feet in height, the flowers of a pale lilac colour and produced in profusion. *A. patulus* is a mass of light purple bloom, the shoots bending beneath its weight. *A. cordifolius*, a picture of small lavender flowers, and *A. Lindleyanus*, light purple-blue, the growth dwarf and spreading, are also noteworthy. One of the most beautiful of all is *A. Shorti*, which is well known, and a cloud, so to say, of light purple flowers.

FERNS.

THE OAK FERN.

(*POLYPODIUM DRYOPTERIS*.)

OF the four native species of Polypodies with deciduous foliage, the *Polypodium Dryopteris*, or, as it is popularly called, the Oak Fern, for



The Oak Fern (Polypodium Dryopteris).

which appellation there is no reason, unless it be that it is so named from being sometimes found among the Moss about the roots of Oak trees, is undoubtedly the one most generally known, as it also is the one growing most abundantly in a less restricted habitat. On account of the peculiarly bright pea-green colour of its short triangular fronds, which seldom exceed 10 inches in height, and also of its compact and close habit, it is much admired and generally used for forming in the hardy fernery edgings which all the summer possess a freshness looked for in vain among any other Ferns of dwarf habit. These fronds have, when only partially developed, a very peculiar aspect, as the pinnae on each branch are rolled up, resembling so many small Green Peas; they are, like the fronds of all the other Polypodies, produced on slender, creeping rhizomes, which, contrary

to those of the evergreen species and varieties, are strictly underground. The Oak Fern is always found in perfectly cool, sheltered, moist places where the temperature is subjected to very little variation during the summer. In planting the Oak Fern, a spot where moisture and shade can always be depended upon should, if possible, be selected, and a shallow bed made of a compost of two parts of fibrous peat, one part of leaf mould, and a free admixture of silver sand, or, better still, of broken sandstone. If grown in pots for a cool frame or the greenhouse, where it makes a most pleasing object, as in the illustration herewith, the above mixture will be found equally suitable; but in either case avoid putting in too much soil; a depth of from 3 inches to 4 inches is quite sufficient. It is also indispensable that thorough good drainage should be secured, for, although the growing plant delights in an abundant supply of water, yet water remaining about its roots is very injurious to it. In planting, great care must also be taken to prevent the rhizomes being buried too deeply, in which case they seldom grow; they must be only just below the surface of the soil, which

should only cover them lightly, and through which it is advisable to let the tips protrude. After the planting, which should take place about April, is done, a moderate watering must follow, after which the soil requires to be kept constantly moist until the new fronds begin to unfold, when, as they increase in size, a free supply of water will be necessary to keep the atmosphere always moist about the plants. This Polypody is readily increased by division. Although totally deprived of foliage during four or five months of the year, the Oak Fern should never be allowed to get dry at any time, for the rhizomes soon shrivel up and the spring growth then only produces small or deformed fronds, and the plants are very much weakened. It is also advisable to give plants grown in pots a slight covering during the winter, though not requiring the same attention when planted out.

This species does not appear to have produced any constant variations. Several multifid and other curious forms of it have from time to time been noticed, but none of these remained constant under cultivation.

Variegated Ferns.—Mr. Hemsley's timely and able article on variegated Ferns will be of great service to cultivators and decorators. *P. tricolor* was thirty years ago, as now, the most beautiful as well as the most miffy of this class of plants. For one plant of it grown now there were probably a hundred at that time. Though comparatively few growers succeeded, fewer still were content unless they tried to grow the variegated Fern, *Pteris tricolor*. There is little to add to Mr. Hemsley's cultural instructions. A temperature of 50°, with the tops near the glass, and never syringed nor watered overhead, yielded the best results in growth and colour. In watering, great care was also taken not to wet the plants. In fact, water was not allowed to touch the fronds, only as invisible vapour. *Pteris argyrea* is quite a different plant, and is easily grown either in a warm greenhouse or the stove. Plants may be pushed on rapidly under similar treatment to that given to *P. tricolor*. But it can also be grown in cool houses or pits, as described by Mr. Hemsley. *Pteris argyrea* comes freely from spores. It thrives best wintered in a cool stove or warm greenhouse, though it will bear room or greenhouse treatment admirably in the spring. Considering the hardiness, rapid growth, and extreme elegance and beauty of this Fern, it is surprising that it is not grown more largely than it is.—D. T. F.

SMALL SCALE FERNS.

(*MICROLEPIAS*.)

THIS is a somewhat numerous family of plants, widely spread both throughout the Old and the New World. They are associated by most authors with the *Davallias*, but to my mind they are quite distinct. The genus contains some rapid growing plants, whilst from the fact of their being found in many parts of the globe, they will thrive under various conditions, so that excellent specimens can be selected either for the cool house or stove, and they may be grown in pots or in hanging baskets according to the taste or the wishes of the proprietor. *Microlepias* grow very freely and rapidly, and they do not require very great heat or moisture in the atmosphere. I have, however, observed that a sudden change will quickly cause the fronds to turn yellow and decay. For soil use peat and loam roughly chopped, mixed with some sharp sand. Drain the pots or baskets well, and let the plants have a liberal allowance of water during the summer season; less will suffice, of course, during the winter, but the plants must not be allowed to get dry at any season, or they will become greatly crippled by the loss of fronds. The following are a few of the best kinds:—

M. PLATYPHYLLA.—This plant, also known by the name of *M. lonchitidea* and *Davallia lonchitidea*, is a noble growing and very handsome Fern, having fine spreading fronds some 4 feet or 5 feet long or more, and upwards of a foot wide. This makes one of the most beautiful specimens it is possible to conceive. It is well adapted for pot culture, making a splendid ornament in the stove or upon the table at a public exhibition. It comes from the East Indies and requires a stove.

M. TRICHOSTICHA is another strong-growing handsome kind, a native of Java and other islands in the Indian Ocean. It makes fronds some 3 feet or more long, much divided, and pale green. It is equally good for decoration as the preceding, and, like it, requires stove treatment and a liberal supply of water.

M. SCABRA.—Although this plant is a native of Japan, it will thrive well and make a distinct and handsome specimen in the cool house fernery. The fronds vary from 9 inches to 2 feet in length, and the colour is rich deep green.

M. CRISTATA.—A very elegant plant, somewhat more rare in cultivation. It comes from India and many of the Indian islands, requires stove treatment, and makes fronds some 3 feet long and a foot or more broad.

M. NOVE-ZELANDIE.—This plant used to be common in our gardens, where it was known familiarly by the name of Davallia. It serves to make a good front edging to a greenhouse fernery either on the ground or upon the stage, but I have seen it used with fine effect in the Wardian case, for which it is admirably adapted. Its fronds are usually about 6 inches in length, but occasionally some will be seen nearly double this length. They are very finely divided and bright glossy green.

M. STRIGOSA.—In this we have a very fine and handsome plant, a native of Japan. It makes a grand specimen when grown in the greenhouse. The fronds are some 3 feet or more long by about a foot in breadth.

The whole of the above kinds can be grown in the same collection without the slightest fear of sameness, and all will make elegant specimens.

W. HUGH GOWER.

SHORT NOTES.—FERNS.

Selaginella lævigata.—"Globe Trotter" sends me what I take to be this species. Perhaps, if these specimens were actually gathered by "G. T.," he will remember if the frondule had a deep shade of metallic blue. It used to be grown under the name of *S. caesia arborea*, but I have not seen it for years.

W. H. G.

Tænitis blechnoides (*Globe Trotter*).—This is another nice Fern. It is widely spread in various parts of India. The fronds are pinnate, the pinnae lanceolate, dark green, having a continuous line of sori about midway between the midrib and the margin. The plant has been in cultivation in this country, but I do not know if it is at present.

W. H. G.

Psomiocarpa apiifolia (*Globe Trotter*).—You appear to have found two or three rare Ferns in the Philippines, and this is one of them. I was some time before I could define it. I took it for an *Anemia*, but there is no doubt the above is the name of your plant. It is very rare, and I do not think it is in cultivation at the present time. I have not seen it growing for thirty years.

W. H. G.

Ophiglossum pendulum (*Globe Trotter*).—This is the name of the long ribbon-like fronds, but you do not appear to have a specimen with a perfect frond. It belongs to the same family as our common Adder's-tongue Fern, which is to be found plentifully in damp places. This species is frequently to be found growing out from the base of *Platyceriums*, *Drynariads* and such-like plants which grow upon the branches of the forest trees.

W. H. G.

THE FRUIT CROPS.

NORTHERN.

The Gardens, Edmondthorpe Hall, Oakham.—Apples are a very heavy crop, and fine in size for the time of year. Pears under average; the frost caught the trees in bloom. Plums and Damsons a good crop. Peaches and Nectarines a good crop and early. Strawberries under average; our best were Forman's Excelsior and President; Keens' Seedling, James Veitch, Vicomtesse Hélicart de Thury, and Sir Joseph Paxton were a failure owing to the dryness of the season and the late frost. Raspberries a good crop; we had them mulched with stable manure at the beginning of

April, which no doubt benefited them and kept them from getting very dry, and they are making good canes for next season. Apricots good crop. Gooseberries good crop. Red, White, and Black Currants all good.

Early Potatoes turned out well. Peas were grand and very early; we picked at the beginning of June the first dish of Exonian, which I consider a grand early Pea. Runner Beans are good and very early.

Childwall Hall, Liverpool.—Apples here are a full average crop, the fruit giving every promise of being quite up to the average in point of size, and above average in point of colour. Pears on walls are about an average crop, but trees in the open are carrying but few fruits. Plums are better than they have been for several seasons, Green Gages, purple Gages and Victoria being exceptionally good for this locality. Damsons are seldom remunerative; this year, however, they are carrying a full average crop. Sweet Cherries may be said to be scantily cropped, but the Morellos are very good; the size is hardly up to the desired standard, which may easily be accounted for by the long-prevailing drought. Raspberries were plentiful while they lasted, but their bearing season was very short this year. Gooseberries are an abundant crop, the trees healthy and comparatively free from caterpillars. Strawberries suffered considerably from the drought, the variety showing the greatest distress being Waterloo. This was practically good for nothing, what fruit there were being black and tasteless. In our collection President behaved as well as any. Currants of all sorts were poor, and where not netted betimes became a speedy prey to the birds, which were simply voracious during the hot dry weather. Our soil is fairly deep, so that we suffered less than some of our neighbours, but most fruits and vegetables, too, are this year about three weeks earlier than usual.

THOS. WINKWORTH.

Naworth Castle, Carlisle.—Speaking generally, the fruit crops in this district are good. Apples are above the average. Plums are good, especially Victoria, Magnum Bonum, Golden Drop and Green Gage. Apricots and Pears are an average crop. Cherries have been good. Gooseberries, Black and Red Currants have been very heavy. Raspberries were a very heavy crop, but the flavour bad. Strawberries have been a very heavy crop and the fruit of good flavour.

Vegetables have been good. Early Peas have done well, and late crops I have never seen better. Beans of all kinds are a heavy crop. The grub has been very troublesome amongst Carrots and Onions. Early Potatoes were an average crop; late Potatoes in the fields are looking remarkably well.

A. E. SUTTON.

Alnwick Castle.—Fruit and vegetables are about three weeks earlier than usual. There are some full crops of Pears, but generally scarce. Peaches half a crop, trees healthy. Of Apples, Keswick Codlin, Lord Suffield, Lord Grosvenor, Ecklinville, Lane's Prince Albert, Tower of Glamis, and others are very fine. Trees which yielded heavy crops last year have little fruit this season. Plums on walls very fine, Victoria, Jefferson, Kirke's, Lawson's Golden Gage, and Rivers' Early Prolific being good. Trees in the open of Victoria are good this year. Apricots do well here. Strawberries in late situations have been good. Macmahon is undoubtedly the most valuable, followed by Sir J. Paxton. Bush fruit generally splendid.

Early Potatoes are a light crop and small. The late kinds are looking remarkably well.

GEORGE HARRIS.

Alton Towers, Cheshire.—This season has been most trying in many places, but being on a cool red sandstone we have suffered very little; indeed I may say we have had a most splendid spring and summer so far, and all our crops are excellent. We have kept up copious watering, and flower gardens are lovely. All vegetable and fruit crops are abundant and really good all round, quite six weeks earlier than I ever remember. Potatoes are excellent in every sense of the word, and free from disease. Stone fruit

heavy crop. Apples and Pears never so good before here. Bush fruits and Strawberries very fine, and much above average. Nuts good. Apricots and Peaches excellent.

Peas, Beans, Onions, Carrots, and indeed all vegetables are above average. This has been one of the best seasons so far as I remember during my twenty-five years at Alton Towers.

T. H. RABONE.

Blankinson Hall, Haltwhistle, Northumberland.—Fruit of all descriptions is abundant. In my opinion this is one of the best fruit years, taking it all round, that I have seen, and all fruit is fully a month earlier than last year. Gooseberries and Currants are so plentiful in the district, that growers cannot find a market for them. Apples are good; a few that seem to do best in this district are Cellini, Domino, Lord Suffield, Stirling Castle, Warner's King, Dutch Codlin, Keswick Codlin, Potts' Seedling and Ribston Pippin. Lord Suffield is subject to canker as a standard or a pyramid, but does well against a wall.

Vegetable crops are looking well. Peas and Potatoes have been very good.

R. C. TEARDALE.

Hummersknott Gardens, Darlington.—Apricots above an average crop, fruit ripening up well from three weeks to a month earlier than usual. Early Apples are abundant; late, very thin, large quantities having dropped off during the latter part of June and beginning of July. The Apple blossom was unusually plentiful, but did not set well. This may be accounted for that on the heavy clay here the buds owing to the dull autumn of 1892 were not sufficiently matured. Pears are a fair crop. Plums average crop, not so heavy as in 1892. Early Cherries average, Morellos heavy crop and fine in quality. Strawberries average crop, drought affected early varieties. All varieties of bush fruit very abundant and of excellent quality.

The drought affected to some extent early vegetables, especially Peas, but the rains latterly have helped them; seldom have things looked better than they now do at this season. These remarks will apply generally to the immediate neighbourhood, the soil of which, with the exception of the Tees Valley, is a heavy clay, and consequently has not suffered from the excessive heat so much as the lighter soils.

J. SHORT.

Allerton Priory, near Liverpool.—Fruit crops, on the whole, here are about an average. Bush fruits have been very good, but unless well mulched and watered the fruits have been small. Black Currants have been especially so on trees shifted last autumn, while on established bushes they have shrivelled very rapidly, making the crop short-lived. Raspberries have been grand. Strawberries good on cool sites, but in drier positions the fruit has been scanty. Apricots an excellent crop. Plums a fair crop, the hot, dry weather seeming to affect them during the setting period. Pears are an average crop. Apples the same; although in the latter case some varieties are very good, others again are scarce.

Vegetables have been good where attended to in the way of watering, &c., but this is not always practicable in large gardens. Cauliflowers have suffered the most, the spring sowings the most so. Beans have been enormous crops, the best I remember to have seen in this district. Where gardens are composed of good soil and depth combined with good cultivation, and where attention can be given to mulching and watering the crops, the results are good, but where the soil is thin and poor and attention cannot be given to these matters in a season like the present, the reverse is the case.

J. J. CRAVEN.

Downton Castle, Ludlow.—The fruit crops in this district are abundant and of good quality. All through the season the heat has been extreme and insects have been numerous, requiring extra attention and labour in applying remedies to keep them under. The Gooseberry caterpillar and red spider have been very troublesome, but by repeated applications of lime water and dusting with soot and sulphur, also vigorously syringing the wall trees, the injury which otherwise would have been

done has been reduced to a minimum. Apples of all kinds are above the average, the fruit being clean and of good size, while the trees have made a good healthy growth. Standard Pears are loaded with fruit, and Marie Louise on walls facing south and west is heavily loaded with fruit of extra size and good quality. Plums on south, west and north walls are over average as to crop, the trees clean and the fruit of good quality. Damsons also are plentiful. Apricots on south and south-west walls, like all other wall fruit, have had to be severely thinned. We commenced picking ripe fruit of Roman on June 27, followed a few days later by New Large Early, fully six weeks earlier here than in previous years. Peaches and Nectarines outside are mostly young trees newly bought and planted last November. They have made excellent growth, but older trees of Dymond and Teton de Venns have a good average crop. Dessert Cherries on west walls have been over average and the fruit good. Morellos on north walls are very plentiful, the fruit large and the trees healthy. I adopt the spur system for Morellos, as well as laying in young wood. Strawberries have been a good average crop; the fruit was ripe five weeks earlier than usual. Raspberries were a good average crop; Semper Fidelis is a valuable late variety. Gooseberries, Black, Red and White Currants have been abundant, the prices for ripe fruit in the market hardly paying people for picking the fruit and sending it to the market. Mulberries are abundant and good. Walnuts and Filberts are greatly above the average in this district. Taking the season and fruit crop altogether, I have nothing to complain of. We have an abundant supply of water both in the kitchen garden and grounds here. I apply early in the spring a heavy mulching of manure to all kinds of fruit trees, whether on the walls or in the open quarters of the garden, giving also during the season repeated applications of clear water and liquid manure, which result in a clean healthy growth. All fruit trees newly planted are mulched with manure as soon as planted, plenty of burnt ashes being mixed with the soil as the planting proceeds. Out of 500 trained bush and maiden trees of all kinds planted last November we have not lost one tree, but all have made growths varying from 2 feet to 3 feet in length.

Here, thanks to deep cultivation with a constant supply of water, our vegetable crops, on the whole, have been satisfactory. We commenced picking Chelsea Gem Pea (sown Feb. 6) on May 12 on a south border, followed by William I., Veitch's Selected, and Exonian a week later. Chelsea Gem has done well here this season, continuing a long time in bearing, as has Exonian. Other Peas with me which withstood the heat well have been Criterion, Gladiator, Prodigy, British Queen, and Ne Plus Ultra; later sown Peas are looking well. Out of a trial of different varieties of French Beans on a south border Ne Plus Ultra has proved the earliest and best. Smythe's Hybrid is a good hot-weather Bean, yielding a succession of good pods and remaining a longer time fit for table than other sorts tried. Extra Early Forcing Cauliflower was ready before Sutton's Queen Broccoli was over, thus continuing the supply. Onions, Carrots, Parsnips, and Beetroot are looking well. Onions in this part with cottagers and amateurs have been a failure on account of the Onion fly. Here by early attention to thinning and repeated dressings of soot with the frequent use of the Dutch hoe between the Onions, we are free from it, and those people who have hitherto failed with their Onions, but who this year have followed out my plan, are rewarded with good beds of Onions. Early Milan Turnip has again proved valuable for early work. Of Lettuces, Golden Gem must be given the first place for earliness, being fit to eat long before Early Paris Market. Perfect Gem Lettuce is a valuable hot-weather Cabbage Lettuce, which does not quickly run to seed. Early Potatoes have been and still are clean and plentiful, and of good quality and size. Myatt's, Mona's Pride, White Beauty of Hebron, Ringleader, and Early Puritan are valuable varieties on this soil. All midseason and late Potatoes look well, with no

sign of disease at present either in the garden or in the field. Abundance, Magnum Bonum, Main-crop, and Schoolmaster are the sorts most relied upon for a general crop.—JOHN CHINNEY.

Calderstones, Allerton, Liverpool.—Apricots are a fair crop, better than we have had for some years. All the early Cherries have yielded an abundant crop. If time would have allowed they would have been thinned. Currants, Red, White and Black, have borne a full crop. Gooseberries have also been a splendid crop; we have been little troubled with caterpillars. Raspberries are a full crop, and the rain coming after the long drought has caused them to continue bearing. Peaches and Nectarines outside are a fine crop and the trees are growing vigorously. We have had little trouble with insects, which I attribute to our having given the trees a good syringing in the autumn, just when the leaves fell, with strong soapsuds diluted with petroleum, at the rate of one and a half wineglassfuls to the gallon of soapsuds. Apples are a good crop, and thinning has had to be resorted to. We had a battle with the caterpillar in the spring. At one time it looked like spoiling the crop, but two sprayings with Paris green routed the enemy, and the fruit, after a portion falling off owing to the drought, is since the rain came swelling away freely, and promises to grow to a good size. The following varieties are doing best with us: Blenheim Pippin, Ribston Pippin, Cox's Orange Pippin, Emperor Alexander, Tower of Glamis, Golden Noble, Dumelow's Seedling, Lord Suffield, Keswick Codlin, Lord Grosvenor, New Hawthornden, Ecklinville Seedling, Betty Geeson, Annie Elizabeth, Stirling Castle, Warner's King, Small's Admirable, and Jolly Beggar. Pears are not so good a crop as Apples; Louise Bonne of Jersey, Marie Louise and Jargonelle are as usual the best croppers in this district. Strawberries have been a good crop on deeply dug ground and mulched with good manure in the early spring. Aberdeen Favourite has done well with us. It is a strong grower and of good flavour, rather late, and seems to do well in a dry season.

Peas have been all that could be desired. We depend mainly on three varieties, namely, William I. and Duke of Albany for main crop, with Ne Plus Ultra for late. The Duke is a good dry-season Pea, and as an all-round one I think it is the best we grow. We are growing for the first time one of Laxton's new Peas called Alderman. I think this will take the place of Ne Plus Ultra. It grows from 5 feet to 6 feet high, a splendid cropper, pods well filled, the Peas of a deep green colour, and I think of as good flavour as Ne Plus Ultra. Early Cauliflowers, Brussels Sprouts and all the Brassica family have been troublesome to grow this season, owing to the attack of maggots at the roots. On land that had a slight dressing of gas-lime in the winter and dug in in the spring, the crops seem to do much better. Onions in this neighbourhood are nearly a failure, owing to grub. Nothing seems to stop its ravages; therefore, we shall have to be content with a third of a crop. There has been a marked difference between crops grown on trenched or deeply dug ground and those grown otherwise. The ensuing winter we shall cover all vacant plots with a dressing of gas lime and dig it well in in the spring, as I am convinced that this is objectionable to most garden pests that affect crops at the roots.—W. TUNNINGTON.

Chillingham, Belford, Northumberland.—Strawberries are an average crop, but the season has been short, owing to the heat. Gooseberries average. Black Currants splendid, also Red and White. Raspberries average. Plums are a splendid crop. Cherries, both sweet and Morello kinds, are abundant. Of Apricots there is a fairly good crop on most trees. Peaches very poor out of doors, also Pears. We had 12° of frost on April 12, which did much harm to the blossom. Apples, on the whole, are a splendid crop. Nuts average.

Vegetables are good, except Spinach, which has run very quickly to seed. Nearer to the sea they have splendid crops of all kinds of fruits, but we suffer very much from spring frosts.—RICHARD HENDERSON.

Thorpe Perrow, Bedale.—The fruit crop everywhere in this part of North Yorkshire is a good average. Apples generally are good, especially local varieties. Pears, too, are a good average crop, Marie Louise on south walls being noteworthy, but on other walls not so good. The flowers were imperfect; consequently the trees have been blooming more or less all the summer, and there is no fruit. Bush fruits have been very abundant and good. The same might be said of Strawberries and Cherries. Plums where the soil suits them are extra good, but not here, the soil is too heavy. Apricots on prepared borders are a good crop and very fine. Nuts are bad.

All kinds of vegetables are good, especially early and late Potatoes.—WILLIAM CULVERWELL.

MIDLAND.

Worden Hall, Preston.—Apples are a very good crop. Pears very fair. Of Plums some varieties are good. Damsons plentiful. Strawberries abundant and fine, but their season was short. Cherries very good. Peaches fair. Apricots a failure. Figs moderately good. Gooseberries a capital crop, but the bushes suffered much from red spider, which, no doubt, caused the fruit to be smaller than usual. Red and White Currants, also Raspberries, plentiful. Black Currants a failure. This crop will most likely cause more trouble to gardeners about this district than they are aware of. Nuts are good.

The early part of the year was remarkable for its great heat and drought, which produced curious effects on some kinds of fruit and vegetables, bringing some crops in fully three weeks earlier than usual. However, everything has been plentiful and good, excepting Onions and Carrots; the former are a complete failure through maggot, notwithstanding every means used to prevent it. Carrots nearly as bad. One variety of Pea sown three weeks between each sowing was all ready to gather at once, but has kept up a succession, thus showing the value of growing the branching varieties. Some of the early Potatoes had to be lifted on account of the young tubers starting into growth.—ROBERT FRISBY.

Wrottesley Hall, Wolverhampton.—The fruit crop, I am pleased to say, is, on the whole, very good. Some of the Gooseberries were attacked badly with red spider and brown fly, but the bushes, after being well watered and syringed, finished their crops satisfactorily. Most of the fruit crops are considerably earlier, especially Plums and Apricots, which are quite a month in advance. Other garden crops are quite above the average. We were a long time without rain, but it came in time to give us a very productive season. Strawberries were under the average. Raspberries average. Gooseberries, Currants and Plums were very good and over the average in quantity. Damsons an average crop. Apricots, Peaches, Nectarines, Figs, Apples and Morello Cherries are over the average, and Pears an average crop.—EDWIN SIMPSON.

Quorndon, Loughborough.—The fruit crops, I am sorry to say, are not up to the average. The Apricots are good, but Plums scarce in places, although in gardens where they have been sheltered from the east winds and the situation facing south-west I have seen some good crops. Pears are scarce. Apples of the Codlin kind are plentiful and very cheap in the market, but keeping and late varieties are scarce.

Vegetables have been very scarce this season, lasting but a brief period where the water and labour supply have been deficient. In many places I am afraid the winter supply of vegetables owing to the very dry season will be very poor.—G. COOKE.

Highbury.—Apples are a heavy crop, and Pears moderate, the variety Penré d'Aremberg being the hardiest and most prolific of any here. Cherries poor, except Morellos, which either as standards or fan-trained are bearing heavily. Gooseberries were a heavy crop, but it would have been otherwise if sparrows had been allowed to

feast on the buds. Raspberries very good, but Currants were poor, our soil being so sandy. Strawberries fine.

Vegetable crops are very light except French Beans, Runner Beans, and Beetroot, which have enjoyed the heat. Broad Beans are a total failure. This climate is nearly as cold, windy, and changeable as in Co. Durham, and good crops of fruit are never expected. Every spring proves disastrous to the blossoms, but the last spring was a great exception, and there is more fruit than for many years. The soil varies very much in the district. Here it is very little better than sand and gravel, and is quite a home for red spider, &c.—W. EARP.

Staunton Harold, Ashby-de-la-Zouch.—Apples on the whole are a very good crop, although a considerable quantity fell from the trees. Pears have withstood the dry weather better, and are an average crop. Peaches, Nectarines and Apricots are carrying heavy crops, but red spider is troublesome. Plums heavy crop, Victoria, Pond's Seedling and Green Gage being the best. Cherries a heavy crop, both of dessert kinds and the Morello. Currants were small owing to the long-continued drought. Strawberries were a poor crop and proved a heavy loss in this district for market growers. Cob Nuts plentiful.—W. HOLDER.

Newnham Paddox, Lutterworth.—The present season will long be remembered for its long-continued drought. I never remember insect pests so numerous as they were this year, and it was only by continual perseverance with insecticides that fruit trees were kept at all healthy. The fruit crops in this locality are on the whole very good. Peaches good, but the trees were badly infested with aphids in spite of repeated applications of insecticides. Apricots plentiful. Cherries, both dessert and Morello, a good crop. Pears a light crop. The trees flowered abundantly, but the blooms were destroyed by the frost on the morning of April 13. The varieties that are carrying anything of a crop are Williams' Bon Chrétien, Louise Bonne of Jersey, Marie Louise d'Uccle, Beurré Bachelier, Josephine de Malines and Bergamote d'Esperen. Plums are under the average. They blossomed most profusely, but suffered from frost and cold east winds when in full bloom. The varieties bearing are Victoria, Jefferson, Claude de Bivay, and Prince Englebert. Apples are a good crop, though the trees were badly infested with caterpillar. Strawberries abundant and fully a month earlier than usual. A great many of the early blooms were destroyed by the sharp frost of April 13. The fruits were large considering the drought, but were over more quickly than I ever remember. Damsons blossomed and set their fruit profusely, but a severe attack of aphids crippled them and caused much of the fruit to drop. Gooseberries and Currants abundant. Raspberries a fair crop; their fruiting season was over quickly and the foliage was badly infested with red spider. Filberts an average crop.

Vegetables in this neighbourhood are good, and look well with the exception of Onions, which are almost a failure. I am glad to say I never had a better crop. The late frosts played sad havoc in some places around here with early Potatoes, and in consequence the crop is poor. Ours have been very good as regards quality and quantity. They escaped the frosts. No disease has yet appeared. Crops in general have improved very much lately with the nice showers of rain we have had. Peas as a rule did not grow to their usual height this year and were soon over.—W. HARMAN.

Colston Bassett, Bingham.—Fruit trees of all kinds bloomed very profusely this season; there was a favourable prospect of a heavy fruit crop, but a long spell of cold winds and dry weather had an unfavourable effect on the flowers, the result being a thinner crop than might have been expected. The fruit is decidedly finer in consequence. Lord Suffield, Keswick Codlin, King of the Pippins, and Worcester Pearmain are a full crop. Pears irregular, few bearing a full crop. Apricots and Plums sufficient for an average, but poor in quality. Peaches not grown outside. Abundance of bush

fruits, but very small. Cherries abundant, especially Morellos. Strawberries soon over owing to the drought, being really not half a crop on the whole. The crops of Walnuts and Filberts are exceptionally light.—W. H. SMITH.

Great Tew Park.—Very few districts have had less rainfall than North Oxfordshire, yet in spite of the great drought and intense heat the fruit crops are good. Apples are above the average, especially Ribston Pippin, Blenheim Orange, and Northern Greening. Most of the Pear trees are bearing a heavy crop, Jargonelle, Williams' Bon Chrétien, Marie Louise, and Duchesse d'Angoulême being particularly good. Apricots are good and abundant; also Cherries, especially Bigarreau Napoleon and Morellos. Plums are an average crop, but some of the trees are badly blighted. Small fruit such as Raspberries, Currants, and Gooseberries are plentiful, but the caterpillars made sad havoc with the foliage both of the Gooseberry and Currant bushes. Strawberries suffered greatly from the drought; they were a poor crop and quickly over, most of the blooms failing to set properly. Cobs and Filberts are above the average, while the Walnut trees are heavily laden.—G. PARKER.

Cholmondeley Castle, near Malpas.—The fruit and other crops in these gardens have not suffered from the long drought to any great extent. The fruit trees on walls required careful attention. Apricot, Peach, Cherry, and Pear trees were mulched in March, and during the early summer given three heavy waterings, which have in each case rewarded us with exceptionally good crops, especially in the case of the two first-named. Small fruits are about an average, but Apples very poor.

The vegetables never looked better than this season, owing, I consider, to our situation being low and with a good deep soil resting on a cool subsoil. The garden crops in this neighbourhood on light sandy soils are poor, fruit running small in most cases. Gooseberries plentiful and cheap. Good crops of Apples can be seen here and there, but are the exception rather than the rule.—C. FLACK.

Orton Hall, North Hunts.—Apples are a good crop, particularly Keswick Codlin, Minks Codlin, Lord Suffield, Pot's Seedling, Northern Greening, King of the Pippins, Baldwin, Ribston Pippin, Yellow Ingestre and Striped Beaufin, while many other kinds have only an average crop. Of Pears, the Lammas, Doyenné d'Ete, Beurré Giffard, Louise Bonne, Orange Bergamot, Flemish Beauty and Duchesse d'Angoulême are bearing well, but Williams' Bon Chrétien and many other good kinds are poor. Plums of most kinds are abundant on walls, but in the open rather thin, the want of copious rains causing aphids to spread rapidly. Black and Red Currants have been abundant and of good quality, but Raspberries and Strawberries only fair. Apricots set an abundant crop, but a sharp frost or two when the fruits were the size of marbles thinned them considerably. Peaches and Nectarines are a very fair crop, but red spider is more prevalent than usual. This pest was also destructive to the Gooseberry plantation, particularly old trees on which the crop was thin.—A. HARDING.

Gopsall, Leicestershire.—Fruit crops generally are above the average in spite of the abnormal season, though many trees have suffered from red spider to a greater extent than I ever before remember. Much has been done in the way of mulching and watering, especially stone fruits. Peaches and Nectarines are carrying a full crop. Ripe fruits of Early Beatrice Peach were picked on June 20, the earliest date for a great number of years. Strawberries were also much earlier than usual, and of good quality, but soon over. Apricots above the average. Moorpark a full crop of good quality. Pears and Apples above the average. Several old Pear trees growing on a south wall were badly scalded with the sun on June 25 and 26, when the thermometer registered 118° in the sun. This no doubt will prevent the full development of the fruit. Morello Cherries

good, both in quantity and quality. Gooseberries excellent, also Black and Red Currants. Raspberries light crop. Plums and Damsons average. I append a list of varieties of fruit which have done the best: Of Peaches, Early Beatrice, Hale's Early, Noblesse, Early Rivers, Walburton Admirable; of Nectarines, Lord Napier, Elruge, Violette Hâtive; of Apricots, Moorpark, Hemskirk; whilst of Plums the best were Victoria, Kirke's, Magnum Bonum, Green Gage; the most satisfactory Pears are Jargonelle, Williams' Bon Chrétien, Louise Bonne of Jersey, Marie Louise, Duchesse d'Angoulême, Winter Nelis and Trout; and of Apples, Lord Suffield, Keswick Codlin, Yorkshire Greening, Small's Admirable, Ribston Pippin, Golden Pippin, Claygate Pearmain, Sam Young, Golden Requette; the finest Strawberries were Vicomtesse Hélicart de Thury, Noble, Keens' Seedling, President and British Queen.

The vegetable garden has wonderfully improved during the past fortnight since copious showers have fallen. Potatoes are very good, but early varieties rather light. Late varieties look promising, although I have heard several complaining that disease had appeared. Peas have only been second rate owing to the drought, although heavy watering was resorted to.—J. LEE.

Davenham, Malvern.—Apples are under the average, the best kinds being Keswick Codlin, Stirling Castle, Lord Derby, Ecklinville, Golden Noble, Cellini, Margil, Requette du Canada, Sturmer Pippin, Worcester Pearmain, Kedleston Pippin, Cox's Orange Pippin, and Norfolk Beaufin. Pears a fair crop, especially Jargonelle, Thompson's, Williams' Bon Chrétien, Louise Bonne of Jersey, Crassane, Duchesse d'Angoulême, Beurré d'El, Bergamote Esperen, Beurré d'Aremberg, Glou Morceau, and Knight's Monarch. Plums—Early Rivers', Green Gage, Transparent Gage, and Victoria are a fair crop; other varieties very poor. Figs very good outside and likely to finish well. Cherries a good crop, but the fruit is small. Peaches and Nectarines very good; never saw them better. Apricots have never been better, and Moorpark is grand. Of small fruits, Gooseberries, Raspberries, Currants (Red, White and Black) are very good. Strawberries, La Grosse Sucrée and Laxton's Noble, are very good indeed; other varieties failed to swell well owing to the extremely dry air. Nuts very good.—A. BRADSHAW.

Byrkley, Burton-on-Trent.—Apples on pyramids which have never been pruned are so heavily loaded with fruit, that I have had to support the branches with stakes. Orchard trees are a fair average crop, more so where sheltered from east winds. Apricots average crop. Cherries both on walls and in the open are very heavy crops. Currants, Gooseberries, Raspberries, and Strawberries were above the average, the last a month earlier than usual. Peaches are not grown outside. Plums on walls good average crops, but none in the open. Damsons heavy crops, while some trees are bare. Pyramid Pears average crops. Nuts fair.—JAS HAMILTON.

Knowsley.—The year 1893 will be memorable for many things, and especially for the extraordinary heat and drought which have prevailed so far, and the ultimate and full effects of which we shall probably not know for some time to come. The immediate effect is very remarkable and instructive. I have noticed that Potatoes growing upon damp, boggy land look as bright and luxuriant as one could wish, whilst not many hundred yards away upon land of a clayey character the same crop is languishing. I know a few instances where early kidneys have actually turned yellow and died from the heat and dryness. The revivifying effect of the sun upon some old Apple, Plum, and Spanish Chestnut trees which had previously become debilitated by a series of wet and cold seasons is quite remarkable in the colour of the foliage, which is both brighter and some shades darker green; while, on the other hand, there are old fruit trees and bushes that have succumbed to the combined effects of drought, heat, old age, and a heavy crop. Indeed, the crops of fruit are so heavy as to defy thinning by hand, which must

seriously affect the health of the trees as well as the size and quality of the present crop. Gooseberries and Currants are smaller than usual, and in some cases dried up. Strawberries have done well, thanks to heavy watering and a thick mulching of clean straw.—F. HARRISON.

NOTES OF THE WEEK.

Canna lutea splendens is one of the best for the garden in its line of colour. We made note recently of a bold group of it, and were struck with its stately habit and clear colour. The flowers are yellow, marked with a few crimson bars and spots.

Chironia ixifera is in flower in the temperate house at Kew. The flowers are of a rosy colour and produced freely, reminding one of those of *C. peduncularis*, of which a coloured plate was given in THE GARDEN, September 2, 1893 (p. 212).

Odontadenia speciosa.—I send you some flowers of this, known also as *Dipladenia Harrisoni* by some—a most beautiful stove climber. It was introduced to cultivation some forty years ago, but is seldom seen now. Our plant has been in bloom row about three months, and a glorious flower it is.—W. B. LATHAM, *Botanic Gardens, Birmingham*.

Pentstemons have proved splendid hot-weather flowers. They have been in full beauty for many weeks, and in the Long Ditton nursery of Messrs. Barr and Son we recently noticed a large collection in full flower. The range of colours is considerable, and cuttings are easily struck in the late summer. One of the richest coloured kinds we noticed at Long Ditton was named *Comediao*, the flowers intense crimson, and produced with great freedom.

Aristolochia gigas var. *Sturt-vanti* has been a feature of interest in the Palm house at Kew throughout the summer, and those who care for strange flowers should see this splendid specimen before it passes out of bloom. The bloom has by its quaint shape given rise to the popular name of Pelican flower—not an inapt comparison. The colouring is very fine, pale yellow, beautifully mottled with purple, whilst the tail sometimes measures over 3 feet long. It is a native of Guatemala, and one of the strangest of all plants.

Nymphaea odorata caroliniana, said to be the largest and finest of all the *N. odorata* varieties, is supposed to be a cross between *N. odorata rosea* and *N. alba candidissima*, having been raised in the garden of Dr. H. T. Bahnsen, of North Carolina. It has, we are told, all the vigorous growth of *N. a. candidissima*, with fragrant flowers each 4 inches to 6 inches across, and of a soft and delicate salmon-rose colour, deeper in some specimens than in others.—F. W. B.

Hunnemannia fumariæfolia, represented by a coloured plate in THE GARDEN of June 11, 1887, p. 536, is a very bright flowered Poppywort not so often seen in gardens as one might suppose from its long-blooming and showy aspect. It makes a bushy, compact plant. The flowers are clear yellow, not unlike those of the Iceland Poppy, and continue in beauty over a long season. This year the plant has succeeded remarkably well, as it likes a dry soil and warmth, being a Mexican species. It is worth trying, we should think, in hot, dry positions where many other things utterly fail.

A new *Diasa* is blooming in the Orchid house at Kew. It is the result of crossing *D. tripetaloides* with *D. Veitchii*. The plant is of exceptionally robust habit and produces a sturdy stem, bearing flowers not quite so large as those of *D. Veitchii* and self crimson, a deep, rich and striking colour. About the only trace of the former parent consists in a few spots on the lobes of the lip and within the "hood," so to speak. Mr. Watson has

done well to make such crosses as these, and *D. Veitchii* itself, it will be remembered, is one of Mr. Seden's successes. In THE GARDEN, June 10, 1893 (p. 478), we made a note of a cross flowering at Kew between *D. grandiflora* and *D. tripetaloides*. This is named *D. kewensis*, and is a worthy addition to the new Orchids of the present year.

Grapes in the open air in Cheahire.—I send you a small bunch of Black Hamburgh Grapes cut from a Vine trained up a brick chimney in the centre of the range of glass houses. There are about twenty bunches round the chimney; all will finish this season. Even last season I cut a few small bunches. The Vine was planted to cover the chimney with foliage; fruiting was never thought about, and now the chimney is entirely hid with strong foliage, and ornamented with small bunches of fruit. Unsightly chimneys in gardens may be covered with Vines, the heat from the chimney ripening the wood and also the fruit.—A. TRAIL, *Falshaw Hall, Wilmslow, Cheshire*.

* * * Fruit of very good flavour and well coloured.—ED.

Impatiens Sultani is not usually thought of as a plant for the open, but, judging from some specimens in bloom in a warm border at Kew, there is no reason why it should not be used for this purpose. The plants are remarkably gay, and will keep in full beauty until frosts occur, each making a bushy growth covered with bloom. At Kew they are planted in a sunny corner formed by the annexe to the Water Lily house, and if this *Impatiens* will behave as well in ordinary years it should certainly be made note of for the garden in the summer months. The flowers of the type are rich crimson, but there are many forms, the salmon tints being very charming, although not so effective in the open as those of a more pronounced shade.

Tufted Pansies at Hillside, N.B.—Dr. Stuart writing to us on September 1 says: The beds of tufted Pansies are in fine state, and when the sun is down the seedling beds from Blue Gown are in their many shades of colour a beautiful sight. Many good things have been raised this season, especially delicate bluish and lilac selfs. One new break cannot be seen till next year. The cross seems to be between a blue and a yellow, the centre rather large, golden, and the body colour turquoise-blue. This is a great advance on anything I have yet raised. Hard propagation, in my experience, does not improve the constitution of any flower, and the tufted Pansy is no exception. It sometimes takes two seasons before newly-propagated plants get established into their seedling form. The *Violetta* and *Sylvia* strains should be treated as perennials, cut down in autumn and top-dressed, the roots being allowed to get into the soil as far as possible. The plants are then safe. When plants of the year fall over, they should be taken up, replanted deeply, only the points of the green shoots above the surface, and get a good dressing of river rough drift sand. If well watered they will root from the shoots and make good plants. Had I not treated my seedling beds in this way, I should, with a temperature more than once at 81°, have lost the half of them. Now they are at their best.

PUBLIC GARDENS.

A public park at Ramsgate.—A new public park has just been opened at Ramsgate. The work of laying out the grounds was carried out by Messrs. Cheal and Sons, of the Lowfield Nurseries, Crawley.

A new recreation ground.—The Ecclesiastical Commissioners have offered the Hammersmith Vestry four acres of land in Cobbold Road, Shepherd's Bush, as a site for a public recreation ground. The offer has been referred to a committee to consider the probable cost of laying out the ground.

Peckham Rye extension.—Owing to the prolonged drought, which has seriously hindered the laying out of the grounds, the wooded land at the upper end of Peckham Rye, consisting of over sixty

acres, which the County Council has secured for the public, cannot be thrown open until early in the spring of next year. When laid out the extension will form a very beautiful addition to the fine open space of Peckham Rye.

The Alexandra Palace.—Efforts are again being made for the acquisition of this and the surrounding 431 acres of land as a public place of recreation. A movement is now in progress to induce the various local boards, who voted a total of £75,000 towards the proposal, to allow that amount, or at least a portion of it, to form the nucleus of a fund of £100,000 to carry out the smaller scheme of Mr. H. R. Williams, which is, that the palace, together with the large organ, the statuary, and 100 acres of land, should be purchased. The land included in this proposition is that which Parliament has said must be kept an open space. On the other hand, several Hornsey gentlemen, led by Colonel J. W. Bird, want the £25,000 which the Hornsey Local Board voted towards the Palace scheme devoted to the purchase of Churchyard Bottom Wood, Highgate, which it is believed the Ecclesiastical Commissioners are anxious to sell for building land. A proposal to buy this property eight years ago at the same figure was negatived by the people of Hornsey on a poll by a substantial majority. All efforts to induce the Commissioners to present the wood to the local board have failed.

New recreation ground at Shoreditch.—The Earl of Meath, chairman of the Public Gardens Association, presided on the occasion of the public opening of Goldsmith Square recreation ground, Goldsmith's Row, Hackney Road, E., and its dedication as an open space for ever. Towards the purchasing and laying out of the grounds, the Metropolitan Gardens Association, the Shoreditch Vestry and the London County Council willingly contributed, and further assistance was given by several philanthropists, amongst others by Mr. A. J. Scott, who contributed £300. The extent of the ground was 4½ acres, while the whole extent of the parish was 648 acres. The Earl of Meath, in declaring the ground open, expressed his pleasure at the space having been preserved from the builders. As chairman of the Metropolitan Gardens Association, he was very gratified at the result of their labours, and that the association had been able to help in securing the ground for the people of Shoreditch. It would be a very great improvement to the district and a great benefit to the people. In responding to the vote of thanks, Lord Meath said that in the ten years of its existence the Metropolitan Gardens Association had been instrumental in laying out eighty-six grounds for the use of the public.

LONDON TREES.

THE following interesting letter on London trees from Herbert Maxwell appeared in a recent issue of *The Times*:—

Before parting with the memorable summertime of 1893, it may not be profitless to observe its effect upon trees, so essential to the beauty and health of the metropolis. They afford the one redeeming feature to an otherwise ugly town. Some years ago I brought upon myself a good deal of adverse criticism by quoting Leigh Hunt's saying that it was hard to find a single street in London from some part of which a tree was not visible. I only know of two—viz., Savile Row and a street parallel with Berners Street. London trees have two adverse influences to resist—coal smoke and heat reflected from miles of brick and stonework. The effect of the latter is so clearly marked upon several species at the present moment, that the lesson ought not to be neglected by the Office of Works and by those in charge of squares and gardens, for, although the heat has been very excessive this year, trees in a town are always exposed to greater summer heat than those in the country. The trees which have suffered most are one native species—the Wych Elm and two exotic species—the Horse Chestnut and the Lime. The condition in which these are now and have been for some weeks past ought to convince us of their unsuitability for

town planting. Many of them are entirely leafless; others retain but a mere remnant of summer clothing. The Plane, for which we shall soon have to borrow the title of a humbler green thing and call it "London Pride," has stood the trial fairly well, for although it has shed half its leaves, the other half remain and are still fresh and verdant. By a popular mistake (pointed out some years ago in THE GARDEN newspaper) this tree is called the Western or Occidental Plane. It is not so, but an Eastern European and Asiatic species (*Platanus acerifolius*), and may be distinguished from the American *P. occidentalis* by bearing two or more seed vessels on the fruit stalk instead of one.

Aspens and Poplars have suffered not at all, and should be more largely planted in London. By a peculiar formation of the leaf-stalk, which is flattened midway, they are specially provided with a mechanical means of protection against heat. The leaves hang vertically and possess glands on both surfaces; whereas Oak, Beech, Chestnut, &c., have glands only on the under surface. *Ailantus glandulosa*, the tree of the gods, is in splendid foliage, and, if more care were taken to keep it in shape in its early years, it would soon prove one of the surest ornaments of our streets. But the tree to which I wish to call special attention as invaluable for towns is what is commonly called the Acacia. It is not an Acacia at all, being of the Peaflower tribe; its scientific name is *Robinia Pseudacacia*. Let anyone compare the fine specimen standing at the corner of Lord Sefton's house in Belgrave Square, or a group of young ones in the Green Park, near the Wellington Arch, with trees of other kinds around, and he cannot fail to recognise in this species one which, for beauty of form or freshness of verdure, cannot be excelled for planting in towns.

P.S.—*Ulmus campestris*, called the English Elm because it is not English, has kept its foliage fairly well, but it is dull and discoloured.

ONIONS AND VEGETABLES AT BANBURY.

BANBURY has long been famous for its cakes, its cross and its original displays of Onions, but nothing hitherto seen has been equal to the display of September 14, whether at Banbury or elsewhere. This will be readily understood when it is recorded that such doughty champion growers as Wilkins, Pope, Waite, Lye, Kneller, Doherty, Bowerman and others entered the arena in their well-known strength to fight for the supremacy and the extremely handsome prizes offered by the late Mr. H. Deverill. There are grumblers against these large-sized Onions, but it may not be generally known that large bulbs are milder and of superior flavour to the crowded, small hot ones, and as such make a wholesome appetising dish when served up braised—equal in flavour to best imported Spanish—a point worthy of consideration in these days of waning home industries and agricultural depression. Besides, such displays prove a veritable object lesson, showing the highest system of cultivation, whilst the growers assure me these large bulbs will keep equally well with ordinary grown small ones if care is taken to thoroughly ripen them. Probably a combination of the two systems would be preferable for large consumers. The competition was extremely keen, but Mr. Wilkins, gardener to Lady Theodora Guest, proved invincible in the principal Onion classes, although Mr. Pope beat him in the class for eight distinct kinds of vegetables. A gold medal or timepiece was offered for the largest and handsomest six specimens of either of Mr. Deverill's pedigree kinds, and Mr. Wilkins staged six Lord Keeper, weighing 15 lbs., perfect in shape and well ripened; second, Mr. Lye, Sydmonton Court, with Ailsa Craig, weighing 13½ lbs. For twelve specimens of Ailsa Craig, Mr. Wilkins staged a dozen, weighing 26½ lbs.; second, Mr. Pope, weight 22 lbs.; third, Mr. Kneller. Sixteen competitors, every one good. For twelve specimens of enumerated kinds, Mr. Wilkins was again first with Anglo-Spanish, weighing 20½ lbs.; second, Mr. Waite, 18½ lbs.;

third, Mr. Pope, with Royal Jubilee, weight 18½ lbs., wanted a little more finish. Thirteen competed; a keenly contested class. The next class was for twelve of that best of all keeping Onions, Improved Wroston. Mr. Kneller was placed first, his dozen weighing 14½ lbs., closely followed by Mr. Wilkins, whose bulbs were slightly heavier, but not so well finished, weight 15 lbs.; third, Mr. Pease. Other classes were provided for cottagers and artisans. For eight distinct kinds of vegetables, Mr. Pope was first with a faultless collection, containing Exhibition Carrots, Lyon Leeks, Glenhurst Favourite Tomato, Middleton Park Beet, Autumn Giant Cauliflower, Aylesbury Prize Celery, Ailsa Craig Onions and Satisfaction Potatoes; second, Mr. Wilkins. W. C.

Lilium Dalhansonii.—By a curious coincidence two Martagon Lilies flowered in my Lily house last June, which I at once referred to the result of a spontaneous cross between *L. Martagon* var. *dalmaticum* and *L. Hansonii*, which flower there in close proximity, the seed being allowed to ripen and come up where it falls. I sent flowers to my friend, Mr. G. F. Wilson, of Weybridge, who agreed with me as to the probable parentage. At that time I had no idea that this cross had been effected before. The portrait in this week's GARDEN closely resembles my plants, which had flowers of exactly the same shape and of nearly the same colour. *L. Hansonii*, which I have grown for a dozen years or more, has never ripened fruit either indoors or out in my garden, but both of the hybrids ripened fruit distinct in form from that of *L. Martagon* dalmaticum, as it is larger in outline and has the ridges formed by the joints of the segments far more prominent. I sowed the seed as soon as ripe. It seemed good, but the offspring, if there is any, will probably approach one of the parents; at least so I find it to be with most of the fertile hybrids of hardy plants which come plentifully in my garden. They may be fertilised with foreign pollen, but not with their own.—C. WOLLEY DOD, *Edge Hall*.

—Kindly permit me to protest against the name of this hybrid Lily, as being not only irregular in application, but also very misleading, if one who was ignorant of its history would venture to attach a meaning to it. Such a one knows, very probably, that *Lilium Hansonii* means Hanson's Lily, *ergo* *Lilium Dalhansonii* must mean Dalhanson's Lily. Then comes the query, "Who was Dalhanson?" Would it not be much better to name this hybrid *Lilium* (hybridum) *Dal-Hanson*, and call it in English the Dal-Hanson Lily?—W. M.

The weather in West Herts.—A warm week. On Thursday and Friday the temperature in shade rose respectively to 77° and 75°, while on Sunday night the exposed thermometer never fell lower than 53°. The temperature of the soil at both 2 feet and 1 foot deep now stands at 60°, or 3° higher than on the same day last year. Rain has fallen on but five days this month, and to the total depth of only about half an inch. The ground remains singularly dry. In fact, no measurable quantity of rain water has come through the 2½ feet of soil in the percolation gauges for over three weeks. Since the beginning of the month the sun has shone on an average for 5½ hours a day, and on ten days the record exceeded seven hours.—E. M., *Berkhamsted*.

Death of Mr. Hugh Low.—We regret to record the death of Mr. Hugh Low, of the well known firm of nurserymen at Clapton, on Sunday, September 17. He was thirty-two years of age, and his death will be regretted by a wide circle of friends; he leaves a widow and two little girls. For some time past Mr. Low had been in indifferent health, but was not taken seriously ill until Saturday, when pneumonia rapidly developed. Mr. Low was in partnership with his two younger brothers, by whom, we understand, the business will be carried on. The funeral took place on Wednesday at Abney Park Cemetery, and was attended by many sympathising friends.

Roses for exposed positions.—Will any reader kindly say what Rose would do best for planting against railings 3 feet high round a piece of water? The position is very exposed. Roses of a free flowering nature and inclined to grow bushy preferred.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will take place at the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, September 26, when prizes are offered for Gladioli. At 3 o'clock Mr. Iggulden, of Marston Gardens, Frome, will deliver a lecture on the "Causes of Failure in *Eucharis* Culture."

BOOKS RECEIVED.

"Hours in my Garden." Alex. H. Japp, LL.D. London: John Hogg, 13, Paternoster Row.

"Orchid Seekers in Borneo." By A. H. Moore, Russian and F. Boyle. Illustrated by Alfred Hartley. London: Chapman and Hall, Limited.

"The Orchards: Fruit Culture for Small Holdings." J. Cranston, F.R.H.S., King's Acre Nurseries, Hereford.

"Cremation and Cholera." By Sir Spencer Wells, Bart. The Cremation Society of England, 8, New Cavendish Street, W.

"The Prevention of Preventable Diseases." An address by Sir Spencer Wells, Bart., F.R.C.S., Surgeon to the Queen's Household.

Names of plants.—John Edwards.—1, *Phragmites communis*; 2, *Selaginella pubescens*; 3, *Adiantum concinnum latum*; 4, *Adiantum tenerum*; 5, *Adiantum fragrantissimum*; 6, *Adiantum Ghiesbreghtii*.—E. Fisk.—1, *Atropa belladonna*; 2, *Statice Limonium*; 3, *Chenopodium rubrum*; 4, *Stratiotes aloides*.—T. Ames.—1, *Goniopteris scolopendroides*; 2, *Cystopteris bulbifera*; 3, *Asplenium cicutarium*; 4, *Odontosoria aculeata*; 5, *Diplazium conchatum*.—T. George.—1, *Passiflora corulea*; 2, *Linnæa borealis*; 3, *Aristolochia Siph.*—George Young.—1, *Eulophia guineensis*; 2, *Lælia Lindleyana*; 3, *Mitonia candida grandiflora*; 4, *Cypripedium Swamianum*.—T. G. F.—1, *Cypripedium selligerum*.—W. J. Mitcheson.—Orchids, *Lælia pumila*; the other next week.—Thos. May.—A variety of the Cockspur Thorn. —A. Folgate.—1, *Aponogeton distachyon*; 2, *Ophiopogon Jaburan variegatus*.—H. R. L. N.—*Ecercmocarpus scaber*.—J. H. Lane.—1, *Colchicum Parkinsonii*; 2, *Crocus zonatus*.

Names of fruit.—V. A.—1, Norfolk Beanfin; 2, Siberian Crab. —A. Trail.—1, *Burré Superfin*; 2, *Fondaute d'Antonne*. —Henry Parker.—1, Hawthornden; 2, Keswick Codlin; 3, Cellini —Danum.—1, Marie Louise; 2, *Burré Bachelier*; 4, *Comte de Lamy*; 5, *Emperor Alexander*; 6, Cellini. —Edwin Dodds.—1, Court of Wick; 2, too small to identify; 3, Dutch Mignonne. —Aun.—1, Court of Wick; 2, Duke of Devonshire; 4, *Reinette du Canada* most probably; 5, Beauty of Kent.

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No. 141. SATURDAY, September 30, 1893. Vol XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

CHRYSANTHEMUMS.

CHRYSANTHEMUM PROSPECTS.

FROM the present appearance of Chrysanthemums, one may be able to judge with tolerable accuracy what kind of a flowering season we are likely to have in 1893 as compared with those that have passed. I do not note any signs of diminishing enthusiasm among those who cultivate this flower, whether for exhibition or otherwise, but it is quite clear that the system of growing large specimen blooms holds the field, notwithstanding the annual tirades against it. Raisers of new kinds have somewhat modified the greatest objection we hear of, namely, the extreme height of the plants. Although generally the growth has run up to a greater height than usual, it is possible to make a first-rate selection of varieties none of which shall exceed 4 feet high. My view of the season is that, so far as the exhibitions are concerned, we shall see flowers of great beauty, with, perhaps, a falling off in mere size, this last owing to the buds having been secured by many growers later than usual. The plants of various cultivators vary, of course, as to size and general looks, but all that I have seen are particularly well ripened. The foliage is firm and bronzy and the stems of a very hard character. Plants grew out of the bud-producing propensity which troubled many during early July, and I have seen what is most unusual, flower-buds secured and looking very promising on the third run, as it is known, of such kinds as Princess of Wales, an incurved sort which seldom presents a perfect bloom when the plants are allowed to grow so tall. Blooms of the Lord Alcester type, too, will be plentiful this year from late crown buds. Many of my own plants of this type were topped in July. They produced their flower-buds far too early to please me, but they are dwarf and the growth well finished, without which ripeness, good deep incurved flowers are not to be had. It is pleasing to note several promising novelties among this class. New kinds, and especially fresh colours, are wanted to prevent the incurved Chrysanthemum being overshadowed in popularity, as at present the reflexed, Anemone, and other classes appear to be by the wonderful beauty and richness of the Japanese varieties. One wonders sometimes how far any improvement can take place in respect to this last named division, but with the thousands of seedling Chrysanthemums now growing around London alone, it is easy to anticipate novelties this autumn not less grand than many seen for the first time last year. The best of all last season's gains, Wm. Seward, seems likely to surpass expectations and drive out of cultivation such a dark crimson kind as Jeanne Délaux, which has done duty so long, but does not possess half the vigour of the new-comer. Beauty of Exmouth, John Shrimpton, W. H. Atkinson, Waban, Le Verseau, Miss Dorothy Shea, Primrose League, and many others look well in all collections, and they will play an important part in brightening the stands of blooms this coming show time. One cannot but

notice the decline of the reflexed, Anemone, and pompon Chrysanthemums. It is a pity, for amongst them are exceedingly beautiful flowers. I noticed in the collection of a large grower who, not many years ago, cultivated them well, just a few sorts that he cannot readily part with growing in an out-of-the-way corner of the garden. If we judge from gardens near London and what dealers tell us, single Chrysanthemums are not much favoured.

The strongest plants I have seen are near Reigate, growing in a very open position at the foot of a hill. I can conceive the labour of watering alone during such a summer as we have passed through on such a spot, the plants numbering not far off a thousand. Five or six times a day I was told the grower sometimes looked through the collection, and a plant was not supplied with water because that would be needful an hour later. Each, one could see by the splendid condition of the collection, had had its wants attended to at the proper time. This is a type of an enthusiastic cultivator of the Chrysanthemum who will be rewarded with fine flowers later on. In another garden which I visited the plants were mostly old stools which had been cut down after last year's flowering and remained in the same pots. Those that were newly struck had not been potted beyond 5-inch pots. The whole collection had a miserable, starved appearance, yet I was assured a great amount of pains had been bestowed upon the plants, and the grower expects flowers of great excellence. In this locality there is quite a number of working men cultivators who show their love for the autumn queen by growing the plants under, in some cases, most adverse conditions. All the plants I have seen, more or less exhibit traces of careful culture. Twenty, thirty and up to half a hundred specimens are grown, and mostly for large blooms. Several of these artisans are anxious to compete at the local show, and I hope they will do so with success.

H. SHOESMITH.

SEASONABLE NOTES.

IN many previous articles I have endeavoured to impress upon the notice of cultivators the great advantage derived by those who manage their plants in such a manner as to have them by the early part of October in a thoroughly matured condition. I am now alluding to those plants that are cultivated with the object of producing large blooms. In many gardens where these large Chrysanthemums are grown there does not exist what may be termed a suitable all-the-season-through site where the plants can remain with all the advantages necessary until the time comes for housing them at the end of September, or at the latest by the middle of October. Overhanging trees very often interfere with the plants receiving that amount of light they should do as the days shorten. I strongly advise the removal of the latest grown plants in the incurved section to more suitable quarters, even if it only be for two or three weeks, so that the finishing touch to maturing the wood may be effected. It is only by taking as much pains in attending to all the wants of the plants under such adverse circumstances that success can be achieved. The time is fast approaching when much damage may be done by earwigs to the tender parts of the plants—I allude to the newly-formed flower-buds. Although the present has been a favourable season for all kinds of insect pests, I do not think that earwigs are present in very great numbers. Earwigs do much harm to the

Chrysanthemums in a very short time if allowed to go on unmolested. A nibble or two at a tender bud will cause it to produce a deformed bloom, and this after a whole season's labour is very annoying. I have not found anything superior to Broad Bean stems or Bamboo canes cut into lengths; these thrust in among the leaves harbour the insects during the day. These traps should be daily examined by tapping one end of the tube, the carwigs will run out at the opposite end and can then be destroyed.

Hastening late plants is necessary every season. No matter how early the bulk of the plants may appear to be, there are sure to be some few late in forming their flower-buds, and as uniformity in flowering of the many kinds now necessary to win prizes is essential, means must be taken to push on those plants inclined to be late. It is useless waiting until a few weeks before the blooms are required, and then subjecting the plants to excessive heat to induce them to expand their blooms at the same time as the bulk of the sorts. Even if such a practice were successful, the colour of the florets would be much depreciated, this being a serious matter from an exhibition point of view. If these late plants have not much vigour, hasten them on by the aid of nitrate of soda, say at the rate of half a teaspoonful to one plant growing in a 9-inch pot, given in a liquid state. This should be followed up by two doses a week of sulphate of ammonia at the rate of half an ounce to 1 gallon of weak liquid manure.

Preparations will shortly have to be made for housing the plants; indeed, some require it even at the present moment. Plants that are commencing to unfold their florets should be removed under cover without delay if the beauty of the flower is to be enjoyed, whether it is too early for any particular show or not. Much of the trouble experienced in the damping of the blooms might be traced to the petals getting wet by rain or even night dews through being left outside after the colour of the petals is perceptible. Where a number of plants is cultivated on the large bloom method there are sure to be many too forward. My practice is to house all these early plants together. These early blooms are useful for cutting if developed in a satisfactory manner.

Inexperienced growers of Chrysanthemums do not understand at what date to house their plants so as to have them in bloom at any given period. Without some knowledge as to the length of time particular varieties require to develop their flowers, it is extremely difficult to have the plants in perfection exactly when wanted. The flower-buds of some varieties require a much longer time to develop after they reach a certain stage than those of others. Practical experience alone can render a new grower perfect in this detail, but a few hints on this subject will possibly be of advantage to the inexperienced. Circumstances do not sometimes admit of the plants being housed at exactly the time wished. The locality, too, in which the grower resides has to be considered. If it be a low, damp situation, a grower should remove his plants inside earlier than another person located on a hill, for the reason that in the low-lying district early frosts are more to be feared than where the position is high, and consequently drier. If the tender swelling buds are injured by frost, and they are very susceptible in this respect, the blooms cannot develop evenly and well. It is not wise to leave plants out of doors without protection of some kind in any district after October 8. Housing should commence the last week in September, removing the very early plants

and those with late or backward buds. Take *Boule d'Or* as an example in the Japanese section and any of the Princess Teck family among incurved varieties. These require much longer to expand their blooms fully than any other; therefore, all such should be placed under cover first. Those named will serve as a guide for others. Such as the Queen of England and Prince Alfred families develop very readily, requiring not more than three weeks after the first petals commence to unfold. In some of the Japanese, as *Avalanche*, the petals expand very quickly. Of course, there is all the difference between blossoms expanding freely on plants perfectly healthy and otherwise. Where the roots are not in good condition, many of the base florets commence to decay before those in the centre are nearly fully expanded. Where many plants are grown and facilities exist for arranging them in batches of say three—early, medium and late plants—all the better. So much more command can then be exercised over the development of the blooms. Before the plants are taken indoors, all traces of mildew should be removed. Where the plants are badly infested with this parasite, it is a good plan to lay them on their sides and thoroughly drench every part with the mildew mixture recommended on page 476 of the last volume of *THE GARDEN*.—E. MOLYNEUX.

—The work which should engage our attention now is the necessary preparation for housing the plants, and, where effect is desired, the plans of arrangement thought out. Before the bulk is ready there is sure to be here and there a plant the flowers of which are showing colour. Without a moment's delay place such under cover, for with damaged outside florets the beauty of a bloom may be marred. The mildew pest can be effectually dealt with at this time, and if each plant with any sign of it on the leaves be put on its side, sulphur may be puffed on to the under surface in a thorough manner. In the south, placing the whole collection under cover is generally started the last week of September, it seldom being safe to leave anything outside longer than a fortnight after. I have, however, found backward flower-buds swell better in the open air and I never put a plant under glass to hasten it, but only for safety from frosts. Before the buds show colour they miss the night dews. Unfortunately, many of us are not overdone in the matter of glass structures, so that there is little choice as to positions. A well-ventilated span-roofed house is the one I should select for *Chrysanthemums* to bloom in, and I would so place the incurved sorts that they get less sun than the Japanese varieties. I would divide the latter in this way. There are many, including all those large, heavy, thick-petalled kinds like *Mrs. Wheeler*, *Etoile de Lyon*, *Beauty of Castlewood*, *W. H. Lincoln*, and so on, that appear to revel in the sun's rays, and need shade only in the morning till the accumulated moisture of the night before has been dried by air. Then there are the thin, many-petalled delicate kinds like *Vivian Morel*, *Sunflower*, *Avalanche*, *Col. W. B. Smith*, as well as very deep coloured varieties, which strong sunshine spoil. Such should be stood in the shadiest part of the house, or otherwise the sun kept from them. Stand the pots as far apart as room will allow. A capital plan with most of the incurved sorts is to take away their sticks and fasten them up the front and sides of ordinary greenhouses, vineries at rest, and the like. In this position the foliage is close to the glass and the flowers become partially shaded, while the blooms, hanging their heads as it were, seem to take on the desired shape more evenly than when tied upright. When all are under cover fumigate each house with good tobacco paper on two or three occasions, whether aphides are seen or not. These are pretty certain to appear when fire heat is employed. There is no danger in tobacco smoke even when the blooms are opening provided air be passed among the plants in early

morning after the operation and that the material is good of its kind. I have heard of plants being spoiled by common tobacco paper; therefore it is well to be careful in this respect. Watering and air-giving are very important matters when *Chrysanthemums* are placed under glass. It is no uncommon thing to see well-grown plants spoiled through improper treatment from this time. I am very cautious at first, and allow the roots to get on the dry side for a few days, as the inside conditions are so different from those in the open air. During this time I throw water among the plants if the weather be at all dry; this seems to put them on good terms with the altered state of things. When well used to being under glass more water at the roots will be required. The collection should be gone through twice a day. Feeding with stimulating manures is still needed, and may be continued till the blooms are well open. I would be very careful, however, about feeding varieties of very high colour like *Wm. Seward*, or delicate growers like *Mrs. Alpheus Hardy*. There is little doubt but that overfeeding predisposes to damping in the blooms, so troublesome to many growers. Open doors and ventilators night and day, and gradually lessen the supply of air as the flowers open, so that cold draughts may not play upon them. What I aim at is a nice current of air passing through the houses at all times except when fogs prevail. Growers of *Chrysanthemums* near London know what they mean and how difficult it is to prevent damage being done to opening blooms. At these times keep the ventilators almost closed and the pipes nicely warm.—H. S.

NOTES OF THE WEEK.

United Horticultural Benefit and Provident Society.—We are asked to state that the annual dinner of this institution will take place at the Cannon Street Hotel on Tuesday, October 10, at 5.30 o'clock. Mr. Peter Veitch, of Exeter, has consented to take the chair.

Lilies at Highgate.—Mr. Jenkins sends us photographs of *Lilium speciosum album* Kratzeri and *L. speciosum rubrum cruentum* growing in his garden at Highgate. Two bulbs of the former planted in 1891 produced fifty flowers in 1893, and three bulbs of the latter planted also in 1891, this season bore eighty-four flowers.

Pink Ernest Ladhams.—I herewith send you a few flowers of my new perpetual-flowering Pink, Ernest Ladhams, which continues to bloom in great profusion, so much so in fact that, in spite of the flowers that have been cut, the beds now have the appearance of early summer, when Pinks are just at their best.—B. LADHAMS, Southampton.

Epilobium angustifolium album.—We noticed this in full bloom recently, and whilst one sees the common kind in gardens, the pure white variety is not so freely planted. It is, however, a fine hardy free-blooming kind, forming a fine mass when allowed to grow without being disturbed. The flowers are pure white, and appear over a long season.

Abutilon Andenken An Bonn is a new variety, which is likely to prove very useful for the garden in the summer months by reason of the large, handsome Vine-shaped leaves, which have a broad cream-coloured margin. We noticed it in the Swanley nursery as a good thing for sub-tropical bedding. The habit of the plant is sturdy, and betokens a vigorous growth.

Plumeria lutea.—In your issue of September 16 you have a note on *Plumeria lutea* in flower at Kew. I have the same variety in bloom, and also rubra, which, I think, is more difficult to flower, and lasts much longer when in bloom. My plant of rubra has had 150 flowers on one spike, and has been in bloom for over eight weeks.—J. BOYD, Dunmore Gardens, Larbert, Stirlingshire.

Sweet Peas from Newry.—Mr. Smith, of Newry, sends us some noble varieties of Sweet

Peas of the most delicate hues and well grown, to show us, as he says, to what a stretch "the abnormal summer has brought us." We cannot see that any summer would bring us anything more fair than these Sweet Peas in colour—azure, cream, purple and chocolate.

A most valuable Carnation for out of doors is *Comtesse de Paris*. It is, I think, about the most persistent bloomer I know. Mine came into flower with the other sorts in July; it has been flowering ever since, and from present appearance is likely to produce its blush coloured blossoms up to the time frosts come.—H. S.

Zauschneria californica was a mass of bloom a few days ago at Swanley, and the past hot weather seems to have well suited such plants as this. It is very bright when in a suitable position, but requires shelter and a warm soil. During a severe winter a little cocoa-nut fibre refuse or coal ashes heaped over the roots will afford needful protection. The drooping flowers are vermilion, produced freely and make a welcome display on the rockery at this season.

Tecoma Smithi was in full bloom a few days ago in the temperate house at Kew. It is, we believe, a hybrid form, and one of its parents is *T. capensis*. Such a form is worthy of note, as it is quite distinct. The flowers are produced in fine heads, whilst individually they are conspicuous, being quite self yellow in the interior of the tube, so to speak, and flushed with reddish brown on the outside. It is very free, vigorous, and in all respects a plant that should become popular.

The scarlet-fruited Thorn.—This is superb this year for its autumn colouring. We saw trees of it the other day which lit up the garden with colour, the foliage yellow, flushed with scarlet—a glorious picture. A group on the outskirts of the lawn or in the park would have a splendid effect. Then one gets the ruddy-coloured berries, produced in profusion this year and more intensely coloured than usual, whilst in late May the flowers appear. Even for its autumn colour it is worth planting. The better kinds of Thorns are not too often seen in gardens.

Collinsia heterophylla.—This came from Mr. Thompson, of Ipswich, who has given us so many new and pretty things among annuals, and flowering as it is beside all the other annual species except *verna*, a good opportunity is afforded of seeing its distinctness. It appears to be a form of bicolor, but quite distinct, being larger alike in leaf and blossom and a little darker in colour. It is quite the best annual species of those now blooming. Others that are pretty and interesting are *grandiflora*, a dwarf kind in shades of blue and lilac, and *bartzefolia*, a pale variety of bicolor.—A. H.

Rudbeckia pulcherrima is one of the most interesting plants in bloom on the Kew rockery. It has been in full beauty for some time, and although not showy, is by no means inconspicuous. The plant makes a compact growth, the leaves narrow, abundant and of a glaucous colour, whilst the flowers are borne on long stems. Individually they are nothing much to look at, but a good specimen of this when in full bloom is certainly attractive. The centre is high, conical in shape, and stands out well, as the petals droop in a distinct way, the colour yellow, set off by a large crimson blotch at the base.

Lobelia Goldelse.—I have not seen any notice in *THE GARDEN* of this yellow-leaved *Lobelia* sent out this year by one of the German seed merchants. With me it has done very well, and is an undoubted acquisition. It has a compact habit, the foliage is of a decidedly yellow colour, and in fine contrast to the dark-leaved *Lobelias* like *Emperor William*. It is, perhaps, not quite so free flowering as the older sorts, though there is nothing to complain of in that respect. It struck me as being more delicate in constitution than its dark-leaved congeners, for my plants were sadly damaged by the cold winds in May, though now they have entirely recovered.—F. R. II. S.

FLOWER GARDEN.

GUNNERA MANICATA.

THIS herbaceous giant is a native of Chili, and may be found growing in many English gardens. Although it is semi-aquatic, it will thrive in almost any soil or situation. It, however, never attains the extraordinary dimensions it is capable of, unless planted in deep rich soil with its toes absolutely in the water by the side of a pond or running stream. The engraving does not give a good idea of its vast size, for the plant is growing in a pit and in a very difficult position for photographing. It covers a space fully 30 feet across, and consists of from twenty-five to thirty leaves, some of them over 9 feet in diameter, upon clear stems 8 feet high. The crowns are as large as a man's body, of a delicate pink colour. Flower-spikes are produced freely, which should be cut as soon as seen, or they will check the growth of the leaves. When they die down in autumn the leaves should be placed loosely over the crowns, with their stems

has benefited by the brilliant sunshine. It grows about 2 feet high, the stems and the large heart-shaped leaves being thickly covered with grey down, whilst its bold, erect, pure white trumpets, which are sweetly scented, stand up from among the leaves. Although rarely seen in gardens it is said to have been in cultivation nearly 300 years.

Flowering of Cape bulbs.—While some classes of bulbous plants, Lilies for instance, have in many places done badly this year, on the other hand the very hot weather has greatly benefited the Cape bulbs, which are this season flowering with unusual freedom. The Belladonna Lilies are quite a mass of bloom, and form one of the most beautiful outdoor features just now. A warm south border in front of a hothouse is undoubtedly the best place for these Belladonna Lilies, for in the open ground in many districts they cannot be depended on to flower well. In planting them thorough drainage should be ensured, and if the soil is a good loam they may remain undisturbed for years and will improve each season. The different Nerines, too, show the effect of such a thorough ripening as they have undergone and are flowering beautifully. They are a charming class of plants that need a thorough roasting during the summer to induce them to flower well. The Watsonias

amongst some other things, from Herr Franz Maly, the collector, of Vienna. These plants bore each one flower of a very pale yellow colour, almost cream colour, on a stalk about 3 inches high. Each flower was about 1½ inches long, and I remarked that the tube appeared to be very thick or swollen, while the divisions of the corolla were of smallish size. Mr. Backhouse told me that these plants did not appear to thrive with him, and he never, during my time, raised any stock from them. The ordinary blue-flowered *G. gelida* of the trade has been retained in his catalogue, very probably for commercial reasons.—W. M.

NEW HARDY WATER LILIES.

M. LATOUR-MARLIAC has sent me a series of six blooms selected from ten or twelve of his new seedlings, and very distinct and beautiful they are as now floating in a big bowl of water as I write.

N. MARLIACEA RUBRA PUNCTATA is a shapely flower 4 inches in diameter, with twenty-two sepals and petals. The four sepals are dark olive-green behind, and pale rosy lilac in front. The petals are of a deep rose-purple and delicately marbled. As looked at through a lens the colour is seen to be formed by deep crimson-purple cells, dotted upon a whitish and crystalline ground colour, but the general effect is that of a rich rose-purple, very dark, indeed approaching carmine in the centre, as contrasted with the orange whorl of stamens.

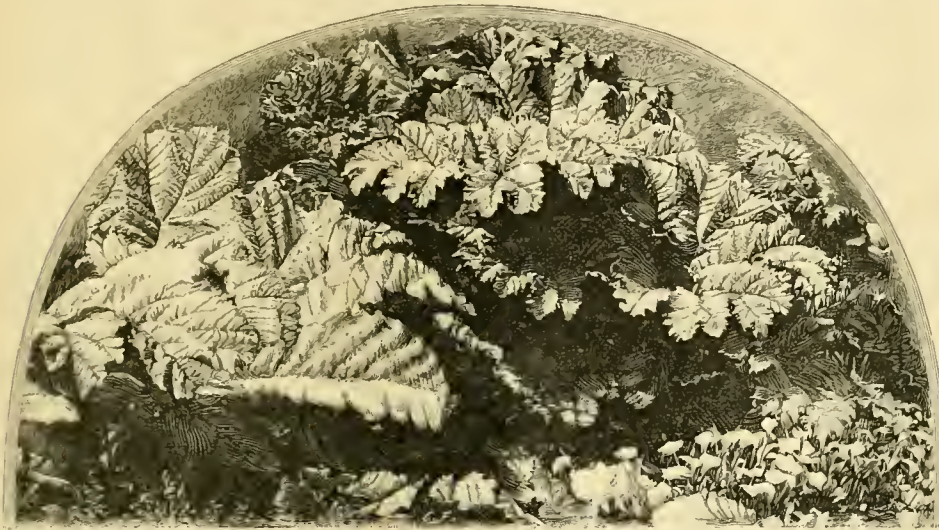
N. MARLIACEA IGNEA.—This is a larger flower and nearly 5 inches in diameter when fully open. The sepals are pale olive-green, edged with rose behind and pale rose, nearly white, in front. There are eighteen shapely petals closely imbricated and forming a beautiful cupped whorl around the vivid orange-red based stamens in the middle of the flower. The petals are of a deep, but bright rosy crimson, and so far this is by far the most brilliant hardy *Nymphaea* that I have yet seen. As seen in the sunlight its petals glint and glow with quite a stained-glass-like effect, not at all easy to describe in words.

N. ROBINSONI.—A smaller flower, barely 4 inches in diameter when fully open. Sepals pale olive-green behind, and of a soft primrose colour, shaded with the palest rose in front. The petals are broad, fifteen in number, and of a soft terra-cotta rose colour, shaded with primrose, and there is a bold tuft of golden stamens in the centre of the flower. This is a most distinct flower, calling to mind the old-fashioned rosy semi-double Hollyhock in form and colouring.

N. LAYDEKERI FULGENS.—Also a small flower, barely 3½ inches in diameter, as fully expanded, having five outer dark green sepals and about fifteen cupped and shapely petals of a dark crimson-magenta colour, glowing like a ruby in the sun. As seen in the shade the crimson petals shade to nearly black in the centre, and of all *Nymphaeas* this is the richest and darkest in colour of any I have as yet seen.

No. 5 (not yet named).—Again a small, but shapely star-like flower, barely 3½ inches across when fully expanded. The sepals are apple green behind and pale primrose shaded with soft green in front. The pointed petals are of a delicate salmon rosy shade, something like *Carolus Duran* Carnation, and there is a boldly radiating group of golden stamens occupying nearly half the width of the flowers. In colouring this variety is absolutely unique amongst Water Lilies. It is a delicate cream-tinted flower shaded with pale rose.

N. LAYDEKERI LILIACEA.—A most dainty flower, even smaller than the last, its blooms being only about 2½ inches in diameter when wide open. The four sepals are dark sap-green behind margined with pale rose. There are fifteen peach-blossom-tinted petals around a small tuft of golden yellow stamens. The rosy petals have quite a silvery lustre in the sunshine, and if examined through a lens this glistening effect is seen to be due to the rosy pigment being dotted or marbled upon a



Gunnera manicata at Trelissick, Truro. Engraved for THE GARDEN from a photograph sent by Mr. W. Sangwin.

on top to prevent them being blown away by the wind. Protected in this way the plants have stood the winter with a thermometer ranging on several occasions below zero. It grows freely from seed, but it can be divided as easily as Rhubarb. The individual flowers are very minute, more curious than beautiful, the chief attraction being in the truly magnificent leaves.

W. SANGWIN.

Trelissick, Truro.

Solanum Fontanesianum.—The *Solanum* family is a very large one, and some of its members are striking in leaf, flower and fruit, but most of them are of questionable value in gardens. The kind under notice is an annual of easy growth, as the seed may be sown in the open air. It has handsome leaves, which are armed with long, very sharp thorns above and below. Its flowers, borne several in a raceme, are each 1 inch or more in diameter, and of a creamy white or pale mauve colour.

Datura Metel.—In an ordinary season little or no success would have been expected with this plant from seed sown in the open air, but at present one of the most striking things among our annuals is a line of this, the seed having been allowed to take its chance. It is a tropical annual, and no doubt

and *Eucomis*, too, have flowered unusually well, while *Vallota purpurea* bloomed very much earlier than I have ever before noticed it. Several plants were exhibited at the Temple show, and in many places it was flowering soon after. This feature was in the case of the *Vallota* certainly not an advantage, as so many other plants were blooming at that time; whereas it usually comes in at a season when many of our summer blooming plants have lost their foliage and before the bulk of autumn flowers are in. The blossoms that expanded during the height of the summer retained their freshness only for a very short time. *Cyrtanthus McKeni* in a warm nook has flowered throughout the summer, while there are still a few blooms on it. The bright coloured *C. angustifolius* and *C. MacOwani* have also bloomed well under similar conditions. The past season has in many places just suited the *Montbretia*, while, on the other hand, in some spots, especially where the soil is light and dry, the foliage was so much attacked by red spider as to cause the leaves to turn yellow and shrivel up.—H. P.

Gentiana gelida.—Mr. Wood is, as usual, quite right in his note on this plant (p. 186). The late Mr. Backhouse had (about the year 1875) on the new private part of his rockery adjoining the dwelling-house two plants which he told me were the true *Gentiana gelida* from the Caucasus, and I think he said that he had received them,

white ground, and not equally floated or diffused through the tissues. This is an exquisite little beauty, resembling *N. Laydekeri rosea* in form, but if anything smaller, and it has a delicate perfume.

Of the above, although all are beautiful and distinct, *N. Marliacea ignea*, *N. Laydekeri fulgens*, and the soft rose and cream-petalled No. 5 are perhaps the best. The intensity of colouring in the two first is quite unprecedented, and the last of the three is quite unique in colour. When I saw these exquisite flowers from M. Marliac, the first flush of satisfaction was succeeded in my mind by a question, Where will all this variety and beauty amongst the *Nymphæas* end? We cannot have too many of them, for they are the most lovely water flowers of all, and as welcome in variety as the *Carnation* or the *Rose*.

F. W. BURBRIDGE.

NOTES FROM A NEW ZEALAND GARDEN.

We are now nearly a month past the winter solstice, and with lengthening days the flowers and the birds are beginning to stir. To-day (July 20) I noted a good deal of activity among the garden birds. The thrush breaks quite into a burst of song towards late autumn or early winter; why, I cannot tell, unless the bright days of the Indian summer cheat him into a belief that spring has come without winter. The frosts, which here are sometimes hard enough, and the occasional light snows seen undecieve him on this point; but yet during open weather the thrush may be heard more or less throughout the winter. The blackbird, on the other hand, is silent till he has reason to think that spring is close at hand, which I could almost believe he decides by the appearance of the first yellow *Crocuses*. Apparently Christmas Roses, Japan Quince, *Acacia* or other winter flowers do not move him to song. To-day I heard his note for the first time; not a decided song, but somewhat diffident, as if he were only trying his voice. The cheery note of the hedge sparrow has been heard in the garden during the last few days. It looks as if this delightful little bird were doomed to disappear before the house sparrow, which bids fair to become an intolerable pest; and, therefore, I am pleased to see a pair of hedge sparrows about to domicile themselves in my hedges. I heard the skylark's song also to-day for the first time. The bird we colonists miss most is probably the cuckoo. No experience possible in this colony quite resembles that of hearing his note in spring for the first time. We have, to be sure, our cuckoos—birds of passage and disowners of their offspring, like their European congener—but without the peculiar note. The nearest approach, in my experience, to the pleasure of the first cuckoo note is that of hearing the earliest spring note of the chaffinch. Another sound of spring, very pleasant to hear, is the long-drawn-out whistle of the starling. To-day, the weather being mild and sunny, the starlings stationed themselves on the ridge of the house and piped in their plaintive

fashion; whether a love-call or a challenge I cannot say. With all this it would be premature to assume that spring is yet here. Winter will no doubt let itself be felt and heard before it goes for good. When I hear the first song of the chaffinch I shall believe that spring has come, but not till then.

Yellow *Crocuses* are out in sunny places, though in open and shady spots the tips of the grass are hardly visible. This is one of the European bulbs which the New Zealand climate seems particularly to suit. The yellows increase by offsets at a great rate; the other colours sow themselves abundantly every year, but the young seedlings get so disturbed by gardening operations—digging, hoeing, and so on, that not many of them come to anything. I note that the *Crocus* bulbs that get dug in to a considerable depth seem to grow stronger than these shallow planted, but they do not increase so rapidly, and the same is my experience with most of the *Daffodils*. The first *Snowdrop* was cut to-day (July 20) with, I am afraid, not many more to cut. It is curious, seeing spring *Crocuses* do so well with us, that the *Snowdrop* should be a difficult subject. I cannot grow *Snowdrops*, though I have been trying for years. The Crimean and the Smyrna *Snowdrops* seem to do a little better than the common kinds, single and double. These last somehow dwindle away to a white fungus-like thread, and then vanish. I have little doubt that the trouble lies somewhere in the all-round mildness of the climate, but how this cause operates I should like to know. Why should a bulb that grows and increases so readily in Britain prove such a difficult subject here, where the winter climate is so much less severe? Some light might be thrown upon this point if one knew how *Snowdrops* fare in the milder European climates, say Italy and the south of France. Will anyone who knows about this report on the subject?

Christmas Roses do fairly well with me. That which I have under the name of *St. Brigid* has a fine large flower, beautifully pure in the white, and very thick and solid in substance; it has pale green leaves that lie close to the ground, but both leaf and flower growth so far has been slow, and the stem is very short. Another variety, with leaves in the style of the typical *niger*, is much superior to *niger*, being more vigorous in foliage and a much better bloomer. As a winter ornament to the garden the *Hellebores* of the *niger* type are much less effective than another species of which I have several varieties—*H. orientalis*, I believe. These in several shades of greenish white and pink are really very handsome in the borders when most else looks dead enough. The somewhat spiny-fingered foliage radiates all round to a good distance, and the flowers stand boldly up in the centre on upright stems a foot or more in height. Self-sown seedlings are abundant, and though I have taken little care of them, I have had one or two rather good varieties.

The flower that divides the honours of winter with the *Hellebores* is *Iris stylosa*, and

a most dainty thing it is in shape, colour, and odour. I used to have one plant of this *Iris* from which I could gather a sheaf of bloom at any time during the winter, and, thinking to increase the supply, I made eight plants of it, some of which are now larger than the original plant. But the supply of flowers from the eight plants is smaller than formerly from the one. For two seasons I had none at all. This year, so far, I have had about a dozen blooms, and there may be more to come. I imagine that this lovely *Iris* requires starving to ensure blooms. When the season of bloom is over I shall plant a clump about a yard or so from a *macrocarpa* *Cypress*. If in such a neighbourhood it gets more sustenance than is good for it, then it must be hard to starve. Such is the fragility of the blossom of *Iris stylosa*, that it is difficult to get an expanded flower without one or more damaged petals. To have it in perfection it must be cut in the bud stage and allowed to open in water; then I know few things more lovely. There is a white variety which I do not possess. I should be glad if any of your readers who grow it would report as to its merits.

DAFFODILS.

These are on the move, and I expect great things from them this year. So far they have not behaved quite as usual. Usually the first *Narcissus* to show bloom with me is a strong form of *odorus*, which I received a good many years ago under the name of *hiemalis*. As this *Narcissus* usually begins to bloom in winter, the name of *hiemalis* is particularly suitable. But I do not find it in the catalogues, Dutch or English. On looking up Mr. Burbidge's book on the *Narcissus* I find a variety of *odorus* described and figured under the name of *heminalis*. This name is also to be found in the *Daffodil* conference list, printed at the end of Mr. Barr's little book on the *Daffodil*, but the plant is noted there as being one of those varieties not identified with any existing form. *Heminalis* has not appeared in Mr. Barr's catalogue, I think, for the last ten years at least, but it will be found in his catalogue for 1880, and I think my *hiemalis* must be an error in transcription (probably mine) for *heminalis*. Can anyone throw any light on the latter name? Did Herbert use it first? and what does it mean? There is no such Latin word so far as I know. Possibly it may be a florist's coinage from *hemina*, but in that case I cannot see the relevancy of the name. The variety I have with label *hiemalis* is an exceedingly valuable kind, vigorous, free-blooming, early and lasting—one of the best of the *Narcissus* tribe, and a great improvement on the typical *odorus*, or what I take to be the typical form. The bulbs of *hiemalis* are very large; the grass is tall and strong; the flowers, borne erect on a long and strong stem, are large and very rich in the yellow. By the way, it is a very curious fact that the name of *odorus* should have been given to that *Narcissus* which has the

least scent of all. Mr. Baker, in his "Review of the Genus *Narcissus*," describes the odour as sweet-scented, and again as possessing a decided fragrance. Such is not my experience of this *Narcissus*; compared with the *Jonquil* and *Tazetta*, it has no scent at all, and its scent is faint even in comparison with that of most trumpet and Peerless *Daffodils*. When *hiemalis* (I use the name for want of a better) blooms, as it ought, about the winter solstice, it is possible to have six months of *Narcissi*, assuming the double poetiens to last pretty well through the month of November (your May). This year, *hiemalis*, though early, is not the earliest. About the middle of June I gathered a bloom of the common double Lent Lily (*Narcissus pseudo-Narcissus*). Up to July 22 I have gathered eight blooms, and there are about a couple of dozen nearly ready for cutting, the grass of these clumps being about 10 inches high. Now there are in various parts of the garden two dozen beds or clumps of this variety, which, common as it is, is my favourite of the whole tribe. But these clumps are only just showing the tips of the grass above ground, so that counting from mid-June, when I gathered the first bloom, there is the promise of a very long season of this *Daffodil*. The early blooms this year are the result of an accident, and point to a very simple means of forcing this *Daffodil* so as to increase the length of its season. These early blooms have been sent up by clumps of bulbs that lay almost on the surface on a sheltered border. They were lifted for the purpose of planting them out in the usual way, but the planting was neglected, and they were left covered with, perhaps, less than an inch of soil. The result is a crop of flowers a month in advance of the general bloom. On the other hand, everyone who grows *Daffodils* knows how easy it is to retard the blooming for ten days or a fortnight by simply planting in a shady border, so that, what with hastening and what with retarding, the period of bloom for the pseudo-*Narcissus* may be considerably lengthened. I have not sufficient leisure time to allow of my attempting to seed and hybridise *Narcissi*, though I am sure this might be very successfully done in this climate. The best seed-bearer, so far as my observation goes, is the common *Jonquil*. This produces seed in large quantity and sows itself. This year for the first time self-sown seedlings of this *Narcissus* are showing flower-spates. I should like to know whether this tendency to seeding is characteristic of the *Jonquil* in British and Irish gardens. On the other hand, I have never observed seed-pods on the late *Narcissus tenuior*, which is nearly as plentiful in my garden as the *Jonquil*. But *Narcissus tenuior* is itself, I suppose, a hybrid between two members of different sections, and is therefore sterile.

Assuming that winter should extend equal distances on each side of the winter solstice (June 21), that is, about six weeks before and after that date, spring may be said to be due about August 1. The most reliable prophet

of spring amongst the birds I find to be the chaffinch. You may trust him not to be premature, and this morning I heard him for the first time this year. After some twenty-four hours of rain, the night had been frosty enough to film thinly over the Water Lily tubs, but the sun rose bright and remained unclouded till sunset. A finer day for spring to open there could not have been, and evidently the birds thought so. In going into town of a morning, I have to walk along a drive a mile or so in length bordered on each side with a luxuriant belt of thick bush, for the most part native trees, such as *Fuchsia*, *Broadleaf*, *Ti-scrub* and so on. This belt is alive with birds, and it may interest lovers of birds in England to know how they thrive here. From end to end of the drive there was this morning a full choir of songsters. The dominant note was the loud, bold, and, as I think, somewhat coarse whistle of the thrush. There seemed to be a thrush on every tree, and their concerted, or rather antiphonic, music made it a little difficult to follow the softer undertones of the smaller birds. But suddenly at one sunny bend of the road I heard the first welcome note of the chaffinch—only one pipe, so that I almost doubted whether I had rightly heard, but there followed his well-known double call chirp, and then I saw him. It was the chaffinch sure enough. A mile further on another broke into song, and repeated his short ditty five times. The date on which I first heard the chaffinch last year was August 2, and then I heard two separate birds, as this year on the 1st. The chaffinch is not, I regret to say, plentiful with us, and his tribe does not increase if it does not diminish. In my experience the chaffinch is for the most part a morning singer; a sunny morning and a sheltered piece of wood are his delight. Other birds were also active. In my walk along the drive in the morning and my return walk in the evening I either saw or heard the following: Two larks, not in song, but fluttering in mid air in an open paddock; blackbirds numerous, but not in song, the chiding chatter, however, that these birds indulge in when disturbed being loud enough, with much strutting and flirting by the roadway; a goldfinch, this bird being very plentiful here; the hedge sparrow in very joyful song and preparing to be busy; the fussy starling, uttering occasionally his long spring whistle; the house sparrow, unfortunately too numerous and noisy. Add to these imported birds three of our own native birds, all interesting. There was the little wax-eye (*Zosterops lateralis*), hunting in flocks for parasites of the aphid tribe, and all the time uttering his shrill monotonous chirp. Next the equally small, but delightful little bird, the grey warbler, called by the natives *riroriro*, and by the learned *Gerygone flaviventris*. You may often see this little bird flitting from bush to bush, the tips of its tail feathers forming a little semi-circle of white. You may also often hear its sweet, but monotonous trill, as I heard it this evening, but you will rarely see it and hear it at the same

time. Often as I have seen and heard it, I have never seen it singing, or, indeed, seen it in repose at all, for it is a little Ariel among birds. The third of the three native birds to which I have referred is the bell-bird, or korimako of the Maoris, *Anthornis melanura* of ornithologists. A few weeks ago it frequented my garden, being attracted by the blossoms of the *Pyrus japonica*, from which it seems to get honey, but of late I have not seen it. Anything richer than the more mellow of its notes it would be hard to conceive, though there are notes in its compass that are not so musical, being more like a husky whisper. So much for the birds on this first morning of spring. I fear I have been tedious on a subject interesting to myself, but which may be considered out of place in a journal devoted to horticulture.

As to flowers on this August 1, the following is a list of plants more or less in bloom in the garden to-day:—

Crocuses in variety, numerous	Violets
<i>Omphalodes verna</i>	Allium
<i>Daphne Mezereum</i>	<i>Pyrus japonica</i> , red and white
<i>Myosotis dissitiflora</i>	<i>Rhododendron</i> , fine crimson
<i>Daffodils</i> , double pseudo- <i>Narcissus</i>	Berberis Darwini
<i>Narcissus odoratus</i>	Laurustinus
<i>Hepaticas</i> , several colours	Heaths, three varieties
<i>Anemones</i> , garden kinds	Epacris
<i>Anemone apennina</i>	Bauera
Snowdrops	Yellow Jasmine
Primroses, single and double, various colours	Cyclamens
<i>Polyanthuses</i> , selfs and laced	<i>Iris stylosa</i>
<i>Arabis</i>	Daisies
<i>Scilla sibirica</i>	Pansies
<i>Agathæa cœlestis</i>	Wallflowers
Honesty	Acacias
<i>Helleborus niger</i> varieties	Winter Aconite
<i>Helleborus orientalis</i> varieties	Flowering Currant
<i>Helleborus foetidus</i>	Spring Snowflake
<i>Vinca minor</i>	Yellow <i>Corchorus</i>
	Common Broom
	<i>Banksia</i> (species unknown)
	<i>Ionopsisidium</i>

Dunedin.

A. W.

* * The proper spelling of the *Narciss* you refer to is *hemialis*. The authority for the name is *Haworth*, and it is figured in "Parkinson," p. 93, fig. 4. It is this year included in Messrs. Barr's catalogue.—Ed.

Tritoma Diana, flowers of which we have received from Mr. Prichard, of Christchurch, Hants, is a very beautiful hybrid raised by Max Leichtlin. It is quite deciduous, not half evergreen, like the varieties of *T. Uvaria*. A light covering of Bracken in winter is sufficient protection in cold districts.

Massing hardy flowers.—This method of disposing hardy plants in borders is well shown at Forde Abbey by Mr. J. Crook, who is an enthusiastic advocate of the plan. It is not merely that by this plan a better effect is obtained, but each kind or variety exhibits its merits far more effectively than is the case where only small or even moderately-sized plants stand singly. A fine cluster of *Rudbeckia Newmanni* was glorious, for it was 6 feet through and a mass of flowers; *Aster Amellus* was the same, so also were big clumps of *Chrysanthemum latifolium* and other things in bloom. *Anemone japonica alba* was a mass of snow white flowers. If this plan could be more fully adopted, it would do far

more than has ever yet been accomplished towards popularising hardy flowers. It is the rule also at Forde Abbey to intermix tender and hardy flowers in the kitchen garden flower borders. In this way double Zinnias are truly beautiful. Seed purchased in colours, sown separately, the seedling plants being put out in this way in blocks from 4 feet to 5 feet long, produced effects that excel immensely all that is got from any mixed bed of Zinnias. The colouring of some of the varieties, too, is so beautiful, that it seems as if nothing at this season could be more attractive. Then large patches of crimson Phlox Drummondii, or white, blue and red Asters are delightful. It is said to be a bad Aster season. Here at least these flowers are as fine and beautiful as Asters well can be. The effort to make outdoor flowers specially effective is at this place remarkably successful, and Mr. Crook practises well what he preaches.—A. D.

FLOWER GARDEN NOTES.

A FAVOURABLE sign of the times in connection with flower garden work is furnished by the ever-increasing display of cut herbaceous flowers to be found at nearly all shows, and the yearly increase in the number of growers, both trade and private, who make a speciality of their cultivation. With the planting season close upon us it may therefore be advisable to devote a few notes to some of the good things that have been prominently to the fore this year, with special reference to those flowers that have proved of great value for cutting. I should like at the outset to make a strong point in the case of the formation of new herbaceous borders in favour of the advisability of planting all things in fair-sized groups, not a dozen different varieties in as many feet, but clumps, a space of 3 square feet given up to each particular flower. To do the border thoroughly well at the outset and to plant in this manner are essential not only for an effective display, but because the majority of herbaceous things do not like the spade and lifting operations going on every year; they will stand for many years with a good annual surface mulching, and in the case of ramblers a little attention to keep them within bounds. I pass by the Iris, Pyrethrum, Phlox, and Pentstemon families that are numbered by hundreds of varieties; new sorts as they appear have always been promptly noted in THE GARDEN, and cultural directions have after appeared. I must, however, say one word in favour of the new dwarf Phloxes, about 18 inches in height, that are likely to prove grand subjects for beds. There is already a great variety in colour, the trusses are very fine, and the individual pips are as a rule beautifully shaped and of immense size. The only objection likely to be made to them for prominent planting is that they are rather short-lived, but it must be remembered that if planted in a mass they would naturally not all be quite at their best at the same time, and if heads were promptly nipped off, they throw up quickly in favourable seasons and furnish a second display. I was very much interested this year in a first experience with *Anomatheca cruenta*, a miniature lily of great beauty. It evidently likes a sunny south border and a rather light, deeply pulverised soil. Given this and a heavy winter mulching of half rotten leaves, there is apparently nothing to be gained by an early autumn lifting and winter storing. Exactly the same remarks are applicable to the *Montbretias* or *Tritonias*, also an exceedingly valuable race for cutting. *T. crocosmiflora* should be largely grown for this purpose; arranged with its own foliage in trumpet vases or white china stands it is very beautiful. Nearly everyone knows the double *Achillea ptarmica*, but the new forms *Snowball* and *The Pearl* are rarer; they are simply dwarf gems, the flowers of a beautiful clear white, nearly as large as those of the double Peach-leaved *Campanula*, and borne on long light flower-stalks. I have noticed many fine displays of the *Sea Lavenders* this summer, *Statice latifolia* and *S. elata*. For large bowls or vases they form an admirable base or carpet with other sprays arranged

to droop gracefully round and over the bowl associated with spikes of taller flowers, of which the *Tritonia* above named or *Spiræa palmata* are examples. The *Sea Lavenders* pay for good cultivation; they like a bastard-trenched fairly good border, and once planted should be left severely alone, as old crowns do not care about removal. Indeed, if when this is really necessary stout pieces of root are firmly inserted in soil similar to that above named, the latter will show considerably more vigour the following season than the old crowns.

A *Funkia* sold as *subcordata grandiflora*, but which, I think, should be simply *grandiflora* or *japonica*, has flowered well this year; the flower-stalk is thrown well above the foliage, and the flowers themselves are very fragrant. This *Funkia* likes a cool spot in the border and a deep, fairly rich soil. Care must be taken in ordering to specify both the habit of this particular variety and the scent of the flower, or the purchaser may possibly be disappointed and get *F. subcordata*, a very different thing. Reference was made earlier in the season to *Gypsophila paniculata*, and (not suffering to any extent from the prolonged drought) it flowered very freely. Like the varieties of *Statice* already alluded to, this *Gypsophila* associates admirably in vases with other flowers with tall or graceful spikes. It is at its best in ordinary seasons on a sunny, rather dry border, and individual plants increasing slowly in bulk should be planted rather closely together. *Helianthus Soleil d'Or* is one of the brightest of garden flowers at the present time, a large bank immediately in front of three or four plants of *Lawson's Cypress* making a very effective group. It has not made quite such vigorous growth as usual, but is a mass of flower. Smaller double flowers are furnished by *Bouquet d'Or*, and fine large singles by *multiflorus maximus*. Two excellent *Starworts* of the present date (September 21) are *Amellus major*, a fine flower considerably larger than the type and of free, robust habit, and *vimineus*, with small flowers and very delicate foliage. Even a short and necessarily imperfect list of good hardy vase flowers would be incomplete without a word on the late summer and October-flowering *Chrysanthemums*. Hardy perhaps in the true sense of the word is a misnomer when applied to this race, but they are so valuable for cutting when other things are getting scarce, that one must include them in a list of useful outdoor flowers. Where the October-flowering sorts are planted either in big clumps on borders or in beds, I should strongly advise a few upright stakes or poles at intervals round about them, and facilities for putting on quickly cross pieces and tiffany or some material of the kind. A late September frost is sometimes of sufficient severity to spoil all bloom if it is quite without shelter. I remember only a few seasons back the blackening of buds of nearly all un-housed *Azaleas* and winter *Chrysanthemums* where the custodians thereof with an eye to the weather had not turned out late at night, laid all pots on their sides and covered with thick tiffany.

Claremont.

E. BURRELL.

CARNATION PLANTING.

THE Carnation has stood out conspicuously all through the year as well able to resist drought, and if the flowering season has been shorter than usual, it has left us a good legacy in the shape of strong, well-rooted layers. By early planting of these we are carried a long way on the road to success another year. Our own layers leave nothing to be desired so far as strength and abundance of roots are concerned, and I think this must be the general experience, for of many new kinds coming in for trial even from the far north, it is noteworthy that all are strong and well rooted. Apparently the best Carnations of the future will have that all-essential quality—vigour of constitution, as many of the newer kinds are remarkably strong, with rich broad grass. The new *Lady Nina Balfour* is a good example. There is a great scarcity of water in some parts of the country, and one or two cor-

respondents writing to me say they are obliged to defer planting till there are prospects of rain. It is surprising, however, to notice how well the layers have rooted, though scarcely a shower has damped them and the ground has never been wetted thoroughly since they were put down. When planting is pursued during such weather as we have experienced of late, the plants, though they may have good balls of roots, need at least one thorough good watering to start them afresh. The most economical, and certainly the most effectual way of watering them is to leave the soil as a loose cup round the plant and thoroughly soak it, filling up and making firm after. This, well done, usually suffices to start the plants, and new roots are formed in a few days. If plants are put out and made as firm as is essential for them before being watered, overhead watering after, unless very copious, fails to reach the roots. Under the treatment I here suggest, with the additional encouragement of placing a handful of road grit or sea sand and wood ashes in mixture around the roots of the plants, this inducing early rooting, many plants have been put out during the great heat of this September, and apparently they have not suffered in the least.

A. H.

Helianthus multiflorus Soleil d'Or.—This is one of the showiest of all the perennial *Helianthus*, growing about 4 feet in height, compact, and bearing a quantity of large double flowers of an intense yellow colour.

African Marigolds have stood the hot weather remarkably well, at least for many weeks past they have been amongst the gayest flowers in the garden. One scarcely sees sufficient of the best forms of this fine flower, and it is, unfortunately, made to look ridiculous at exhibitions by the absurd way in which it is staged. The orange-coloured kind is rich, and several splendid strains are in the trade; whilst contrast is provided by the kind named *Lemon Queen*, which is rather tall in growth, the large flowers being of a distinct lemon colour.

Nolana atriplicifolia.—The *Nolanas* are very charming annuals of prostrate or trailing habit. They belong to the *Convolvulus* family and are easily grown, doing well when sown where they are to bloom, as they rather resent transplanting. Two or three species are in cultivation, but that named above is about the best, and a very pretty thing when doing well. Creeping on the ground or over stone edgings it flowers profusely, the flowers being about the size of those of the common field *Bindweed*, and of a delightful blue colour with a white throat. With plenty of room, which is generally denied to annuals, it grows and flowers for some time.—A. H.

Gladiolus Childsi.—One of the several races of *Gladioli* that have appeared in recent years is that obtained by Mr. J. L. Childs, of New York, and it contains some striking and very distinct varieties. Mr. Childs kindly sent us a few kinds for trial this spring. *Ben Hur* is splendid, fine in form, with a large open flower of great width and striking beauty. Its colour is a soft salmon shade with darker markings in the throat. *W. Falconer* is very bright in a soft shade of salmon-pink feathered with cerise. *Mrs. Beecher* is most effective, being of a rich deep red; and *Henry Gillman*, also red, has a white throat and a white line down the centre of the petals.

Everlasting Peas.—However unfavourable the intense heat and prolonged drought may have been to many flowers generally, they do not appear to have affected the blooming powers of the pink and white forms of the common *Everlasting Pea*. I have a number of old specimens of both varieties that I grow for cut bloom, and although they came into flower quite a month earlier than usual, they are now in full beauty. I have cut sacks of bloom from them this summer, and evidently only cold weather will stop the production of flowers. I doubt if there is anything finer in the outdoor garden at this time of year than well-established specimens of the white *Everlasting*

Pea; when hundreds of trusses are open at the same time the effect is very fine. We have certainly nothing among hardy climbers that will give for such a lengthened period so large an amount of exquisitely pure white flowers which are invaluable for wreaths and crosses. Everyone who has these to make should grow some good specimens of this white Pea, and I have used them freely for this purpose with white Lapagerias—a very pretty combination. The continuous blooming character of Everlasting Peas can, in dry summers at least, only be assured by deep culture. If the roots can run down 3 feet into the ground the plants will continue to bloom even in very parching weather. In shallow soils they are apt to go out of bloom by the middle of August. With a free root-run, picking off all seed-pods that may form, and giving a good soaking about twice in a hot summer, one may gather fine blooms for a period of three months or more from the same plants.—J. C. B.

Hardy Cyclamens make a pleasing show of colour in mid-September, and *C. neapolitanum*, better known under its synonym *C. hederifolium*, is a delightful autumn flower, varying in colour, and with fine marbled leafage. The white form named *album* is very pure, and mixed with the others looks well on the rockery. The hardy Cyclamens are prettier on the rockery than in the open, and in every good rock garden large clumps should be planted to give interest through the winter months. A light vegetable soil suits them best, and little sheltered nooks, so to speak, afford protection to the flowers from the weather.

ORCHARD AND FRUIT GARDEN.

APPLE ECKLINVILLE.

According to the "Fruit Manual," this excellent Apple was raised early in the present century at Ecklinville, in the neighbourhood of Belfast, by a Scotch gardener of the name of Logan. It has long been extensively grown both in Ireland and Scotland, and to a more limited extent in England. Of late years, however, and more especially since the rage for fruit growing for profit has become more pronounced, Ecklinville has been planted by the thousand, this being one of the few varieties that nurserymen can never grow enough of. Nor is this to be wondered at, seeing that it is included in every selection of cooking Apples, however limited, that is given. This variety possesses the merit of being of very robust habit of growth, and yet is an abundant bearer, quite small trees cropping freely, while large specimens seldom fail to produce fruit by the bushel. It is admirably adapted for growing in a bush form, the branches being erect, very stiff, and not forming a lot of spray. As I have it on the Crab stock and low stem, the trees are about 12 feet through and as much in height, and no trees serve us better than these do—without much trouble, too. It should be added that ours is a heavy clayey soil, and Ecklinville is therefore one of the best for heavy as well as medium soils. Bushes and pyramids on the English Paradise stock also do well, the trees producing freely and looking very healthy, although excessive productiveness greatly checks growth. It forms a fairly large compact head when grown as an orchard tree, and, it need hardly be added, crops heavily in most seasons. Unfortunately, the fruit does not keep well, and this season, instead of its being good throughout October and later, scarcely a sound fruit will be left by the end of September. Ecklinville, then, should not be planted very extensively for home use, two or three fairly large trees being enough for most

places, a single tree only being planted in quite small gardens. When it is intended to grow Apples extensively for market, then the variety under notice may well be planted by the score or hundred, according to circumstances, many dwarf as well as standard trees being included. The advice often given to market the fruit direct from the trees ought certainly to be followed. It is too soft for storing, and being large, also cooking well, no great difficulty is experienced in finding a good market. W. I.

Shepherd's Seedling Apple.—I met with this very excellent variety recently in several cottage gardens at Messington, Surrey, where it is found as old standard trees. Shepherd's Seedling is a fine kitchen variety of handsome conical form, very firm, heavy, and a good keeper. On old trees—for I know nothing of its cropping quality on young



Apple Ecklinville Seedling.

trees—it is an abundant bearer, and I think equal to any others. In the district to which I refer the Apple is held in high esteem. It certainly merits planting as a first-class orchard variety.—A. D.

Fig trees in Surrey.—It may interest some of your readers to hear that in our garden (the soil of which is a very light sand) several Fig trees against south and south-west walls are ripening a second crop of fruit. The Figs are small, about the size of Walnuts, but very sweet.—C. M., *Farnham*.

Hambleton Deux Ans Apple.—When recently at Hackwood Park, Basingstoke, I noticed the extraordinary heavy crops very large old trees of this fine old cooking Apple were carrying, some having from 18 bushels to 20 bushels, and generally a very fine sample. Mr. Bowerman remarked that he had never seen the fruits finer or earlier, due no doubt to the abundant sun-heat of the summer, although the drought has been felt also. The variety is at Hackwood held in very high favour

for cooking during the late winter and spring, as it is one of the best keepers. This old Apple is probably more largely grown in Hampshire than elsewhere.—A. D.

APRICOTS IN FRANCE.

THE paper read by Mous. F. Jamin (p. 191) is most important and interesting, though it fails to inform English readers as to a question I have frequently asked in THE GARDEN as to the causes of the general inferiority of the Apricot in France. A good many have supposed that the varieties were inferior, and that, in fact, they were raised from seed, and that this largely accounted for the inferior quality of the fruit. Mons. F. Jamin finally disposes of this fallacy by informing us that French Apricots are mostly

worked on the St. Julien Plum. Besides, the Royal, the Peach, the Blenheim and even the Moorpark seem to be grown, as well as other and more specially French varieties. True, the Apricot in France is grown in the open as a bush or dwarf standard tree, while in England it is grown on walls, and possibly our walls provide a better climate for Apricots than the open air in France, however superior the climate or larger the average of sunshine. This seems plausible enough at first sight, but it will hardly bear investigation; for though we can hardly ripen creditable Grapes on our walls in England, these ripen readily in France in the open air, thus proving that France without walls provides a climate for such fruit equal to England with brick walls of the most superior character. Giving up, then, the seedling and climatic theory of deterioration, we turn in other directions in search of the causes of the undoubted fact that French Apricots are far inferior to English. These are probably overcropping, inferior culture, early gathering, and the selection of the best for local or home use. One might suppose that the practice of cutting back the young wood annually to an average of four eyes would prove a sure physical antidote to overcropping, and it might were all or most Apricot fruit produced on the young wood of the previous year. But it is not,

and even this incessant pruning forces the dwarf standard and bush Apricots to become nests of spurs, as anyone may soon prove for himself who grows Apricots under glass in this country and prunes them annually on French lines. Overcropping, while reducing the size of fruit, also lowers its quality. From quality in this sense the very important factor of size is eliminated, though in ordinary cases size alone scores a fair number of points in determination of quality. But the point here and now is that the struggle for food among fruits if too severe lowers the quality as well as lessens the size of the whole, and this may partly account for the lack of colour, as well as flavour, in French Apricots.

As to the culture given, Mons. F. Jamin assures us that the trees thrive without any particular attention. The trees are at their

best at an age of from ten to fifty years. Neither does the soil become at all exhausted. Every year the trees which perish from old age or other causes are replaced by new ones, which always seem to grow in a very satisfactory manner. "In spite of the favourable conditions," Mons. F. Jamin adds, "it cannot be said that the yield of fruit is at all uniform in quantity or quality." There is no mention of mulching, manuring, watering, fruit-thinning when young, or all the rest of what is meant by liberal culture in England. That it is gathered early is proved by Mons. F. Jamin's paper, from which it appears that only superior samples are hand-picked and sold at superior prices. Growers who sell their crops off the trees get lower prices, but, on the other hand, they do not incur the expense of gathering nor of other items which tend to lessen the profits of those who pick and sell their own fruit. Can it be the Apricots are shaken *en masse* off the trees while yet so green as to bear such rough handling with impunity. The toughness and comparative tastelessness of all the Apricots I have eaten in France point to immaturity as the main cause of the lack of quality; and if so, it would surely pay the growers better to allow the climate which ripens Figs perfectly in the open to ripen Apricots into higher quality before gathering. But it seems that the French select their best samples—as the Chinese do their choicest teas—for local or home consumption. To make them good, infinitely better, for home consumption, it would be wise of them to avoid all the deteriorating causes here specified, and there may be others. So much trouble is taken with packing of Apricots in the boxes referred to, and in candying or crystallising Apricots in sugar, that it would pay the growers to have riper and more insouciant fruits to start with. And for jam-making, to say nothing of the addition of Marrows and Golden Gourds, it would be more profitable to grow the sugar in the fruit than to have to add so much cane or Beetroot sugar to preserve unripe or inferior Apricots or any other fruit.

D. T. FISH.

Apple Peasgood's Nonsuch.—The fine fruits of this variety recently shown by Mr. J. B. Payne, The Palace, Wells, Mr. Woodward, of Barham Court, and others have called attention to the Apple, and among those who came to see Mr. Payne's fruit when exhibited at the Royal Aquarium was Mr. Peasgood, the raiser. It appears that when at school Mrs. Peasgood had an Apple given her, and she sowed one of the pips in a flower-pot, which in course of time grew and was planted in her father's garden. Some seven years or so afterwards she was married to Mr. Peasgood, and the seedling Apple tree accompanied her to her new home. In its fourteenth year the tree bore fruit, and its fine appearance being noticed it was exhibited by Mr. Peasgood at a flower show in Burghley Park, Stamford, some years ago. It was then sent to one of the meetings of the fruit committee of the Royal Horticultural Society, certificated under the name of Peasgood's Nonsuch, and eventually put into commerce. Mr. Payne reports that the tree in the Palace Gardens, Wells, which bore the fine fruit recently shown in London, occupies a south-west aspect, being grown against a stone wall 16 feet high, at the back of which is a terrace, which keeps the wall cold and damp, and no other kind of fruit has prospered there before. The dimensions of the tree from side to side are 17 feet, and it is 14 feet high, covering some 230 superficial feet. It is dwarf trained, fan-shaped, but the stock upon which the tree was worked is not known. The tree bore a large quantity of fruit in the early part of the year, but they were thinned out to sixty-two, all of which matured, not one weighing less than a

pound, and all beautifully coloured, as the sample shown in London testified. The tree was planted seven years ago, and from 1888 onwards fruit from it has secured for Mr. Payne first prizes at Taunton, Exeter, Bristol, Wells, Street, Weston, &c., and never once a second prize.—R. D.

Our fruit trees and drought.—Frequent mention of the singularly unseasonable flowering of Laburnum and similar trees, with an occasional outbreak of Apples and Pears, serves to show what might have happened to our fruit trees generally where they have specially suffered from the drought had a very heavy rainfall taken place during September. There seems to be now some fear lest the drought should leave the buds in such a starved condition, that they may not be fruitful next season. That so far is only conjecture, whilst had there been a heavy rainfall so as to lead to sudden and strong root excitement this autumn, it is but too probable that in many cases the then almost dormant buds would have been prematurely driven into bloom, and hope of a fruit crop next year would have been destroyed. So long as the buds remain at rest at least there is room for hope, and although we must admit that the early defoliation of the trees has resulted in the production of small or apparently imperfect buds, yet they may swell a good deal presently after rain comes (but all danger from unseasonable expansion is past), or they may not move at all till the spring, when a gradual swelling may precede blooming. In any case, so long as the buds are dormant they leave room for hope. It is very certain that only an abnormal winter's rainfall can compensate for the drought of the long summer. If that does not come, then our fruit trees may have to endure much severer root drought next year than they have had to encounter this season. The soil is now as dry as powder several feet down. There is little or no reserve of moisture, and the ground will require an immense rainfall to make good the deficiency.—A. D.

OUTDOOR PEACHES AND NECTARINES.

THE season, unpropitious as it has been for so many crops, has proved an excellent one for open-air Peaches and Nectarines. This has been proved everywhere, judging from the many autumn shows, where they have been staged in large numbers of excellent quality and fine size. The season, too, has been one of more than ordinary duration. Never before, probably, were Peaches gathered at such an early date as this year, an experience that will no doubt tend to more extended planting on outdoor walls, as well as a fuller measure of attention in the details of pruning, thin training, and timely protection of the blooms in spring. It is a well-known fact that in very many gardens good crops of Peaches and Nectarines can be grown now as well as they could be at any previous period if only due attention is given them at the proper time, but generally they have fallen into bad repute since so many are grown under glass, the seasons also being to some extent unfavourable. However, many will have reason to change their opinions from the experience the present season has taught, and certainly if wood maturity is any gain, the next year's crop should be a good one, if only the blooms are protected from frost and cold winds in some convenient way. Although good crops are the rule—and I have taken note of the Peach crop in several good gardens—I have not seen one of such uniform excellence as that in Lord Justice Lopes' garden at Heywood, Westbury. A lofty wall with a substantial glass coping is furnished with young trees, dwarf and standard trained, in several of the leading sorts, including Royal George, Dymond, Stirling Castle, Walburton Admirable, Violette Hâtive and Princess of Wales, which bore a full crop of extra fine fruit both in point of size, colour and flavour. The

crop was the more remarkable on account of the elevated position of the border, and the fact that no mulching or any protection to the roots was provided. The trees were kept clean and free from red spider by syringing in the evening, and at the present time are in as healthy a condition as could be wished. The trees which furnish this wall have only been planted some eight years, but it might be said they were strong and well furnished at the time. The Peach trees under the care of your correspondent "Practical" I have known for several years, in not one of which can I remember a failure to have occurred. This is attributable to proper care in pruning and training, and also abundant protection in the spring while the trees are in bloom. No glass coping is attached to this wall, a provision so much looked to as the first essential in their successful treatment outdoors in these days, and which is without doubt a very great aid in obtaining a reliable crop; still, this instance goes to prove that with a suitable soil, position, and treatment, walls may be profitably planted with Peach and Nectarine trees outdoors.

I could quote several instances in which these fruits are looked upon as reliable, and are given prominence to accordingly, but I have adduced sufficient in their favour. My experience, however, is that a southern aspect should be chosen for these trees in preference to any other, for while in some soils and situations they can be induced to fruit freely on either a west or an east wall, the greater certainty comes from a warm, sunny aspect, such as a south wall furnishes. On a west wall I have two trees, a Peach and a Nectarine, which, favourable as the season was and though protected, too, in spring, did not produce a single fruit. Although there may be other causes for this failing, it goes to prove somewhat conclusively that the position was unsuited to the requirements of the trees. The wood was not well matured last autumn owing to want of sunshine and perhaps a due thinning of the older as well as late growth, but while this argument may be advanced in this case with some weight, it fails when applied to trees on a southern exposure which had similar treatment and bore a very good crop of highly coloured and full flavoured fruits. An east wall would be better than a west if there is no alternative, because a greater length of sunshine obtains from this aspect than from an opposite one. Unless there is abundance of wall space, I do not consider it wise to plant late sorts, because in ordinary seasons they ripen imperfectly, or perhaps not at all, and when there is plenty of good Pears and late Plums, bad Peaches are not much valued. The earliest sorts are those which should claim the most space, even if there is plenty forthcoming from Peach houses. It is better to have them in quantity at a time when they are abundant indoors than to have a quantity when they are to some extent out of season. In most well-appointed gardens there is not often a glut, even should the outdoor fruits ripen during the same months as those under glass. Princess of Wales, Sea Eagle, Golden Eagle, Teton de Venus, and Lord Palmerston were fruiting with me in an unheated house last October, and so poorly flavoured were they, that all had to be stewed before they were considered fit to eat, and some of them, although earlier, are not much in demand now. Golden Eagle and Lord Palmerston will be destroyed directly their respective crops are gone and their places filled with others of better reputation.

Much may be done towards success during the next and subsequent years by cutting away

the old bearing wood directly the crop is gathered and fixing the shoots remaining thinly over the wall for the sun and air to act perfectly on them to mature and strengthen the dormant buds. If the wood is not ripened properly, there is a danger of the flowers setting badly even if they open well in spring, and a sparse crop thus brought about promotes at once an over-luxuriance, which often demands root-pruning to bring the trees again into a proper state of health and fruitfulness. Trees that annually bear an average crop seldom, or only in extreme cases, require to be root-pruned, because the requisite natural balance is maintained in fruit-bearing.—W. STRUGNELL, *Road Ashton, Trowbridge.*

— Now that it is seen that the cultivation of Peaches against walls in the open air can be carried out successfully, there will, no doubt, be a further revival in their culture. This season success will have followed where the foliage has been kept free from insects, the plants duly supplied with water, and also cropped in proportion to the general health of the tree. Securing a good set of fruit, and which, judging from the reports which have been lately published in THE GARDEN, appears to have been general, is not by any means a sure sign that the finish has also been equally satisfactory. It is sometimes asserted that over-cropping has to be indulged in to meet the heavy demands, and where this has been followed this season, the results, it is hoped, will have proved that this is entirely wrong. The fruits, in addition to being very small, will have ripened up prematurely, and just at the time when they should have been swelling off and finishing up into well-developed examples they will have dropped, or if caught before this has taken place and used for dessert, the flavour would be most insipid. It is through such mistakes as this that open-air Peach-growing has got into such bad repute. Insect pests also appear to have caused great havoc with the foliage in many gardens. Visitors, upon seeing our trees this season, have remarked as to their freedom from red spider, and this I entirely attribute to the frequent washings with a decoction of quassia chips and soft soap the trees received up till about the period of the commencement of the second swelling of the fruit.

Another cause of failure is, I think, in not allowing the trees to carry sufficient foliage. Thin training is all very well, but this can be carried too far. As long as each shoot has sufficient space accorded it, so as to be well exposed to direct light, this is quite sufficient, without having them 10 inches or a foot apart, as some people seem to infer is the better distance. I have noticed that trees which are disbudded down to this distance have not sufficient stamina or growing force to produce a crop of good sized fruit. I do not wish to be misunderstood or that I favour crowded growth, but the two extremes should be guarded against. Trees which have not been disbudded too heavily may now that the fruit is gathered have all shoots not needed for the furnishing of the trees cut clean away, to further assist in perfecting the growth for another season. Whether such trees will require root-lifting wholly or partially will entirely depend upon circumstances. Where the trees are healthy and not producing gross wood, leave them alone, but if unhealthy, with the foliage throughout the season of a decided yellow cast, then partial root-lifting will bring about a more satisfactory state of things. Before any root-lifting is attempted, take particular notice that the soil beforehand is in a well-moistened state, as if the roots are moved with the soil in a dry state the trees will decidedly receive a check.—Y. A. H.

Good Apples.—In the article on Lord Suffield Apple (9th inst.) it is stated that "the reliable free cropping and profitable early dessert Apple is yet to come." This is not alone true of early, but also of late kinds. If we take Cox's Orange as a standard of quality, we find that when gathered (even if look-

ing a heavy crop) the bulk of fruit is not much. This year it is best on the Crab stock. We want tender-fleshed Apples with the cropping qualities of Dutch Mignonne. I have tried Mabbot's Pearmain and Baumann's Reinette, &c., but none come up to the standard required. Lodgemore Nonpareil is one of the best late Apples, equal to Newtown Pippin, but is too small. It is pretty much the same with late baking Apples. Dumelow's Seedling is far ahead as to quality. When cooked it melts perfectly, and the juice turns into clear jelly when cold. The juice in many kinds leaves the solid pulp, and both are almost tasteless. Again, other kinds have a mealy pulp. The next to Dumelow's in quality I should say is Northern Greening. The Codlins are of very good quality, but the juice does not stiffen like that of Dumelow's. We hardly want any more varieties of cooking Apples unless nearly equal to Dumelow's. Dumelow's Seedling has many faults as to crop, unequal sized fruit, &c. The fruit is smooth and waxy, denoting its fine-grained flesh and liability to spot and blight, which results in its never being too abundant.—A. W., *Waterford.*

THE EFFECTS OF THE WEATHER ON DIFFERENT KINDS OF FRUIT.

It is interesting to note the various effects of excessive heat accompanied by the prevalent drought of this phenomenal season on our fruit crops and fruit trees. We may not learn much for future practice from a season which, as regards the weather, comes fortunately only once or so in a lifetime, unless it be an extra lesson on the benefits accruing from certain methods of culture conducive to the successful growth of most plants and trees in any season, such as deep culture (where practicable), free application of fertilisers early in the year, and mulching. The last applies chiefly to Strawberries, fruit trees and bushes, and especially to transplanted trees. Many a tree probably has been saved this season by a mulch put on in February while the soil was saturated with moisture, for even trees carefully planted last autumn have succumbed to the drought where watering or mulching has been neglected.

To commence with Strawberries as the earliest fruit, all the varieties suffered, and were comparative failures except Noble. The crop of Noble was very good, the berries being firmer and of better flavour than usual. Gooseberries could not swell up to a full crop, but ripened prematurely; even the bushes of Whinham's Industry, which suffered the least, were cleared of ripe berries a month earlier than usual. A great number of the bushes are now bare of leaves from the drought, which must have a prejudicial effect on the next crop. Where caterpillars have stripped the bushes there may be a crop next season, but neither early nor large, and that, I fear, will be the experience next spring, from the weakening effects of the drought. In an ordinary autumn a plantation of Whinham's is a beautiful sight, the foliage being of a strikingly rich colour, but nothing of that kind now. There is instead a desolate scene, the few leaves turning yellow as they fall. The moisture-loving Black Currant could not, of course, give us more than a light crop, and the bushes, although throwing out a few fresh leaves, have made little or no growth.

Early Apples, Red Astrachan in particular, had a half cooked taste when gathered, and soon shrivelled up. Worcester Pearmain is of grand colour and the quality extra good. Blenheim and some other winter Apples were gathered in August; Lord Suffield marketed in July, extra fine and a fair crop. A hot season suits Pears; the crops are unusually heavy. We had a fine show of Jargonelle and Pitmaston Duchess on some two-year-old grafts. Gansel's Bergamot on a south wall was gathered in the middle of August; proper season end of October. Knight's Monarch from standards ought to ripen this season; as a rule this Pear is useless. Black Hamburg Grapes on south wall a heavy crop, and, fortunately thinned, are ripening, the

quality being first-rate. Fruit of all kinds never kept worse, Pears especially requiring daily attention. We are now in the seventh month of drought; the pastures are as brown as the road, and, judging from the present appearance of the fruit plantations, the prospects of a full crop of fruit another season are very poor indeed.

Hereford.

E. W. B.

How to make a Strawberry bank.—It sometimes happens that there is an unsightly bank or useless incline facing south which it is desirable should be utilised. If in a convenient position, no crop will be found more profitable than early Strawberries. For this purpose the soil must be fairly good (if naturally poor enrich with well-rotted manure), and the bank, if steep, must be terraced, the soil being kept up with boards or slates. I am utilising for the purpose old tarred fences. If against a wall or very very steep bank the terraces may be 5 inches or even 4 inches wide, with a rise of 6 inches. Make the soil firm as you proceed, and drive in pegs or posts at equal distances to support the boards. Arrangements must be made for covering at night with some light material when the Strawberries are in bloom, or the chances of a crop may be destroyed by frost, and during very severe weather in winter protection of some kind will be advisable. Plant in rows 6 inches apart, a terrace a foot or more in width taking two or more rows. The present is the best time for planting, though February will do if plants are lifted carefully with soil attached. Runners of Noble planted now and well watered in should bear next season. If the situation is quite open and not overshadowed with trees the same plants may remain two years. Tomatoes properly trained to one stem at intervals of 4 feet or 5 feet would probably be no detriment to the Strawberry crop if allowed to run up the bank during the summer months after the Strawberries are gathered. These Tomatoes should be in pots, which induces early fruiting, the pots being inserted in the soil at the foot of the bank. To both Strawberries and Tomatoes when the fruit is swelling, a slight top-dressing of artificial manure, such as kainit and superphosphate or liquid manure, will be beneficial.—E.

ORCHIDS.

MORMODES PARDINUM.

I USED to grow Mormodes, Cynoches, and Catasetums in great quantity between thirty and forty years ago, and I have just received two flowers of the first from "J. M." for names. No. 1, a large flower, pale yellow, and destitute of any marks or spots, is Mormodes pardinum unicolor, and No. 2 is M. pardinum, the typical plant, which is much handsomer, having a dark yellow ground profusely spotted with rich brown. It is nearly sixty years ago since the species was first found in Mexico, and a few years later the variety was found by Ross when collecting Orchids for Mr. Barker, then of Birmingham. The Mormodes are easily managed, but they require somewhat different treatment to the vast majority of Orchids. In the first place they are all deciduous plants, and during the time that they are destitute of leaves they should be kept in a cooler temperature and quite dry. Before this treatment is commenced it should be ascertained that the growths are finished up, and that the plant is quite fit for the rest. In the spring months the plants should be taken in hand, turned out of the old soil, and the dead roots cut away. The pots should be exceptionally well drained, and for soil use good brown peat fibre and light turfy loam, mixing some chopped Sphagnum Moss with it. The bulbs when properly

trimmed should be placed on the soil raised in a little cone-like mound above the pot's rim, and tied to sticks in order to get them to stand until they form fresh roots. Stand them in the very hottest plant house. I have found that a good sunny place in the East Indian house suits them well, taking special care that the plants are not syringed. Shading should be provided for them during the very hottest part of the day. Now begins the most trying time for the plants, for when the roots begin to start they will require a liberal supply of water. Care must be exercised in giving this, so as not to allow it to fall upon the leaves or young growth, because as the spikes come up with the growth and emerge from it when it is about half grown, an accumulation of water settling in it will have a deleterious effect, often rotting the flower-spike in embryo, and perhaps the growth. At the same time a good moist air must be maintained. When the flowering season is passed and the growth is finished, water must be withheld in a great measure and a cooler atmosphere provided. This will tend to ripen the bulbs and to finish them off, so that by the time the leaves begin to fall the bulbs will be thoroughly ripe, when they will stand without shrivelling through the winter months and until the next spring potting. These plants are considered uncertain and unsatisfactory either owing to their treatment whilst growing, or by putting the plants away out of sight before the bulbs have finished up, thus causing them to shrivel. In either case the bulbs will break weak and the growth prove flowerless. If the plants are carefully tended, they will grow vigorously and flower annually. Some of the species are gratefully perfumed. Of these I may mention *M. luxatum*, its variety *eburneum*, and the beautifully coloured *M. Greeni*, whilst *M. pardinum* is remarkable for the medicinal odour which pervades it.

WM. HUGH GOWER.

Cattleya aurea (Cypher's variety).—A beautiful flower comes to me from Mr. Cypher, of the Queen's Road Nursery, Cheltenham, which well deserves a notice. The sepals and petals are of a soft cream colour, the petals having a marginal border of rosy purple. It is a very desirable and chaste variety, which Mr. Cypher tells me he has had about five years.—W. H. G.

Trichopilia marginata.—Flowers of this—the most beautiful of all the genus—come to me from Thomas Prettyman for a name. He says, "This is the second time of flowering this season, but this time it has only two flowers on a stem." It is a very lovely flower, white outside; the sepals and petals reddish crimson in front, bordered with white, into which the colour from the centre runs in an irregular manner; lip rich rosy carmine, changing to deep crimson in the throat and having a white border round the undulated margin. This fine plant has been figured as *crispa marginata* by Warner in "Select Orchidaceous Plants," i., t. 5, but *crispa* would appear to be merely a variety of *coccinea*, from which this plant is very distinct.—W. H. G.

Odontoglossum Uro-Skinneri album.—This appears to be the form sent me by Mr. Osborne from a plant that was raised from seed by him. I remember seeing the seedlings some few years ago before they had made any growth. After that they appeared to have grown rapidly, and many of the plants were sold by Mr. Stevens in his rooms in Covent Garden. One has just flowered with General Berkeley, who says that it is a probable cross between *O. Rossi* and *O. Uro-Skinneri*; but I cannot see the slightest reason to suggest any hybrid origin in it. The plant is exactly like *O. Uro-Skinneri* in its habit of growth, and the flower is in the sepals and petals normal in shape, keeled at the back, clear greenish yellow; lip clawed,

broadly cordate and of the purest white, having two fleshy ridges on the claw; the column winged. The lip is more than 1½ inches long and upwards of 1 inch wide. Is not this the first seedling *Odontoglossum* that has bloomed in this country? The plant that was raised by the Messrs. Veitch was the same as *Miltonia Bleuana*, and the *Odontoglossum* that proved to be a variety of *O. Wilckeanum* was flowered in France; but I think this seedling *Odontoglossum* raised by Mr. Osborne is the first one that has bloomed in this country.—W. H. GOWER.

Cattleya Aclandiae.—A beautiful form of this species is in bloom in the Orchid house at Kew. The flowers are not remarkable for size, but finely marked, the sepals and petals being richly blotched with crimson-purple on a yellow ground, the lip light purple, with deeper veins, and the column of a more intense colour.

GARDEN FLORA.

PLATE 929.

THE SQUILLS.

(WITH A COLOURED PLATE OF *SCILLA TAURICA*.)

AMONGST early spring-flowering bulbs the various species of *Scilla* are among the most important. Year by year they are becoming more



Scilla campanulata in the wild garden.

popular, and large quantities have been planted with a view to naturalising them in woods and parks. The kinds employed for this purpose are the different varieties of *S. bifolia* and *S. sibirica*, and there is no reason why others, such as *amena* and *hispanica*, should not be used in the same way. *S. maritima* and *peruviana* are not here included, for, though hardy enough in some districts, it is always safest to have specially prepared places for their reception. Most of the kinds just mentioned are easily increased by means of offsets from the parent bulbs, but as in most cases this is a slow process, seed where procurable should be resorted to. *Scillas* are of easy cultivation and succeed well in pots. They delight in a well-drained sandy loam and an open, somewhat sheltered situation; if planted in damp or strong soil, they do not remain healthy. They require to be taken up every two or three years, sepa-

* Drawn for THE GARDEN by H. G. Moon, at Gravetye Manor, March 1, 1893. Lithographed and printed by Guillaume Severeys.

rated, and replanted. The bulbs do not like to be kept long out of the ground; if so, they get dry, and when planted do not thrive and produce good spikes of flower.

S. AMENA (the Star Hyacinth).—This is a handsome robust-growing Squill, which as regards outward appearance is simply an exaggerated *sibirica*. When full grown the leaves are about a foot long and pale yellowish green, forming effective tufts, which associate well in the mixed border or on rockeries with those of other plants. The flowers are dark porcelain-blue or violet, rather flat or turban-shaped, and borne on scapes about a foot high. For edging shrubberies this species is well adapted, and as the leaves keep their singular colour for a length of time, it helps to vary the dull green of the shrubs. It flowers in April, and is a native of the Levant.

S. BIFOLIA (the Early Squill).—This, though, perhaps, not so commonly met with as the *Siberian Squill*, is nevertheless quite as worthy of a place in our gardens. It seldom fails to produce its flowers a full fortnight before those of that species make their appearance, and, indeed, during mild winters and under favourable circumstances its welcome blooms may often be seen breaking the ground soon after midwinter if mild. As to position, that is immaterial, as it seems to succeed equally well in the open and under the shade of trees. One condition, however, is essential to its well-being, and that is, it must be left undisturbed to seed and increase as it likes. Of all the *Scillas*, *bifolia* has been perhaps the most prolific as regards varieties. Most of the other forms known in gardens are, without exception, advances on the type. *S. præcox* is a stronger grower than the common one, and has slightly broader leaves; the flowers, too, are larger and more abundant, and generally produced earlier. In *purpureo cœrulea* the ovary and base of the segments are rosy purple, gradually merging into blue, which becomes intense towards the tips, harmonising well with the black and gold-banded anthers. It is a free flowerer, and the blooms individually are nearly as large as a shilling. In the *Taurian* variety, *S. b. taurica*, shown in the coloured plate, the flowers are much larger than in *S. bifolia*, and, with the exception of the white base, greatly resemble those of some of the forms of *Chionodoxa Luciliae*. The flowers vary from ten to twenty on each scape, and



Scilla amena.

the leaves of this fine variety are larger and broader than those of *S. bifolia*, and do not confine themselves to the bifoliate character. The white form of *S. b. taurica* is very scarce. *S. b. alba*, a pretty ivory-white form, has flowers not larger than those of the type, but they are freely produced. Others, many of which are in cultivation, are *candida*, *carnea*, *rosea*, *compacta*, *maxima*, *metallica*, and *pallida*, &c.



SCILLA TAURICA

S. NUTANS (the Wood Hyacinth), also known in gardens as *Hyacinthus non-scriptus*, is too well known to need detailed description, few gardens being without their patch of Bluebells. This is, perhaps, the only Squill in which the flowers are distinctly arranged on one side of the stem, thus giving it that gracefully drooping character which



Scilla nutans.

is so much admired. The common blue form is plentiful in many districts, but neither the rosy nor the white variety is found in any quantity, although both grow with the same freedom as the type. It flowers in May and June.

S. HISPANICA (the Spanish Squill).—This, known in gardens under the name of *S. campanulata*, is a native of Portugal and Spain. It is one of the very finest early summer flowering bulbs we have, and although for market work its white variety is preferred, the old form is still plentiful and likely to hold its own where well established. It is easily distinguished from all others by its distinct, bell-shaped flowers and rather robust habit. The leaves are about a foot long, an inch broad, and sharp pointed; the flower-stalk, which is about a foot in height, bears a profusion of pale blue flowers, but in others they are azure-blue, violet, pink, and pure white, all having more or less recurved edges. It flowers in May and June.

S. ITALICA (the Italian Squill).—This is remarkable for its pretty little rosettes of dark green lanceolate leaves, its pale blue flowers with darker coloured stamens, and the delicious fragrance which they emit early in the day. It rarely exceeds 8 inches or 10 inches in height, and though it will do well in a variety of soils, it seems to thrive best and increase most in a light, sandy loam sheltered from east winds.

S. SIBIRICA (the Siberian Squill).—This well merits the place which it has attained and which it has so long held—that of being foremost amongst dwarf spring-flowering bulbs. The peculiar porcelain-blue of its modest drooping flowers is quite unique at that early season, and mixed with Snowdrops they have a charming effect, while alone in large patches they are very striking. Wherever the soil is light and sandy this bulb may be had in perfection, either in the rock garden, in the flower border, or peeping from amongst the Grass by woodland walks, where it is

most effective. It is not so sportive as its near neighbour, *S. bifolia*; although a few varieties have been obtained, few are distinct enough to merit attention. *S. amœnula*, which comes a fortnight earlier than the type, seems to be the most distinct. The Siberian Squill is used extensively for forcing, which it seems to stand well, and is very ornamental in greenhouses early in the year. After forcing, instead of throwing away the bulbs, as is usually done, they should be planted out, where in the course of a year or two their usual vigour will be restored, when they may again be lifted and forced as before. By having three sets of bulbs, a continual succession for forcing may be kept up without expense.

Amongst Squills not generally found in gardens, but which are hardy enough in dry situations, may be named *S. peruviana*, a large species, with beautiful broad leaves, Yucca-like and very distinct; it stands well in sheltered nooks, or even in the open border in southern districts. The variety *Clusi* also stands well. *S. maritima* is properly a greenhouse species, but in the places indicated for *S. peruviana* it may be grown outside without hurt, though it rarely flowers. *S. lilio-hyacintha* is quite hardy, and well worth a place in the mixed border. *S. hyacinthoides*, *S. pratensis* (amethystina), *S. obtusifolia* (an Algerian species), *autumnalis*, *Aristidis*, *patula* and its various forms, including *cernua* and others, differ little from one another in general characters. D.

The Californian Fuchsia (*Zauschneria californica*).—Several times during this season I have seen this plant in a neighbouring garden, and it has always been very brilliant. No doubt the season has suited it, for it revels in sunshine, but in the place in question it was growing in a very poor clayey soil, and without any special care or attention. For several seasons, favoured with a free, warm, well-drained soil, I endeavoured to grow the plant under conditions where failure seemed impossible, but it grew about 6 inches high, and then the leaves began to turn brown and die back. In a healthy state it grows freely, commencing to bloom quite early, and continuing, as the shoots lengthen, to produce a profusion of brilliant red blossoms through summer and autumn.—A. H.

THE WEEK'S WORK.

ORCHIDS.

THE general operations will be much the same as last month. The shading will scarcely be needed on the Cattleya house now, and the other houses will soon do without as well, but I have seen mischief done to the plants by the sun shining out strongly after a few days of hot sunshine, and it is not well to take down the shading until it is seen that it will not really be again needed for the season. Cultivators have to be on the alert to see that sudden frosts do not set in after 10 p.m. Many nights I have stood considering for a quarter of an hour or so whether I should leave the damper in or pull it out an inch or two. This is a matter requiring more thought than many young gardeners care to give to it. There is not a very brilliant display of Orchids in any of the houses; therefore, the few plants that are in flower demand a larger share of our attention. In May we would not think much of the little *Lællas* of the *L. pumila* type, but they are very pretty when we can get them in the Cattleya house in the month of September or October. They seem to thrive with

a very small amount of peat and Sphagnum about the roots, and should be placed in teak baskets and suspended near the roof glass. They are often seen in a declining state, but this is owing in a great measure to the want of attention when the plants are growing. At that time they need a good supply of water at the roots, and if they are allowed to become too dry when making growth, the plants are injured thereby. Another thing they do not require is a high temperature, the cool end of the Cattleya house is best, or even a light position in the cool house during summer. They must also be kept quite free from insect pests. The white scale gets under the thin outer coating of the pseudo-bulbs and does much damage to them; in fact, this parasite would soon kill the plants if it were allowed to have its way. There are several distinct and pretty varieties in cultivation, some of them superior to the type; but the two most distinctly marked varieties are *Dayana* and *praestans*. *Cattleya marginata*, figured in Paxton's "Magazine of Botany," is merely a form of *L. pumila*. They require similar treatment. At present much less water is needed, although drying off does not suit them; in fact, much mischief is done to all the small-growing Cattleyas by inattention to watering. Gardeners cannot always find time to give that constant attention to basket and block plants that they ought to have, and this is very likely the reason why such plants are so unsatisfactory in many collections. As they are usually suspended from the glass roof, they are quite beyond the eye of their owner or the gardener in charge, and may be over-dry for hours and no one be aware of it. The plants on the side stages or in the centre of the house can be seen by anyone walking round the house, and it is very desirable to have a water-pot always within reach, and some rain water standing in pots or pans over the hot-water pipes, so that it may always be rather warmer than the temperature of the house. An Orchid as a general rule will not suffer so soon from want of water as a Cape Heath or some of the hard-wooded New Holland plants, but we do not want them to suffer at all, and for that reason even the most minute details of the work should not suffer neglect.

Heating, ventilating the house, and watering the plants are the three things that will demand the close attention of the cultivator now and for the next six months or more. The plants placed in the cool house for the summer will soon require to



Scilla patula.

be removed to the Cattleya house for the winter. This will, of course, depend a little upon the weather for the next few weeks, but it is just as well not to subject them to a low temperature and moist atmosphere; it is not a good preparation for the winter. The pretty little *Miltonia Phalaenopsis* is not so highly valued as it used to be. I have seen two plants sold in Stevens' rooms at 30 guineas each the one after the other. *M. vexil-*

laria is treated the same, and both of them would now be better in the Cattleya house. The Masdevallias of the Chimera type should also be removed to the same house. These singular plants are very liable to be attacked by red spider, which very often unobserved sucks the very substance out of the leaves, and when it is seen that they are discoloured, the mischief is done and it is too late. When cultivators are made aware of the insect pests that attack certain genera and species of Orchids, they are to blame if no effort is made to destroy the pests in time. Dipping the leaves in a solution of tobacco liquor, allowing it to drain off at the points of the leaves, and afterwards sponging them with clean water, will remove it. Yellow thrips also find a delightful resting-place on the fresh young leaves of these plants. See that they are thoroughly cleansed before being placed in the warmer, drier air of the Cattleya house. The pretty little Masdevallia tovarensis also requires the same treatment, that is, removal from the cool to the Cattleya house. As to insect pests, I do not remember ever to have seen any upon the leaves of this plant. I think it well to warn growers that in dipping or washing Orchids of any kind for the destruction of insect pests it is necessary to be careful that none of the mixture gets to the roots; the plants should be held over the mixture for half a minute, and then be laid on their sides to drain. I need not say that a little more care will now be necessary in order that no draughts of cold air blow directly upon the plants, and whenever the east winds are keen and cold, open the ventilators on the opposite side of the house. The cool house may stand without fire-heat at a minimum of 50° to 55°, the Cattleya house 60° to 65°, East India house 65° to 70°.

J. DOUGLAS.

HARDY FRUITS.

GATHERING PEARS.—Those who have treated all their varieties alike, that is to say, have gathered them all at much the same time, have in many cases erred greatly. Not only do Pears mature at different times, some, not necessarily non-keeping varieties, being fit to gather much sooner than others, but the same varieties growing under different conditions vary considerably in their time of ripening. Curiously enough, Marie Louise, Louise Bonne of Jersey, Autumn Bergamot, Winter Nelis, Beurré Diel, and a few others against walls facing north-east were ready to gather fully a fortnight earlier than the same varieties against south-west walls. Since gathering and storing of other October and November Pears commenced, Doyenné du Comice has swollen considerably, and so also have Glou Morceau, Ne Plus Meuris, and Josephine de Malines. There ought then to be no wholesale clearance of the trees, the fruit on each being well tested by lifting out of the perpendicular before gathering it. If the Pears part freely from the tree, the time has arrived for gathering and storing, while if the crop is heavy and the variety known to be a bad keeper, a portion of the fruit may well be gathered when the pips are only changing colour, and the rest when they are just brown, a longer succession of ripe fruit being thereby ensured. In some cases the change is rapid, and that is why the advice to test the fruit often is given, in order that no good fruit be lost by dropping. Those already stored ought to be very frequently looked over, as any damaged, however slightly, decay rapidly, spoiling other sound fruit they come into contact with.

RENOVATING PEAR TREES.—Very many large old trees do not pay for the valuable space they occupy. In some instances the varieties are worthless; in others they are worth preserving if only the trees could be made to produce presentable fruit. Supposing they are in fairly good health, re-grafting inferior varieties with superior sorts is the quickest and best way out of the difficulty, the principal branches being headed back this winter and re-grafted next spring. Where, however, there are large or, it may be, grand old horizontally-

trained or fan-shaped trees of, say, Marie Louise, Beurré Diel, Easter Beurré, Brown Beurré, Beurré Rance, Glou Morceau, Louise Bonne of Jersey, and such like against walls of any kind, and which of late years have failed to produce good fruit, steps should be taken to gradually restore these to a more profitable state. Much may be done in that direction by sawing off the old spurs piecemeal, their place being taken by short new ones, but the roots must also be taken in hand if the renovation is to be a complete success. In some cases the sole cause of the failure is a too deep root-action, the bulk of the roots being deep down in a clayey subsoil. After the buds are fully formed and just before the leaves change colour is a good time to commence restoring the roots and the border to a more satisfactory state, and this good work should be gone about in no half-hearted manner. At the same time it is easy to err in an opposite direction—doing too much at one time. If a large old tree is completely cut round and undermined, this may cause the leaves to flag badly, very feeble growth resulting in the next and following years; whereas, if only half the roots are done this autumn and the other half next year, no risks will be run and the remedy prove all that is expected of it. Commence by cutting a deep wide trench from the wall round to the front of the trees and about 6 feet from the stem. Novices and indifferent labourers are, as a rule, averse to opening a deep trench at the outset; but it is a saving of labour in the end, as it much simplifies the operation of well undermining the tree. Forks only should be used for undermining and separating the soil from the roots, this being persevered with till it is possible to reach and cut through any deep-running roots there may be directly under the stem of the tree. Many, or perhaps the majority of the strong roots found will be large, or 4 inches more or less in circumference. These should be unhesitatingly sawn through and the reserved portion brought up nearer the surface than heretofore. All the smaller roots should be also pruned and be relaid thinly in fairly rich loamy compost. What Pears, and indeed all other fruit trees, like is plenty of fresh fibrous loam, a very little well decayed manure, road trimmings, burn-bake, wood ashes, mortar rubbish and ground bones being added. In any case fresh compost, in which the extras enumerated figure, should be substituted for the stale soil, or it is not many fresh active roots that will form either this autumn or next season, the trees suffering badly, instead of being renovated, accordingly. Make the fresh soil firm, raising it well above the ordinary level if this can be done without unduly burying the stems, and the other half being similarly treated next year, a good and lasting improvement will be effected. Should this severe root-pruning cause the leaves to flag badly, resort to overhead syringing very frequently. Large old trees in the open may be similarly treated, only one half of the roots, however, being touched this autumn. When the mistake of undermining and cutting through the whole of the large roots at one time has been made, many years elapsed before the trees have recovered from the severe check given, some never being wholly restored to good health.

YOUNG PEAR TREES.—Many of these are still in a growing state, having restarted since the rains fell. Under these circumstances wholly lifting should be deferred for a time longer, though there is nothing to prevent a start being made when it is intended to only partially lift and root prune.

APPLES.—It is not often that pains are taken to restore large old trees of these to a more profitable state, but in some instances they would pay well for it. Especially ought large trees of Blenheim Orange to be taken good care of, as it is these, when in a fairly healthy state, which produce the bulk of the fruit grown of this excellent variety. Proceed on the same lines as advised in the case of Pear trees, only if the trees are very large no attempt should be made to get nearer than 4 feet from the stems. Young trees should be let alone till the wood is thoroughly hard and the leaves on the point of changing colour.

THE WINTER MOTH.—Where Apple, Pear, and Plum trees are liable to be attacked by the caterpillars of this moth, preventive measures ought to commence at once. The females, being unable to fly, commence to ascend the stems late in September or early in October with a view to depositing their eggs in the crevices of the bark all over the trees, this going on till near midwinter. Greased bands placed round the stems 1 foot or rather more from the ground check their progress and catch them wholesale. Greasing the naked stems will not do, as this has proved most injurious to the tree. What is wanted is strips of oiled or waterproof paper 6 inches wide, on these being spread to rather less than the whole width, a mixture of equal parts of cart grease and Stockholm tar, this being laid on rather thickly. The band should be made to completely surround the stems, and ought to be examined occasionally and the grease renewed whenever it is found dry.

W. IGGULDEN.

THE KITCHEN GARDEN.

ENDIVE.—In very many instances, on account of the dry weather, Endive is not in such a forward condition as in moister seasons, and if we could depend upon frosts keeping off, the plants would certainly be the better for being left undisturbed for a week or two longer. Unfortunately, frosts are likely to be very early this season, as we have already had some, but not sufficiently severe to do any damage. In the case of frost, some protection should be given by placing a light framework over the plants as a support to mats or oiled canvas. If the weather should remain open, the lifting of the forwardmost plants might be deferred a week or two longer, of course affording adequate protection to these also in case of frost. The state of the weather in all cases should be the guide when to lift.

SUITABLE PLACES FOR STORING.—Damp is the greatest enemy to Endive, as once let the plants become affected, they very quickly rot off. The most suitable places for storing are high and dry frames, the floors of airy vineries or Peach houses where the plants can be freely exposed to light, or light and dry sheds. This last position might well be afforded to plants for earliest use, reserving the lighter and airy positions for the later plants. If sufficient rain has not fallen to well moisten the soil about the roots, it is advisable even at this late date to give a thorough watering, so that the plants can be lifted with a fair-sized ball of soil. The plants must be lifted with the foliage in a dry state. In the case of large plants, it would be better before taking them up to draw each up carefully together with the hands and tie with a piece of matting, cutting it away after they are placed in position. The plants must not be placed too closely together.

BLANCHING ENDIVE.—A portion of the forwardmost may also be blanched as required where they are growing, by covering closely with clean flower-pots with the holes stopped up to exclude light, clean boards, slates or tiles. To further exclude light from these, the soil may be drawn up as a ridge along each side, or the whole may be covered with a mat. It is not wise to cover too many at one time, although in the case of plants blanched in the open where growing, decay does not set in so quickly as later on in the season. A dozen plants covered at weekly intervals are sufficient for an ordinary family.

LETTUCE.—Too much care cannot well be taken of Lettuce, especially in a season like the present, when in many gardens the supply up till now has been very short; in fact, in many instances the best Lettuces obtainable throughout the season are those which are turning in now. If the weather should remain fine and open, these, like Endive, might well be left undisturbed for a week or two longer, but if not, some, to guard against any emergency, must be lifted carefully with a ball and planted in frames, as during some seasons those which are left over in the open remain good for some time. In the case of the Cos varieties, before

lifting, each should be drawn up carefully and tied with a piece of matting, as on account of the brittle state of the leaves these would soon fall out and be broken. On all fine and dry days the lights should be drawn off, but they should be kept covered in case of rain. As the plants are bedded in the frame, a watering will assist in settling the soil.

WINTER LETTUCE.—Those plants which were planted with the intention of their forming the main winter supply must also now receive attention. The plants which were pricked out as I have previously advised in former calendars, so that they may be protected where grown, will be found to winter much the best, and the time has now arrived for the frames being placed over them, the lights being kept off on all fine days. If frames are not available then erect a temporary framework over them, as with a covering of mats or oiled canvas the Lettuce may be had in good condition as long as frost can be kept from them. If so desired the plants may also be lifted with a fair sized ball and planted in frames, taking care to water them in. The latest batch for late winter use will now be ready for pricking out into frames. The plants must be well elevated up to the light, and in the case of deep frames fill up with some open material before putting in the soil. A. YOUNG.

PLANT HOUSES.

STOVES.—**PLANT CLEANING.**—With abundance of other work it is just possible that plant cleaning has got somewhat behindhand. If this be so, the earliest possible attention should be turned to it now, otherwise as fire-heat increases insects will increase also and cause a lot of trouble. Fire-heat seems congenial to all the insects with which our plants are infested, in stoves more particularly than in other houses. For this purpose, the usual methods should be adopted which have in the past proved to be efficacious. At this season, however, I would recommend an extended use of the sponge amongst fine-foliaged plants; even if there be but a few insects the sponging of the foliage will do good in cleansing it of any dust and dirt that may have accumulated during the past few weeks, and that unavoidably. Every effort in particular should be directed against the mealy bug, also the various kinds of scale, and in order to reduce these to a minimum no labour should be spared or be considered as labour for naught. Between now and the turn of days it is possible to reduce these insects so as to be but little trouble afterwards if constant attention be given. Once well under hand the process of extermination in the case of the mealy bug is only a question of time. For this purpose I find nothing to surpass the Chelsea blight composition. I have written to this effect before, but it will bear repeating for the information of those who may not have given it a trial. When dealing with *Ixoras*, *Gardenias* and other shrubby or climbing evergreens a ready method is to provide a large shallow trough of zinc with a hole at one end or corner to allow the insecticide to drain away into a pail to be used over and over again. Our trough for this purpose measured about 6 feet by 4 feet and 4 inches deep, the expense of making being soon covered by the less amount of labour and liquid required to do the work effectively. Syringing is much more penetrating than dipping for all bad cases. Prior to using any insecticide, I would first syringe with hot water; as long as this is not uncomfortable to the hands it will not harm the plants, save in the case of the tenderest foliage. The hot water paves the way for a more effectual use of the insecticide, as well as being a cleansing medium itself. After all the work of a thorough cleaning has been accomplished amongst the plants, not forgetting the roof climbers, the house itself will without doubt be all the better for the same kind of attention. From now onwards we shall not receive any more light than is beneficial to plant life. The scum which has accumulated on the glass will go on increasing if not stopped in this way, and on the paint also.

TEMPERATURES, &c.—I never consider it advisable to drop the temperatures either by night or day too very early in the autumn. Up to within the past two or three weeks we have been experiencing unusually hot weather; a change now to the opposite would arrest growth too rapidly and be conducive to damping off amongst both flowers and foliage. What should be done is to slightly lessen the atmospheric moisture. This will be conducive to the ripening of woody growth and the hardening of that now being made in other instances, thus preparing the plants for the more unfavourable winter season to which we must now be looking forward. At the first, less moisture at night should be the rule. This can be managed without any harm to the plants, as the time has not yet arrived when severe firing is needed to maintain the desirable temperatures. The syringe should still be used freely at least once a day amongst plants that will stand it, as in the case of evergreens. The temperature at night should still rule in the average stove near about 70°, or at least 68°, and this will do for at least a month to come. In the daytime 80° to 85° will not be any too much, but a little air may with advantage be admitted now where in more growing periods none at all would be given.

There should also be a little more care exercised in the watering; plants which have hitherto taken water freely will not require so much if less growth is being made. To over-water now will put the soil into a bad condition for the rest of the autumn and winter. Some plants will be exceptions to this rule of less water, as in the case of pot-bound Palms, which must never be allowed to suffer, nor should evergreen Ferns in the same state at the roots. On the other hand, for such plants as *Clerodendron Balfourianum* and other deciduous climbers, as well as plants of perennial or herbaceous growth, as *Caladiums*, *Gloxinias*, &c., less water will be decidedly beneficial, for the sooner all of these can be got into closer compass the better for other plants that must have more room given them. In hardly any case will manual stimulants be now needed, save in the case of the Palms alluded to and plants coming on for winter flowering, or pot-bound table and other small decorative plants. Pertaining to the watering is the condition of the water tanks; these at times are allowed to go longer without a thorough cleaning out than is desirable for the health of the plants. Large reserve tanks will probably still be low, and advantage should be taken of this to get the work done before heavy rains fall.

Blinds will not now be required, except in particular cases, as on propagating houses. The more light the plants can now have the better will it be for them. For my own part I never care to use blinds after the middle of September. An early opportunity should now be taken of getting the blinds thoroughly dried before unfixing them and putting them away for the winter. The only exception I would make to this is where the blinds are run down at night to save firing. Do not, however, let this be an excuse to use them in the daytime. Blind boxes to keep the blinds dry should be the rule in such cases, otherwise they will get rotten all too soon. Old blinds should at once be taken off the rollers and be kept by themselves for sundry purposes another year. New ones can then take their place in good time for use again.

JAMES HUDSON.

The Belladonna Lily, according to all accounts, seems to be flowering unusually well this year. The warm summer has evidently suited it and has awakened Mr. Miles' bulbs at Almondsbury. In my uncle's garden at Sutton House, Clifton Downs, where I am now staying, this Lily has flowered most profusely; the bulbs are in a border under the wall of a stove. They were planted some fifteen years ago and have never failed to flower, but this year they have surpassed themselves, and have borne 110 spikes, each carrying from five to nine blossoms. The bulbs were originally planted close to the wall. They have never been disturbed, have increased

in numbers, and are now spreading all over the narrow border. I believe some persons have much difficulty in flowering this Lily, but if it is planted in a sunny situation under a wall and left undisturbed, it is almost sure to do well and to give satisfaction. A mass of these bulbs in full flower is a charming sight, the delicate shape and colour of the blossoms contrasting so well with their long, dark, purplish-brown stems. Like all other flowers this year, the *Belladonna Lilies* are unusually early.—G. S. S.

KITCHEN GARDEN.

VEGETABLES ON HEAVY SOILS.

THIS season those who are in charge of gardens the soil of which is naturally heavy and retentive have had decidedly the best of it. In most cases where the subsoil is of a clayey nature drought can easily be defied, warmth rather than much rain being what is most needed. Hereabouts the soil varies surprisingly. A hundred yards from where I am located the subsoil is of a very gravelly or brashy character, but none of this is come across in the garden under my charge, a great depth of solid clay taking its place. During dull, wet summers I have frequently wished that we were on this higher ground, but this summer has effectually dispelled any lingering regrets there may have been, and once for all I say give me the clay. For months past and up to the present time it is possible to tell to a foot where the gravel ends and the clay commences, all vegetation on the former being literally burnt up, while that on the clayey ground is in a most satisfactory condition. Lighter soils resting on gravel or stones, in addition to being the first to suffer from drought, are equally non-retentive of fertility, and nothing short of increasing the depth by means of liberal dressings of marl or clay will effectually correct this state of affairs. It is, however, of heavy and not light soils that I am thinking and writing, and in particular of the state of the crops that have been borne or are being supported by them this season. If only the requisite amount of warmth can be transmitted to heavy soils it is astonishing what good crops they are capable of producing. According to my experience, many of us err or have erred in being over-zealous in changing the character of clayey ground. A wholesale removal of clay and the substitution of very light materials of different kinds may have answered well in some cases, but it is so much time and labour wasted in others. Bastard trenching, taking care to bring little or none of the clayey subsoil to the surface, abundance of strawy manure, vegetable refuse, and such like being forked into the bottom spit, is a step in the right direction, especially if the rainfall happen to be light during the winter, or not enough to badly saturate the ground, while ordinary trenching or the complete reversal of the spits is about the worst thing that can be done. A repetition of bastard trenching every third or fourth year gradually breaks up the clay and distributes it throughout the bulk, and we then have one of the most fertile soils imaginable. In my case there is not labour enough available for trenching beyond what varying the sites of the Celery trenches will do. It is my especial care not to interfere with our heavy soil at unseasonable times, and more particularly in wet weather. Laying as much as possible of it up roughly to the action of frosts, or else drying winds, sunshine and rain, results in its being well pulverised before

cropping is attempted, the avoidance of either very rotten manure and any obtained from cow-yards also being important points. When the surface soil, say to the full depth of a spade, can be got into a free working condition, a moderate amount of either horse manure or chemical manures, or the two together, in clayey soils will grow almost any kind of vegetables during most seasons. If they fail at all it is during a very wet season, and not during such as those experienced in 1887 and the present year. Could we be certain beforehand what kind of weather to expect there need never be a failure. For instance, if the old-fashioned plan of growing a variety of crops on raised beds be followed, the requisite amount of warmth would reach the roots during the duldest summers; and so well do some kinds of vegetables succeed on beds, say, not more than 5 feet wide, and only raised to the extent of what may be thrown on to them from the alleys, that I should always form these largely if in charge of a clayey garden in a low-lying cold position. So retentive of moisture and fertility are these heavy soils, that it is an easy matter to make them too rich, grossness in vegetables generally being the order of the day.

The spring and summer of 1893 have suited our garden admirably. There has been one, and only one, noteworthy failure, and that, unfortunately, was the main-crop and late Peas. These failed, not owing to anything being wrong at the roots, but rather because they cannot stand a tropical heat, the complaint of poor crops being general. Runner Beans, on the other hand, thrived admirably, though the flowers set none too well during the early part of the season. The spring-sown Onions, that failed so badly in very many instances, were the best I have ever seen. The seed was sown very early in March and germinated before the drought set in. The roots also matured early, and have been long since harvested and stored. Other root crops are quite good enough, while Potatoes have been lifted at the rate of one sack to the rod. The more moisture-loving Globe Artichokes have held out surprisingly well, good succulent heads being very plentiful at the present time.

Winter vegetables are stronger and better than I have seen them for a long time past. Brussels Sprouts 30 inches apart in rows 3 feet apart touch each other all round, the stems being extra stout and the sprouts abundant. Borecole of sorts is equally strong, and early Broccoli, as well as autumn Cauliflowers, are coarser than I care to see them. I am always afraid of growing Broccoli too strong, but, as a rule, they do not start away well when put out in close succession to Peas and Strawberries and without digging. This season, thanks to the extra warmth, they have done well and should stand through an ordinarily severe winter. Savoy and Chou de Burghley have grown too well and are earlier than I care to see them, and nothing could well present a more promising appearance than the breadth of Coleworts I have put out this season. Lettuces are as plentiful and good as during any part of the year, and there will be abundance in the open till severe frosts intervene. GROWER.

Two crops of Peas.—The following account of two crops of Peas (Chelsea Gem) grown in the garden here this season may not be without interest to your readers, and could only have happened in a season like the present. The first sowing was on February 10. They were raised in pots and planted out on March 18. They were fit for use on May 27, and the seed was gathered at the end of June. The second sowing took place on

July 14. The crop was ripe in the first week of September, and has only just been finished.—GRANVILLE LEVESON-GOWER, *Titsey Place, Limpsfield.*

Winter greens.—"A. D.'s" article on winter greens (p. 263) is evidence of the variability of this season of the state of the crops in widely separated districts. I recently inspected the crops of winter greens, and I never saw them in a more satisfactory state, the growth being both clean and vigorous. The soil being of a strong and holding nature is no doubt the cause of this, although good plants were put out, and this just after a heavy storm or two. Where plants have had to be rather heavily watered, the surrounding soil about the stems becomes baked and extremely hard, unless the precaution is taken after the plants become established to well stir it with the hoe. After the ground has been loosened, the plants start away at once, and are in marked contrast to others which have the roots bound up in hard soil. Where the plants are not making satisfactory growth, I should not hesitate even at this comparatively late date to stir the soil about the stems. Brussels Sprouts are making very satisfactory progress, although planted on unmanured ground.—A. Y.

Rapid growth of Peas.—When the ground is warm and moist, Peas, like most other vegetables, grow very rapidly. Often we hear of growers obtaining a crop in from ten to twelve weeks from the time of sowing, but it is not often one can obtain Peas with full pods in eight weeks from the time of sowing the seed. This year I resolved to try Chelsea Gem for autumn gathering. Accordingly I sowed three quarts of seed on June 24. The pods were ready for gathering on August 24, just eight weeks from sowing. It was not a question of gathering a few pods, but I gathered more than two pecks. From the weather being so hot and dry the plants only attained about 12 inches in height, and although the crop was not a large one, I found it came in very useful, and I intend trying this variety another year for autumn use. In this garden no late-sown Peas were a success, and the crop will be over very early.—J. C. CROOK, *Forde Abbey.*

Late sown Radishes.—In many places there is a demand for late Radishes for garnishing, &c. Every year I sow about the second week in September in a sheltered spot. The seed soon comes up. As the days shorten the plants grow more slowly, and what with more moisture and a colder air I get some most useful Radishes, and keep up a supply to well-nigh Christmas.—DORSET.

Cauliflower Midsummer-day.—I am surprised not to have seen any mention of this new Cauliflower in the pages of THE GARDEN, as undoubtedly it is a valuable kind. I saw in the gardens of Cotelstone House, Taunton, in the middle of last June large and perfect heads of the sort mentioned that were the produce of seed sown in the February previous. Of course, the plants were raised and brought on in heat and otherwise carefully treated. I am well acquainted with such sorts as Early Erfurt and Snowball, but Midsummer-day is quite distinct from them; the plants have no stems, so to speak, as the lower leaves almost touch the ground, and what surprises me as much as anything was the large size of the heads these apparently legless plants produced.—J. C. CLARKE.

Mildew on Onions.—It is astonishing to note the effect of mildew on our Onion crop in the generality of seasons. During the five years I have had charge of this garden I have never been able to secure a good crop of Onions till this year. In previous seasons, just as the bulbs began to form the mildew attacked them, and quickly arrested the growth. It is curious to notice this year how badly the Peas were affected with mildew, and although the Onions were growing beside them, it never affected these, and now we are harvesting a grand crop of good useful bulbs. I believe this fine, dry season is the reason for our having such a fine crop. The method of culture is just the same as in previous years. Some three

years ago I tried what effect sulphur would have on the mildew. One morning when the dew was on the leaves, I dusted them over with sulphur thickly. But this had not the least effect on them. I have come to the conclusion that it is a mistake to get Onions to make large, coarse leafage, as this encourages mildew.—J. C., *Forde Abbey.*

BRUSSELS SPROUTS.

THE past summer has been very unfavourable for the growth of these in all the southern counties. The soil having become so dry through the abnormally low rainfall in spring, it was with much difficulty that plants were able to make a start after being planted. However, where the land was in good heart and the plants were got out early, the few slight showers that fell in some places towards the end of May did much to establish them in their new quarters.

The plan I practise is as follows: The seed is sown thinly in shallow drills about 6 inches apart on a warm border at the beginning of April. I never make more than the one sowing. Should the weather be dry, as was the case this season, the ground is well watered and afterwards covered with mats to prevent it drying so quickly. When the young seedlings are bursting through the soil the shading is taken off and the ground dusted over with newly slaked lime; this has the effect of keeping off both birds and snails, and is also a preventive against the attacks of the Turnip fly. Growth is encouraged as much as possible by frequent waterings with weak liquid manure. This also encourages the plants to make fibrous roots near the surface, and as they are standing thinly in the seed bed they grow strongly. The ground on which it is intended to grow Brussels Sprouts should have a liberal dressing of manure in the autumn, then be deeply dug, leaving it rough till spring. It should then have a slight dressing of sulphate of potash forked into it, breaking the soil up fine as the work is done. Drills are then drawn 3 feet apart and 6 inches deep, along which the plants are put out when they are large enough, which is generally about the first week in June. The object of planting in drills is twofold, one being that the water does not run away from the plants when watering is done, the other that when the soil is levelled down it strengthens the plants and keeps them in an upright position. Before making the ground level, a dressing of soot is given along the drills, and when in full growth nitrate of soda at the rate of 2 lbs. to the square perch is sprinkled between the rows to be washed in by the rains. A second batch is planted about three weeks after the first, and these give a supply till quite late in the spring. In some places plants are raised on hot beds early in the season. This is good practice where an early supply is required for exhibition, but unless the plants can be put out at the proper time they do not make satisfactory progress. I have no difficulty here in getting good sprouts by the end of September, which is as early as they are usually called for, there being plenty of Peas, French Beans and such like green vegetables up till that time. Sprouts treated in the above manner will not fail to give satisfaction even in the worst of seasons.

H. C. P.

COARSE VEGETABLES.

"FRUIT GROWER'S" outcry in a late issue of THE GARDEN against the favour which some judges at fruit exhibitions bestow upon coarse fruit might well be extended to vegetables, as with these also large size would appear to be the ideal of perfection. It is only of late years that this inordinate size has been encouraged amongst certain classes of vegetables. This selection of coarse vegetables certainly affects but very little, if any, that greater body of cultivators who are not exhibitors, but there are certainly others who look to these exhibitions to show them what should be the ideal of perfection. One certainly does not begrudge the

recipients of the prizes their hard-earned honours, for they alone are not to blame. They know very well if size is needed to take the prizes, then this must be obtained.

The size of the Cauliflowers which are encouraged is simply enormous, and it is well known that when cooked they are almost uneatable, the flavour being so strong. Now if these huge Cauliflowers are not worth cooking, what is the use of growing them, or rather encouraging their cultivation by awarding them the best prizes at exhibitions? Like coarse Grapes, there is not the skill needed to produce them as in the case of the smaller and better quality varieties. This season, as vegetable growers know, is not a good one for Cauliflowers, at least for the smaller and better flavoured, but taking the generality of seasons, there is not a better quality variety for late summer use than the Walcheren. I daresay if well-grown Walcheren was placed in competition with others of large size it would hardly be looked at, let alone awarded a prize. I do not wish in the least to write disparagingly of Autumn Giant and other selections, as when grown not too large they are most useful and a good help to the gardener who has a vegetable supply to maintain, but I know which are the most appreciated when served up on the dining-table. These very large autumn Cauliflowers are the result of sowing in the autumn, wintering the young plants in frames and planting out at the first opportunity in the spring. It is also possible to get what is termed the early spring plants to a prodigious size by keeping them fed up with liquid manure, but I need scarcely add that this increase of size is at the expense of quality. Collections of vegetables would not have their merits lowered in the least by substituting Cauliflowers of the "old" type for others of huge dimensions.

Celery is another vegetable which is very often seen so large that the texture is positively coarse; in fact, the growers of it would hardly dare to send it to table. When such very large vegetables as these are encouraged, other kinds also have to be forced larger than they otherwise need be, so as to make the collection more even. This possibly may be the reason why there also appears to be a tendency to increase the size of Potatoes also for exhibition. This is a vegetable where size does not count even for market, and, as is well known, large Potatoes never find favour on the dining-table. It is only the medium-sized and shapely roots that should be encouraged, these being much the best in quality.

The fact that market growers have found out that the general public are much against large Tomatoes, and prefer those which run about four to the lb., shows an improvement in the public taste.

A. Y. A.

Prevention of the Onion fly.—Mr. Young (p. 225), in his article on the above, states "generally the plot intended for the Onions is that which was previously occupied with Cabbage or some of the Brassica family. Very likely it will have the refuse of the previous crop left on it for the purpose of being dug in . . . amongst such refuse the pupæ are apt to harbour." An old Cabbage bed would be the last place in which one would expect to find the pupæ of the Onion fly, and I was not aware that they had a relish for Cabbage roots. If it is admitted that the Onion fly hibernates in our Cabbage plots, there is no reason that it should not be present in every part of the garden. Why, then, should so much labour be recommended in forking, trenching, and applying gas lime, wood ashes, fresh slaked lime, salt, soot, petroleum, and quassia to this particular spot, whilst the ground surrounding it may be swarming? Neither of them will have the slightest effect on the Onion grub, and they may as well be put in any other part of the garden as in the intended Onion plot for what use they will be in preventing the Onion fly, as to my knowledge they have proved an absolute failure. I have enveloped the grub in fresh slaked lime and soot, and it has quickly wriggled itself out of it. Petroleum is admitted to be the

deadliest of all insecticides, but you may place the Onion grub on a flagstone, pour paraffin upon it, and it will readily glide out of it.—W. P. R., *Preston*.

TREES AND SHRUBS.

RHODODENDRON GLOXINIFLORUM.

THE charming Rhododendron which forms the subject of the annexed illustration was introduced by the late Mr. Robert Veitch, of Exeter, some thirty years ago, but is still almost unknown. The original plant was sold, and is now growing in the gardens at Whiteway, Chudleigh (Devon). A number of small plants may also be seen at the Royal Nurseries, Exeter, where Messrs. Veitch grow it in their ordinary Rhododendron beds without any protection whatever. It is of the Sikkim type, but as a plant much hardier than other kinds of that class, though in consequence of its early blooming habit the flowers are sometimes cut by cold winds in early spring.



Rhododendron gloxiniflorum at Whiteway, Chudleigh, Devon. Engraved for THE GARDEN from a photograph sent by Messrs. R. Veitch and Son, Exeter.

The plant at Whiteway House from which the photograph was obtained is about 9½ feet high, and measures 10 feet in diameter; it has been planted between twenty and thirty years, and is growing side by side with *Rhododendron campylocarpum* in an open spot sheltered only from the south and west. Mr. Nauscawen (head gardener to the Dowager Countess of Morley, Whiteway) informs me that *R. gloxiniflorum* never fails to bloom about the end of March or beginning of April, and that the flowers are so abundantly produced that its sheet of blossoms has often been mistaken for a mass of snow. The soil consists of peat and loam in about equal proportions. The flowers are in compact trusses, very large, Gloxinia-shaped, and pure white, with a few black spots in the centre. It is a most desirable variety, and should be in every garden. F. W. M.

The plumed Hydrangea.—There is evidently a bad form of this in existence which it is to be hoped will not become common. We have a group of several plants which had been neglected and had become quite large bushes. This spring they

were cut down to the ground, and they broke so strongly that a vigorous bloom was anticipated. There are fine heads, but of fertile or little inconspicuous flowers, with here and there one of the broad, flat-petalled kind that should crowd the whole cyme. It is poor and disappointing.

Leycesteria formosa.—I can quite bear out all that "T." says in favour of this flowering shrub, for at the present time it is one of the most noteworthy subjects which we have in the pleasure grounds. The secret of success certainly lies in its having free exposure, so that the wood becomes fully ripened. I find that it is not over particular as to the kind of soil it will thrive in, as we have several specimens growing in nothing better than solid clay intermixed with stones. The long bunches of purple or claret-coloured berries which follow quickly on the flowering really enhance its ornamental qualities. We have scores of plants springing up in various positions, and which must owe their origin to the deposit from birds, which later on become very partial to the berries. It is recommended as a capital covert plant on account of the berries, of which pheasants are extremely fond.—A. Y.

The Water Elder in fruit.—From mid-summer to mid-winter this shrub is delightful, and many are the questions put to me concerning it. It is possible to see its relationship with the Snowball Tree of our gardens when it is in flower, but all through the latter part of summer, and, in fact, right into the winter, as a berry-bearing shrub it has few equals, and all who see it are struck with its beauty and astonished when informed that it is a native shrub. Bushes by the waterside, as well as those in the woods, are quite laden with clusters of rich red berries which glow and glisten in the sun. It richly deserves bringing to the front, and it would be well if the shrub nurserymen would make it a stock plant, giving it preference to the abnormal globose-bloomed form that has no merit when out of bloom. It is not very long since an English nurseryman of great repute among shrubs was asked to supply a hundred plants of this. He was unable to do it, nor knew where to get such a number in a state fit to supply. Although tolerably common in woods in some districts, this does not minimise its value. In any case, most of those who see it laden with berries by the lakeside go away resolved to obtain and plant it in their gardens. This is the best possible testimony of its beauty and worth.—A. H.

ROSE GARDEN.

TEA ROSES IN POTS.

THE illustration of Niphetos and charming article on Tea Roses in pots (p. 209) are welcome. From personal experience and observation I do not remember a single planted-out Rose house to have turned out quite satisfactory. I have seen a goodly number more or less so, some of them of very considerable area, tastefully designed and most elaborately furnished with arches, trellises, pillars, &c. Several of them have also yielded fairly good crops of Roses, but with the exception of a few that have been mostly furnished with one or a few varieties, such as *Maréchal Niel*, *Niphetos*, *Gloire de Dijon*, *Catherine Mermet*, &c., the results have mostly been more or less marred through the partial failure of one or more of the many sorts with which the Rose houses or corridors may have been furnished. Unfortunately, there can be no question but that such pests as mildew and red spider are infectious. Let one or more permanent plants under glass be affected, and these maladies spread with amazing rapidity. It is all very well to answer that sulphur is a sure and certain cure for both. But Roses defiled with sulphur

are already three-quarters ruined or more. Fortunately, red-rust does not affect Roses under glass. How is this? And yet all three of these worst of Rose pests are atmospheric. But grow our earliest winter Roses at least in pots, and then the moment one is affected with red spider or mildew out with it. The leaves had better be carefully picked off and burned before the plants are removed lest a fungoid spore should be scattered or sown in pastures new. Thus by prompt removal these diseases would be all at once stamped out. The portability of Roses in pots also aids us in other respects. For example, it enables us to keep them as close to the light as may be, and also to regulate the heat in accordance with our wants and wishes. So long as the extremes of heat and cold are avoided, other circumstances being favourable, Roses will do almost equally well in different temperatures. From 40° to 70° is a wide leap of 30°. I do not say that it would be either wise or prudent, but very much the reverse, to suddenly take such leaps and bounds of temperature. But what rosarian will affirm after the three months of heat and drought of 1893, that 70° is the highest temperature that Roses will endure? And what rosarian who has gathered handfuls of good Roses in the open up to Christmastide will affirm that 40° is the minimum that Roses can endure to live and open into fragrance and beauty? "Ridgewood" says (p. 210) that from 55° to 65° is quite sufficient heat until the days are turned, and wisely leaves growers to determine the lowest temperature as well as the highest in accordance with their wants and wishes. With plants portable in pots growers hold the temperature of their Roses in their hands, and can to a very great extent check or force growth and bloom as they list. With well-ripened thoroughly prepared material and the prudent, yet powerful uses of heat and moisture to fit into the condition of the Rose plants, Roses every day in the year and all round are being gathered in growing numbers and perfection over wider areas every day. As to the preparation, there is only one point named by "Ridgewood" that might be better left alone, and that is the repotting of any plants that require it before they come into bloom. Let them bloom first, and pot them in mid-growth afterwards. It may be almost laid down as an axiom that the harder the root runs of Roses in pots, and the more matted the roots, the sooner and the more profusely will they bloom. I have no particular objection to any one of "Ridgewood's" selection of twenty grand Tea and Noisette Roses for pot culture, but how such an experienced rosarian could have left out Gloire de Dijon passeth my comprehension. But then doubtless he will reply that I have a craze for this Rose, which is quite true.

D. T. F.

AUTUMN-BLOOMING TEAS AND NOISETTES.

As a general rule, all Teas and Noisettes with the exception of climbers are autumnal bloomers, but this season, owing to the exceptional weather in the south, we can also place many of the climbers under the above heading. Now that the National Rose Society have placed both Teas and Noisettes under one heading, it would be well to speak of them as one class; indeed, I think it most confusing to keep them separate, as they are so closely allied, that even our best and oldest growers do not agree to which section many belong. When the strong growers flower in the autumn they are very showy, and often put on tints which are not seen in the same variety during early summer

blooming. That grandest of old Roses, Gloire de Dijon, is as bright and deeply coloured as Bouquet d'Or. Kaiserin Friedrich and Mme. Bérard also possess a much deeper and clearer colour. There are a few of the extra vigorous growers that almost always bloom well in the autumn; among them we may name Celine Forestier, W. A. Richardson and Ophiré. The first and last of these may be classed as certain autumnal bloomers. But it is when we come to the main section of the Teas and Noisettes that we so clearly see their immense value late in the season. What can possibly be handsomer than a bush of Marie van Houtte, with its quantities of bloom so exquisitely tinted with bright rose? In the early part of the summer this variety is a pure yellow, but in the autumn it is scarcely recognisable as the same sort. Anna Ollivier, too, very seldom produces any of the pale yellow, Mme. Hoste-like flowers we often see in the spring. We notice another peculiarity in Mme. Lambard. In the early part of the season almost all of the flowers are deep red, but as autumn approaches, the majority of the blooms come almost pure salmon in colour. All of the deep yellow and orange blooms have a much more intense shade in the autumn. One great advantage in the Teas over the Hybrid Perpetuals is their continuous growth, and as they always produce a crop of bloom upon this, we get fully three or four times the number of flowers from them. In the autumn we are very seldom troubled with green-fly or any other insect pest, the only enemy of importance being mildew. By syringing and lightly dusting over with flowers of sulphur, we may hold this in check to a certain extent; but as the causes of this disfiguring and crippling disease are entirely beyond our control in the open air, its rapid spread and disastrous effects are unavoidable. When Teas are exempt from this disease, their autumn display is one of the most charming and satisfying features in the garden, and it is extremely disappointing to have mildew set in just as a valuable crop of bloom is almost secured. This season the bulk of my autumn crop was well in flower before mildew appeared, but it is attacking the plants very severely now, and will probably prevent many more good blooms being produced. It is such a crippling disease, smothering and blighting the young foliage so suddenly, that a week will make all the difference between a good crop or none.

A list of varieties most suited for autumn blooming would include almost all of the fairly vigorous Teas, but I may name the following as being particularly good this season: Sunset, Anna Ollivier, Dr. Grill, Perle des Jardins, Mme. Lambard, Marie van Houtte, Mme. Falcot, and Mme. de Tartas. The last named is so seldom seen that I would call particular attention to it. Mme. de Tartas was sent out by M. Bernède in 1890, and is one of the freest growers and bloomers we have; in fact, I know of none more so. Through the summer the flowers are not bright enough in colour to meet with the approval of many, but towards the autumn they are of a clear red, almost as deep as the early blooms of Mme. Lambard. Quite little plants are blooming in the greatest profusion, and I recently saw on a wall a plant (about twenty years old) that was one mass of flowers. Of much the same habit as Marie van Houtte, but producing quite three times as many flowers, this old Rose is particularly grand in the autumn. I have counted as many as thirty buds upon a truss, and as each bud grows well away from the other, having a clear stem of 4 inches to 6 inches, it can easily be imagined what a quantity of bloom is available for cutting. Most Roses which produce large trusses seldom open more than one or two flowers satisfactorily, but this variety expands almost every bud. Although sent out over thirty years ago, I have only seen it in two private gardens. Those of the Hybrid Teas in which the Tea-scented blood predominates are also fairly good autumnal bloomers, but, unfortunately, many of these are subject to red rust and Orange fungus, a disease the true Teas are exempt from. When they escape this, the following half-dozen are

really good late in the season: Viscountess Folkestone, Augustine Guinoisseau, Camoens, La France, Grace Darling, and Caroline Testout. Among the Hybrid Perpetuals we also find a few which deserve mention, although they probably belong more correctly to the Hybrid Noisettes. I allude to Bonle de Neige, Mme. Francois Pittet, Mme. Alfred de Rougemont, and Coquette des Blanchés, all four of which are whites of different shades.—R.

—The true autumn Roses are the Teas, and at this season they are a long way ahead of their summer rivals. It is almost marvellous how they have endured the heat and drought. The whole season has been one long hot summer, beginning in advance of its time and extending altogether beyond its usual limit. With such heat individual blooms have been short-lived, but the never-ending succession kept up a display. In truth, the real autumnal bloom of many kinds is past, nor could it be otherwise. Never before have I seen such an abundance of Roses in August, as that month generally marks a slight break between the two great displays of summer and autumn. Everything, however, is about a month in advance of its usual date, and our annual autumnal feast of that best of Teas, Marie van Houtte, is no exception. The second display of this Rose is with us always greater than the first, and lately the sun-dyed brilliancy of the flowers has been strikingly beautiful. With all its constant beauty there is the fact that it is doubly as vigorous as many of the much vaunted Hybrid Perpetuals, and therefore surely everybody's Rose. I think, however, it likes a deep holding soil, as in lighter soil I have never observed it quite so good and full of substance. Whether for summer or autumn, Mme. Hoste has won its way by sheer force of high merit as absolutely the best pale yellow Tea Rose. Plentifully and often its flowers may be cut, and it is always first rate. The third display of the season is just beginning with this kind, and the same is true of Non. Edith Giffard, which is one of the very best Tea Roses in existence at all times and seasons. Anna Ollivier is full of lovely buds, just the thing for cutting, and it is one of the most characteristic Roses in a cut state, opening progressively in perfect form from day to day. Souvenir d'un Ami and its white counterpart are quite indispensable, and Jules Finger, still full of lovely flowers, has been one of the most faithful Roses of the year. The Dijon Teas are glorious this September on walls high and low, over fences, and as great scrambling bushes in their present wealth of blossom they suggest midsummer to those who do not know what Rose pictures are possible in autumn by the aid of Teas. Take Gloire de Dijon, Bouquet d'Or, Emilie Dupuy, and Mme. Bérard, and put them in every conceivable position. They can hardly be wrongly placed, and autumn Roses will be plentiful enough. For picturesque effects a collection of anything is wrong if it must be confined to units. The reason that there are no Rose pictures in autumn in a great many gardens is because, though the best sorts may be present, their number is not nearly sufficient. To treat the Rose as a flowering shrub to brighten the garden and fill it with sweet odours, is the only way to discover its excellency.—A. H.

Do some Roses deteriorate?—I have frequently heard the remark that some varieties are not so good as they used to be. My own impression is that they are equally as good if treated with the same care as formerly. It is the vast improvements made among Roses during the last two decades which give many the idea that some of the old favourites are not so good as formerly. As an exhibitor of some years' standing, I can speak from experience of the much higher standard necessary to win with to-day compared with that of only ten years ago. Then we had to include John Hopper, Jules Margottin, La Reine, and many others which are scarcely ever seen on a stand now. Comparison can scarcely help being made between these and newer varieties, and owing to the great improvement in some of the latter, the former do not retain first place in our

estimation. There are very few old Roses which stand the test of time like the following half-a-dozen Teas: Adam (1833), Catherine Mermet and Devoniensis (1838), Madame Bravy (1818), Maréchal Niel and Niphetos (1844), and Souvenir d'un Ami (1816). The "old" Gloire de Dijon is comparatively new to these, having been sent out in 1853. Souvenir d'Elise Vardon was introduced during the same year, and this variety, with Catherine Mermet, has taken more medals for the best Tea Rose in the numerous exhibitions of the National Rose Society than any others. Among the Hybrid Perpetuals we find Marie Baumann, Charles Lefebvre, La France, Camille Bernardin, and Maurice Bernardin, all of which, if my memory serves me correctly, have taken this honour in their classes. As these are from twenty to thirty-five years old, and still hold their own against the cream of the hundreds introduced since, we may take it that they, at any rate, are not deteriorating. It is a question of a "survival of the fittest," and many old favourites are necessarily going to the wall and receiving less generous culture and attention as time goes on. One cannot help regretting the loss of some of these old Roses, but the spirit of the times demands that they should make room for improvements. A most gratifying thing to lovers of old Roses must be the feature introduced in the N.R.S. prize schedule during the past three or four years. I allude to the class for garden Roses, and which will revive many old favourites.—A. P.

Rose Aimee Vibert.—This charming old Rose, which has been in our gardens nearly seventy years, is classed with the Noisettes, and is somewhat tender. It never fails, however, and, like Lamarque, should the winter deal hardly with it and the first blooming be lost, it will soon send forth a forest of vigorous shoots which will be crowned with clusters of bloom. It is now very beautiful on a trellis, and I saw it in profuse bloom recently on a cottage wall. It is a great cluster Rose, much in advance of the summer cluster Roses, for whilst it flowers about the same time or a little later than they do, it also gives a second, and this year greater, display during autumn.—A. H.

Roses by the sea.—A good many Roses do well by the sea if they do not get an excess of salt spray, and if they, in seasons such as this, get a sufficiency of fresh water or house sewage at their roots. But the condition of many Roses on the east coast at the close of this dry season on September 18 is pitiable, and one of the saddest things about them is that they have perished or been crippled with heat and drought, and not with the salt brine. In some cases there are wrecks of what have been fine Rose plants almost close to the shore, with leaves and branches apparently as dead as if they had been passed through a fire. They have simply been left to their fate, and have perished from want of water. In other cases one finds Roses, and even the old scarlet and pink Monthly, in good health and bloom as near or yet nearer to the shore. At a glance one sees that one has been watered and the other not. It is probably no exaggeration to say that nine-tenths of the Roses and other plants—especially Rhododendrons—that have died or been crippled with disease this season, have suffered thus from lack of water. They have been starved rather than scorched to deformity or death. Roses by the sea may have been among the first victims, but thousands have followed suit far inland that a deluge from the sea would have saved.—D. T. F.

Polyantha Roses.—These and the miniature Provence and Fairy Roses are much alike in some respects. All of them produce small blooms, many of which are perfect in shape, while others are of rosette form. The closer growers are admirably adapted for pot culture, and when well grown are charming. The Rose frequently spoken of as Rosa Polyantha is more correctly described as Rosa multiflora. It has come to the front very much recently as a stock for Tea Roses. R. multiflora was introduced from Japan in 1827 and is a very rapid grower. The flowers are single and

produced in immense bunches. It is also known as Polyantha simplex. In 1886 M. Bernaix introduced R. m. grandiflora. This is of even stronger growth than simplex and the blooms much larger, often being 3 inches across. It is very strange that the tremendous growth of R. multiflora should have so persistently produced these very short-growing Roses when crossed with the Teas. Take Anna Maria de Montravel, sent out by Raimbaud in 1879. This is a cross between Polyantha alba plena and Tea Mme. de Tartas. It has entirely lost the strong growth of both varieties, but retains their great freedom of flowering, producing immense clusters of semi-double flowers of a pure white, often from thirty to sixty in a truss. Perle d'Or is another striking instance, being a cross between R. multiflora and Mme. Falcot. In this variety we retain the pointed bud of the latter, also a great deal of its colour—nauken, with an orange-yellow centre, is a fairly accurate description. Gloire de Polyantha is more double and globular than its parent. Mignonette, colour deep rosy pink with a white base, is exquisitely scented, and one of the most perfect in this class. Ma Paquerette, Clothilde Soupert, Cecile Brunner, Golden Fairy and Kate Schultheis are all very pretty. Dr. Raymont, a Hybrid Polyantha, is a very fine purplish crimson and almost always in bloom. This resulted from a cross between the old R. multiflora and General Jacqueminot.—R.

THE FRUIT CROPS.

MIDLAND.

Coddington Hall, Newark-on-Trent.—The fruit crops in this district vary considerably, and are not, on the whole, satisfactory. The season opened with a grand promise, trees of all kinds being laden with blossom. In our own neighbourhood the spring frosts, of which we had a severe taste, did not actually cripple the expanding buds, although I believe that had not our own Apricots been protected with frigi domo instead of fish netting, the crop would have been lost. Of Apples and Pears, half and in some cases the whole crop fell to the ground. I am speaking of our district generally, as in our own orchards fruit is more abundant; in fact, the best crop we have had for years, although the fruit will certainly be undersized. Apricots are an abundant crop, but small. Peaches and Nectarines on open walls are an average, and I must here say a word in favour of the variety Amsden June. This is an excellent Peach for outdoors in the midlands, being ripe this year by July 6. It crops well, swells to a large size and takes on a delightful colour, whilst it is of good flavour. This Peach, I believe, belongs to the American section, but if it would retain its buds and crop as well indoors as it does out, it would be well for gardeners to substitute it for Alexander and Waterloo. Gooseberries and Currants were a good crop, especially the red variety; and Raspberries half a crop, owing to being nipped by a severe late frost when at a critical stage. Strawberries were under the average and the season of somewhat short duration. The advantage of having plants by the margin of walks for stock is more apparent this year than ever. Being more shaded and cool, runners have come early and strong, whilst even young plants on open quarters have produced them slowly, but much infested with spider. Plums are a medium crop generally in this quarter, but with us both Plums and Damsons are abundant. Our most prolific Pears on walls are Thomson's, Louise Bonne of Jersey, Marie Louise, Glou Morceau, Beurré Clairgeau and Winter Nelis; of Apples, Lane's Prince Albert, Lord Suffield, Duchess of Oldenburg, Cox's Orange Pippin, King of the Pippins, Stirling Castle, Cellini and Fearu's Pippin. Although the present year has been most trying, and in many instances productive of much loss to market growers, I am of opinion that it will ultimately prove of practical good by hardening and consolidating growth, leav-

ing less for autumn suns and winds to accomplish. We may therefore hope for an abundant crop in 1894.—JOHN CRAWFORD.

Barkby Hall, Leicester.—The Apple crops are generally good, but partial, some orchards having good crops, while others in the same neighbourhood are only moderate. The trees have suffered from the drought, causing an unusual number of fruit to fall. The Codlin moth has been very destructive in some orchards. Pears are only a moderate crop. Plums a good average. Apple, Pear, and Plum trees have not suffered so much from winter moth as usual, and where l'aris Green was used the injury is only slight in comparison with former years. Now that the rain has come trees are making good clean growths. Apricots on walls have very good crops, and the trees have stood the dry weather better than orchard trees. We have not had such good crops of Apricots for several years. Peaches also good, and the trees are doing well. Cherries good both in orchards and on walls. Gooseberries a very heavy crop everywhere. Currants, good crops of both Red and Black. Raspberries good. Strawberries were a very partial crop. Sir J. Paxton has generally failed in this neighbourhood, while Noble, as usual, gave good crops, and the flavour this year was nearly equal to that of the best varieties. The fruit of all varieties was small, and many plants were killed by the drought.

Peas have been the greatest sufferers amongst vegetables. In spite of heavy waterings they suffered badly from mildew. Late sowings are total failures. It is surprising how well Potatoes have stood the dry weather, and have made tops of average height both in the garden and field, with fair crops of tubers. I never remember to have seen so many failures in the Onion crop. Our own are very good, but the seed was sown as early as possible. Where sowings were late, crops are bad without exception. It has been a trying season for Celery, and many of the earliest plants have run to seed, due to a check from insufficient moisture. Lettuces bolted before hearing, but, as usual, those planted between the Celery trenches have done well. The highest reading of the thermometer was 93½° in the shade on July 2.—J. LANSDALE.

Euston Hall, Thetford.—The Apple crop is good, the fruit clean and well developed. Pears are an average crop. Plums, especially Victoria, are good on both standards and pyramids. Morello Cherries are very fine, but ripe much earlier than usual. Peaches and Nectarines are much over the average. Apricots over the average and very early, the fruit from south walls (August 5) having been already gathered. Small fruits an abundant crop, and Strawberries mulched early are quite up to the average. Raspberries were soon over and not so fine as usual. Nuts are hanging thickly on the trees.

Potatoes are looking well, except late planted ones, and any that have come under my notice at the local shows are quite equal to those of former years. Kitchen garden crops generally have not suffered to any great extent considering the long spell of dry weather.

The lawns, that during the drought looked as if they would never recover, are now fresher and greener than ever I remember to have seen them for the past twenty years.—W. Low.

Madresfield Court.—In such a season exceptional results may be anticipated. I never have seen crops so extremely partial or irregular. Certain positions seemed to have been affected by cold waves of frost during the flowering period. Madresfield lying low and somewhat damp suffered accordingly, but higher grounds and slightly sheltered from the east show full and heavy crops of fruit, although smaller than usual, probably owing to drought. A most remarkable feature was the extreme aridity of the atmosphere through March, April, May and June. Insect pests flourished accordingly, and gave constant trouble; in short, it was one of the very worst seasons I ever experienced. All one's calculations were upset and crops ripened prematurely. Peaches

were gathered outdoors on June 21, and Noble Strawberries were picked May 12, establishing a record not likely to be superseded. Apples and Plums are good average crops generally. Pears less so, having suffered heavily from attacks of that worst of all pests, *Diplosis pyrivora*, a small gnat fly which deposits its eggs in the calyx of the flower, and the larvæ eat their way to the core of the embryo fruit, causing it to fall prematurely. Apricots were never better or fuller crops. Cherries abundant, but small and soon over. Strawberries, early and midseason, small, but of excellent flavour; late kinds a failure, owing to intense heat and drought. Bush fruits fair crops on strong holding land. Raspberries small and soon over.

Vegetables, especially Peas, unsatisfactory.—W. CRUMP.

Caldecote Gardens, Nuneaton.—The fruit crops vary very much in this district. Apples are very good. Plums a moderate crop. Apricots a good crop, but rather small. Pears moderate crop, but vary very much, some trees bearing well, especially Marie Louise; others none. Dessert Cherries good crop, and Morellos very fine, bearing very heavy crops. Gooseberries very plentiful. Red, White and Black Currants moderate crop, but the trees much blighted. Raspberries a good crop, but fruit rather small. Strawberries a moderate crop, but soon over, owing to very dry, hot weather.

Early Potatoes a good crop and sound. Late Potatoes in this district are suffering very much from want of rain, and I am afraid the crops will be very much under average and tubers small. Onions a very good crop. Peas have been moderate, but soon over. Scarlet Runner Beans are bearing well, but are getting covered with red spider. The rainfall has been very light in this district this year; we have only registered up to August 29 9.44 inches, and everything is suffering through want of rain.—J. BOWLER.

Eaton Gardens, Chester.—Apricots in this district are a very good crop, the absence of late spring frosts favouring a good set, and where this has been followed up with plentiful supplies of water, there is abundance of clean, sound fruit. The Apple crop seems to be a somewhat varied one; in some places a good average, in others very slight. Here we have a good crop of all the cooking kinds, but a slight falling off in the dessert varieties; trees are remarkably free from blight and fruit clean and well formed. The following are among our best croppers: Worcester Pearmain, Cox's Orange and Ribston Pippins, Astrachan, Quarrenden, Lord Grosvenor, Stirling Castle, Cellini, Ecklinville Seedling, Annie Elizabeth, Golden Noble, Old Hawthornden, Mère de Ménage, Non-such, Kentish Fillbasket and Lord Suffield. Pears, speaking generally, are hardly half a crop. There was plenty of blossom on most trees, but it set very badly. The want of sun last autumn to thoroughly ripen the wood may account for this. Plums are a good half crop, but have been badly infested with fly this season. Strawberries were never worse in this district than they have been this year. A splendid show of blossom, but the scorching sun in May and June ripened them off prematurely and made the season for them one of the shortest on record. Damsons are largely grown around here. The crop in some places is fairly good, but the fruit very small, while the trees are completely covered with red spider. Cherries and small bush fruits, with the exception of Gooseberries, have been very good. Crops of all kinds are nearly a month earlier than last year.—N. F. BARNES.

WALES.

Brynkinalt, Chirk.—The fruit crop in this exceptional season is, generally speaking, very heavy, and the fruits smaller than usual unless they have been hand-thinned and had plenty of water, but I fear that in many gardens the water supply has been too scarce to allow the trees a sufficient allowance. Apricots set in abundance and are very good. Peaches and Nectarines are well cropped, although somewhat smaller in size

Apples, Pears, Plums, and Morello Cherries are very heavy notwithstanding the trying weather. Black Currants and Red Currants, Strawberries, and Raspberries have all been far above the average in quantity. In all cases fruit and vegetables have been from three weeks to a month earlier than usual.—J. A. WOOD.

Vaynor Park, Berriew.—The fruit crop here is a very good one, more especially Apricots, Peaches, Nectarines and Plums. These are plentiful, and promise to be excellent in quality. Cherries are an average crop May Duke being most abundant. Many of the Morellos and other varieties have dropped, as they suffered severely from the sun. Strawberries were a good average crop. Pears are below the average. Taking the Apple crop as a whole, I may say that it is about an average one. Gooseberries, Currants, and Raspberries are fair average crops. Walnut trees are bearing heavy crops, Filberts and Nuts being thin.—R. H. SMITH.

Glanafon Gardens, Taibach, Port Talbot.—The fruit crops this season have been very abundant and of good quality, though hardly as fine specimens are to be seen as in preceding years, except where water has been abundantly supplied. Gooseberries have given very good crops, the trees being remarkably free from the ravages of the caterpillar. Strawberries were abundant and the fruit fine, Laxton's Noble being our best in all respects this season. Apples are abundant and of good size, reaching perfection quite three weeks earlier than is usual. The trees look healthy. Pears have borne heavy crops, but the fruit has not been quite up to the average size. The trees look well. Plums are abundant; the trees look fresh and healthy where they have been well watered. The Cherry crop has been good. Peaches and Nectarines are fine and the crops good, particularly where the trees were well watered and mulched. The feature of this season's fruit crop is its comparative earliness. Bush fruit is almost entirely gone, and the fruit fully three weeks earlier than in ordinary years. Strawberries ripened early in May.

All vegetables have suffered greatly from the long-continued drought.—HENRY MORRIS.

Ruthin Castle.—Fruit crops good all round. Apples, Pears, Plums, Raspberries, and bush fruits being an abundant crop. Strawberries a good crop, but rather small. Fruit trees are clean and healthy owing to our abundant supply of water.

Vegetables good all round, especially Potatoes, which have been unusually early and very fine. These remarks about fruit apply to the district generally, but in many places where the water supply is deficient, kitchen garden crops have suffered from the drought.—H. FORDE.

Dynevor Gardens, Carmarthenshire.—This is one of the best seasons that has been known in this district. Apples over average. Pears (early sorts) good, later kinds average. Plums over average. Peaches on walls outside very good. Figs on outside walls a good crop. Strawberries were heavy crops and good. Gooseberries heavy crop, but blighted in early season. Currants and Raspberries very good, but neither had a drop of water this season from February 26 to May 2; no rain then till July 8.

Vegetable crops are looking well; the only drawback was that Peas did not fill satisfactorily, but produced heavy crops. We, as a rule, trench a good part of our vegetable ground every year, which suits dry seasons.—JOHN McDONALD.

Margam Park, S. Wales.—The season here from the beginning of March until early in July was the most extraordinary ever experienced. There was never sufficient rain to penetrate the soil during the whole of that period, and the drought and heat were excessive. All fruit trees came prematurely into blossom, and the early character was kept up all through. There was no frost or any other kind of bad weather to injure the bloom; consequently, the fruits all set freely. Strawberries were plentiful, but they had no

rain from the time the flowers appeared till the fruit was gathered, and were much below the average in size and soon over. John Ruskin was ripe first, and I have formed a high opinion of this sort as an early kind. Currants, Red, Black and White, were abundant and good. Raspberries were a capital crop, but the rows were mulched before the fruit began to swell. Gooseberries plentiful, but over by the time we have sometimes had them begin to ripen. Morello Cherries abundant and good. Pears better than they have been for some years. Apples a heavy crop and of fine quality, especially on trees that were not too prolific in 1892. Plums very heavy and good. The open-air Peaches are the best we ever had, but both those and the Plums were freely watered during the dry weather. Had it not been for this the Peaches at least would have been destroyed by insects. The heavy rains in the middle of July washed all the trees thoroughly, and they are now clean and in good health.

Vegetables were very deficient in quantity and quality all through the drought, but they are now almost as good as usual, as the great warmth in the soil caused the plants to grow freely as soon as the rain came. It was a new experience for me to sow, grow and gather the produce of Pea and other crops without their having a drop of rain during all their existence, but the labour that in ordinary times would have been devoted to lawn-mowing, weed-killing and such like was diverted to watering, and this, no doubt, saved many crops from being a complete failure. Potatoes have been exceedingly good, but second growth is threatened now, and this, I also fear, will prove injurious to many kinds of trees.—J. MUIR.

Slebeck Park, Haverfordwest.—Apples are a remarkable crop, all varieties carrying a very heavy crop of clean, good-sized fruit. The drought does not appear to have had any bad effect upon the trees. The fruit is much more promising this season than usual owing to the tropical weather. Pears are also a heavy crop, much above the average; all sorts alike. The fruit is of a good size and very clean. Cherries were above the average and of splendid quality; the finest crop ever seen in this district. This is not a good Cherry county, very few being grown. Owing to climatic or other causes we seldom get a crop, with the exception of the Morello. Plums are above average, especially the Victoria. All trees of that justly popular variety are loaded with fruit. Damsons are also a very heavy crop. With us they set too freely, and the fruit will be small in consequence. Small fruits were an abundant crop with the exception of Gooseberries, which were very much damaged by the caterpillar in nearly every garden in the district. Strawberries were a fairly good crop, but owing to the drought soon over, and with us they were quite a month earlier than usual. Peaches, Nectarines, and Apricots are not grown out of doors in this county to any extent worth mentioning, as it is only in a few favoured gardens that they succeed. On the whole this promises to be the best fruit season that has been experienced in this district for many years. It is surprising the amount of drought fruit trees will stand. From March 1 until July 19 we did not get sufficient rain to reach the roots of the trees.

Kitchen garden crops of all kinds have suffered severely this summer except where well watered. Onions and Cabbage were destroyed by the grub to a great extent, particularly on light soils. Early Potatoes were generally a very light crop. Late sorts, however, promise better.—GEO. GRIFFIN.

Quinta Gardens, Chirk.—Apples are a full average crop, Pears over the average, Apricots excellent, also Plums, Peaches and Nectarines. Small fruits are a good average with the exception of Gooseberries, which are poor and badly infested with spider. I never remember to have seen such a set of Apricots. We had to pull off ten for every one left on. Plums on walls much the same. Pears required a lot of thinning, while some of the other sorts of standard Apples will, I fear, be small owing to the great quantity of fruit. All fruits are of exceptional quality, and give promise of high colour and fine finish. Old standard Apple

trees of such as Lord Suffield, Stirling Castle, and Warner's King, are heavily laden, while newer sorts in the same orchard have been very poor. Lord Grosvenor and Saltmarsh's Queen are my best new kinds.—J. LOUDEN.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 26.

A BETTER meeting than that of Tuesday last or a more representative one could not possibly be desired. It speaks well for the enterprise of the trade, from whom the greater part of the exhibits came, that such a display should be made when London is comparatively empty. The only regret is that it was not patronised more than it was by Fellows and their friends. Of Orchids there was quite a good assemblage, with no dearth of variety or good quality. Dahlias made a considerable show of themselves, the Cactus varieties never having been shown all the season with the colours so intensified. This we have observed in other seasons at the end of September, but never so much so as on this occasion. This may probably account in some measure for the numbers of certificates awarded to new kinds, these being seen under the best possible conditions. Hardy flowers from the south coast were numerous, and a few good plants of decorative character were exhibited. Tuberous Begonias were shown in grand condition from Swanley, both single and double. From Woking came fine examples of the glaucous Spruce and Atlantic Cedar. Some excellent fruit was shown, the finest examples of culture being the Pine-apples from Frogmore, the Pears from Marston House, Frome, and the grand Melons from Gunnersbury Park. Some excellent dishes of Apples were shown, and also some fine examples of Onions and other vegetables from Swanley.

Orchid Committee.

A first-class certificate was awarded to—

CYPRIPIEDUM CHARLESWORTHII (Rolfe).—A distinct and decidedly novel new species, which cannot be compared with any other that we can call to mind. The plant is of dwarf habit, the flowers each having a remarkably fine dorsal sepal, extra large, measuring about $2\frac{1}{2}$ inches each way, the colour a pale pink suffused with purple and having a lighter network towards the extremities; the petals are shaded with greenish brown, so also is the pouch, which is rather small. A greater novelty amongst the species of the Slipper family has not been seen for a long time. From Messrs. Charlesworth, Shuttlesworth and Co., Heaton Nursery, B. adford, and 213, Park Road, Clapham.

Awards of merit were given to—

CATTLEYA BLESENSIS (C. Loddigesii \times *Lælia pumila*).—In this very pleasing and distinct-looking hybrid the sepals and petals much resemble those of *C. Loddigesii*, but the lip is of a vinous crimson-purple, with a yellow throat, beautifully fringed, the growth very free, and in habit quite intermediate. From Messrs. B. S. Williams and Son, Upper Holloway.

LÆLIA ELEGANS TURNERI (Ingram's var.).—A splendid variety, with flowers fully 6 inches across, the sepals and petals a deep rose-pink, flushed with purple, and the lip of an intensely deep velvety crimson-purple, the column partaking of the colour in the other parts of the flower, a fine Orchid. From Mr. Ingram, Elstead House, Godalming.

Botanical certificates were voted to—

BROWNLEA CERULEA.—A small terrestrial Orchid with pale blue flowers. From Mr. J. O'Brien, Harrow-on-the-Hill.

CATASETUM GNOMUS.—A most singular looking Orchid, with dark green sepals and petals; in no sense handsome, but remarkably novel, with a spike bearing thirteen flowers. From Mr. W. Cobb, Dulcote, Tanbridge Wells.

A cultural commendation was most deservedly awarded to—

DENDROBIUM PHALÆNOPSIS SCHRÖDERIANUM VAR. **BEATRICE ASHWORTH**, with three extra fine spikes of great length, the lip dark vinous purple, the petals of a lighter shade, and the sepals almost white—a very fine form of this choice Orchid. From Mr. E. Ashworth, Harefield Hall, Wilmslow, Cheshire. Other good varieties of the same Orchid were shown by Mr. Ashworth.

From Mr. Statter, Stand Hall, Manchester, came *Cattleya Alexandra*, two spikes and four flowers of better colour than usual, with a deep rose-pink lip, the sepals and petals of a chocolate-brown and very glossy. Mr. Statter also had *Cattleya Parthenia*, also shown at the last meeting, and *Cattleya bicolor cœrulea*, which in its colour is a decided novelty, the sepals and petals being of a pale olive-green, the column pearly white, and the lip a pale clouded blue—a most singular combination of colours. *Cypripedium Arthurianum* superbum, a fine form was also included in this exhibit. From Messrs. H. Low and Co., Upper Clapton, came a small group of choice things well arranged, amongst which were *Vanda cœrulea* of beautiful colour, *V. Sanderiana* in good condition, and *V. Kimballiana*, a valuable Orchid for cutting, being so free and distinct. *Cypripedium tonsum* (good), *C. Harrisianum*, *C. L'Unique*, *C. bellatulum*, *C. picturatum*, and *Cattleya maxima* with its rosy lilac flowers were also included. Messrs. B. S. Williams and Son showed *Cypripedium amandum* in good order, and Messrs. Charlesworth, Shuttlesworth and Co. had *Cypripedium Morganii*, *C. cœnanthum* superbum with other sorts, and a beautiful example of *Vanda cœrulea* finely coloured, splendid flowers of *Cattleya labiata autumnalis*, *Lælia tenebrosa* and a good *Oncidium* in *O. Gardneri*, a very fine form of *O. sarcodes* with the yellow lip distinctly marked with brown spots around the margin; a richly coloured *Vanda Sanderiana* was also included.

Messrs. Sander and Co., St. Albans, staged an attractive group, not large, but consisting of several choice kinds. From a cultural point of view the best of these were *Cattleya anrea*, with richly coloured flowers of fine size, and *Oncidium Jonesianum*, remarkably vigorous, the foliage in one case fully 18 inches in length. Three distinct forms of this beautiful autumnal Orchid were shown, each distinctly good. *Habenaria carnea* was again set up, and a distinct looking *Calanthe* called *C. curculigoides* with orange-yellow flowers; also *Aerides Rohanianum*, a species that comes near to *A. suavisimum*, but richer in its colour and larger. Several small flowering *Oncidiums* were included, as *O. pubes*, *O. bracteatum*, *O. tralliferum* and *O. Wentworthianum majus* with a long spike. Another pretty plant was *Phajus Woodfordi*, with lemon-yellow sepals and petals and yellowish brown lip. *Catasetum purum*, a pale yellowish green species, was also included. Messrs. Lewis and Co., Southgate, showed *Cattleya Johnsoniana* and *C. Ashtoniana*, hybrids between *C. Harrisoni* and *C. gigas Sanderiana*, both of which partake more of *C. Harrisoni* than of *C. gigas*; there are certainly some of the characteristics of the latter parent with the colour of the former, save in the lip of the last named hybrid, which has the rich crimson marking of *C. gigas*, the other hybrid being devoid of or but faintly stained with that colour. Mr. Thompson, Walton Grange, Stone, Staffs, showed cut spikes of *C. Alexandra*, pale and dark forms, one with richly coloured sepals and petals and a deeper coloured lip than usual. Mr. Brymer, Dorchester, sent *Cattleya Brymeriana*, after C. Skinneri in form, the inner part of the lip of a deep yellow, the outer portion of a rosy purple. Mr. Statter also showed a good form of *Cattleya Alexandra*, and Mr. J. O'Brien had *Satyrion eriocarpum* and *S. membranaceum*. Mr. McArthur, The London Nursery, Maida Vale, arranged a small group in an effective manner, amongst which were *Cattleya Harrisoni* with fine deeply coloured flowers, *Vanda Sanderiana*, and *V. S. pallida*, with the upper sepals of nearly a pure white, the other parts of the flower also paler, a distinct variety. *Cœlogyne Massangeana* with

long spikes, *Odontoglossum Alexandra*, *Cypripedium Ashburtoniae* and *C. calurum* were as so shown also *Saccolabium cœleste*, a pale blue species with erect spikes, and *Stanhopea insignis major*, deeper in colour than the type.

Floral Committee.

First-class certificates were awarded as follows—

NEPENTHES MIXTA.—A splendid hybrid, raised at Chelsea, between *N. Curtisi* and *N. Northiana*. This must be classed amongst the finest kinds yet sent out, being a fitting companion to *N. Mastersiana*. The pitchers are about 10 inches in length, of a brownish pink ground colour, blotched and spotted with dark crimson and of unusually firm texture. Around the upper margin the colour is of a deep crimson or maroon. The plant bore six fine pitchers. From Messrs. Jas. Veitch and Sons.

AGLAONEMA ROTUNDUM.—A very distinct Aroid of dwarf Dieffenbachia-like habit, and a fitting companion to *A. costatum*, already in commerce. In *A. rotundum* the groundwork is a dark, glossy green, with marblings and blotches of silvery white, the leaves being leathery in texture, broadly ovate in form, and from 4 inches to 5 inches in length and 3 inches in breadth. From Messrs. Jas. Veitch and Sons.

DATURA CORNUCOPIA.—Of this new species a large plant was shown bearing well-developed semi-duplex flowers, nearly white, the inner part being white with a faint suffusion of violet, the reverse having deep violet splashes on a paler ground, the perfume peculiar to the *Daturas* being plainly discernible. This should prove to be a fine feature in the flower garden. From Messrs. Pitcher and Manda, Swanley, Kent.

Awards of merit were given to a number of Dahlias, the following being the varieties selected:

CACTUS DAHLIAS.—Mrs. A. Peart.—A creamy-white of true Cactus form and a full flower. From Mr. T. S. Ware, Tottenham. Edith Turner.—Another true Cactus with long petals, vermilion-scarlet shaded with purplish-violet, large flowers, very showy. From Mr. Charles Turner, Slough.

DECORATIVE DAHLIA GRAND DUKE ALEXIS.—A very remarkable and distinct flower of large size with long fluted petals, nearly white in colour with a slight suffusion of blush; a grand double Dahlia for the garden. From Messrs. Keynes, Williams and Co., Salisbury.

SHOW DAHLIAS.—Duchess of York.—One of the most distinct and beautiful kinds seen this season; the flowers medium in size, heavily tipped with deep rose-pink, the base of the petals of a bright terra-cotta shade. From Messrs. Keynes, Williams and Co. Mrs. Morgan.—A beautiful pale ground colour, deeper than Mrs. Gladstone, but after that well-known flower and larger, the petals faintly tipped with purple. From Mr. Charles Turner. Norma.—A bright terra-cotta, shaded with yellow and of fine form. From Mr. Charles Turner. Octavia.—A rich yellow, tipped with claret colour, distinct in its markings. From Mr. Charles Turner. Cherub.—A bright terra-cotta colour, shaded with orange, compact and full. From Mr. Pierre Harris, Orpington, Kent.

SINGLE DAHLIA.—Beauty of Watford.—A rich shade of yellow with brownish circle, resembling a *Gaillardia*. Mr. Darby.

POMPON DAHLIAS.—Sovereign.—A bright yellow self of medium size, full and free. From Messrs. Keynes, Williams and Co. Ceres.—A pale sulphur-yellow, and a fitting companion to the foregoing. Also from Messrs. Keynes, Williams and Co. Miranda.—With flowers of pale golden ground colour, tipped with claret. From Mr. C. Turner. Captain Boyton.—An intensely dark maroon self of good form. Also from Mr. C. Turner. Florence Woodland.—A golden ground colour, tipped with crimson, distinct in its shades. From Mr. T. S. Ware, Tottenham.

HELIOPSIS SCABRA MAJOR, with flowers of a deep golden-yellow and dark disc, a variety of sturdy and free growth. From Mr. B. Ladham's, The Shirley Nurseries, Southampton.

ALOCASIA CHANTRIERI.—A distinct variety, with long arrow shaped foliage and wavy edges, the

whole leaf faintly suffused with a silvery shading, the midrib and nerves of a lighter shade. From Messrs. J. Laing and Son, Forest Hill.

BEGONIA DUCHESS OF YORK (tuberous-rooted).—A splendid double variety, with immense flowers of a rosy crimson colour, the petals broad and reflexed. From Messrs. J. Laing and Son.

VERONICA HYBRIDA PURPLE QUEEN.—An extra dwarf and compact growing hybrid variety, with a profusion of dark purple trusses of flower, a valuable plant for boxes and massing for effect. From Messrs. J. Veitch and Sons.

Mr. Anthony Waterer, Knap Hill, Woking, sent some splendidly grown plants of *Abies pungens argentea* in beautiful character, with a glaucous silvery sheen over the entire growth, and of *Cedrus atlantica glauca* (the Silver Atlas Cedar), with most luxuriant growth and the same tints as in the *Abies* (these are both grand plants). From the same source came well-grown examples of *Andromeda floribunda* and *A. japonica*, with another exhibit of *Spiraea Bumalda* var. *Anthony Waterer* (award silver Flora medal). From Messrs. Keynes, Williams and Co. came a splendid lot of *Cactus* and other *Dahlias*, the former being remarkably characteristic of the name and of rich colouring. The finest of these were *Countess of Radnor*, Mrs. Masham, *Gloriosa*, *Miss Violet Morgan*, *Lady Penzance*, *Kynerith*, *Chancellor*, *Delicata*, *Countess of Gosford*, and *Bertha Mawley*. Excellent stands of show and fancy as well as pompons were also staged (silver Flora medal). A similar exhibit of *Dahlias* came from Messrs. J. Cheal and Son, Crawley; the pompons here embraced the best kinds, conspicuous amongst which were *Iolanthe*, *Lilian*, *Cecil*, *Admiration*, *Eva* and *Achilles*, and the *Cactus* *Countess of Radnor*, *Sultana* (distinct), *Robert Cannell*, *Delicata*, and *Duchess of York*. Amongst the singles were *Lowfield Beauty*, *The Bride*, *Yellow Satin*, *W. C. Harvey*, with several other good kinds in each section (silver Flora medal). From Messrs. J. Laing and Son came a beautifully grown collection of decorative fine-foliaged and flowering plants, which included many excellent things, as *Saxifraga sarmentosa* tricolor *superba*, *Dracena Doucetti* (good), *Crotons* Mr. Bause and *Miss Lucien Linden*, two fine and distinct broad-foliaged kinds of rich colour; *Strobilanthes Dyerianus* (fine), and *Pavella borbonica* were all shown well. Of flowering plants there were several tuberous *Begonias* (double kinds), *Baroness Burdett Coutts*, a salmon-pink, being one of the best (silver Flora medal).

Mr. B. Ladhams had a splendid collection of hardy herbaceous cut flowers of particular interest; prominent amongst these was a grand lot of the new perpetual *Pink* with fine flowers. Other good things were *Funkia grandiflora*, *Echinops ruthenicus*, *Pentstemon John Thompson* (a deep crimson), *Statice incana*, *Erigeron speciosus* *superbus*, *Liatris pycnostachya* in superior condition, *Chrysanthemum maximum*, *Linum campanulatum* *grandiflorum*, *Scabiosa caucasica*, *Helianthus Soleil d'Or*, with *Gaillardias*, *Coreopsis*, *Rudbeckias* and *Delphiniums* (silver Flora medal). Messrs. Cannell and Sons exhibited a very fine lot of cut blooms of tuberous *Begonias*, a single amongst which named *Fashion*, of an orange-yellow colour, is quite distinct. Several fine doubles, very large, were also shown in various shades (silver Banksian medal). From Mr. Rawlings, of Brentwood, came show and fancy *Dahlias*, the best of which were Mrs. Gladstone, *Maud Fellowes*, *Peacock*, *Colonist* and Mr. Glasscock (silver Banksian medal). Messrs. Veitch and Sons exhibited a splendid basketful of *Amazonia punicea* in beautiful condition, it being intermixed with *Phrygium variegatum* profusely variegated. Mr. Owen, Maidenhead, showed *Canna Comtesse de l'Etoile* with yellow flowers spotted orange and of good size. Mr. Jones, Lewisham, had *Fuchsia triphylla* *carminata*, a pale coloured form; and Mr. Aldridge, Petersham, Richmond, sent a seedling *Aster* with nearly white flowers and of free growth. Messrs. H. Low and Son showed *Lilium nepalense*, a singular and distinct variety in good condition, the flowers having a dark maroon centre and a broad margin to each petal of yellowish green.

The first prize for twelve spikes of *Gladioli* was awarded to Mr. J. C. Tandy, Warkworth, Northumberland, and included some very fine spikes of *Enchantress*, *Grand Rouge*, *Atlas*, and *Corinne*. The same exhibitor was awarded the first prize also for twelve English raised seedlings, neither of which was worth notice for superior quality, the spikes being thin and meagre looking. The craze lately shown in withholding the first prizes might in this case have been done for a palpable and just reason.

Fruit Committee.

There was a number of exhibits before this committee, some excellent collections of Pines, Pears and Melons being shown.

An award of merit was given to—

APPLE WEALTHY.—An American variety, above medium size, of a dark red colour, with soft mealy flesh. Its only merit is its colour, the flavour being certainly poor. From Mr. E. Molyneux, Swanmore Park, Bishop's Waltham.

A very fine dish of nine fruits of *Doyenné du Comice* Pear was staged by Mr. Iggulden, Marston House Gardens, Frome. This was a remarkable exhibit from trees grown in a heavy clay soil. The fruits were very clear and of great size (bronze medal). Mr. Iggulden also contributed thirty dishes of Pears of great excellence; indeed, several of the varieties were equal to orchard house-grown fruits, the finish being perfect. The best were *Doyenné du Comice*, each fruit over 1 lb.; *Pitmaston Duchess*, very fine; *General Tottleben*, *Glou Morceau*, *Van Mons Leon Leclerc*, *Durondeau*, *Beurré Clairgean*, *Doyenné Boussoch*, *Easter Beurré*, *Brown Beurré*, *Marie Louise* and *Huyshe's Prince Consort* (silver Knightian medal). From Mr. Thomas, The Royal Gardens, Windsor, came eighteen very good *Queen* and *Smooth Cayenne* Pines of nice shape. This was an interesting exhibit and well deserved the silver-gilt Knightian medal awarded. Messrs. Cannell and Sons, Swanley, occupied a large space, showing a collection of Apples and a large and varied collection of vegetables. The best dishes of Apples were *Col. Vaughan*, *Scarlet Nonpareil*, *Cox's Orange*, *Queen Caroline*, *Emperor Alexander*, *King of the Pippins* and some seedlings. The vegetables comprised a basket of *Anglo-Spanish Onions* of great weight; some excellent *Somerset Hero*, *Ailsa Craig* and *Wroxton Onions* grown naturally; fifty dishes of Potatoes, the best being *Victory*, *Satisfaction*, *Chancellor*, and some enormous tubers of *Eynsford Mammoth*; some good *Ladybird* and *Criterion* Tomatoes, *Autocrat* and *Colossus* Peas, &c. (silver Knightian medal). Mr. Reynolds, Gunnersbury Park, Acton, staged twenty Melons, mostly of the *Hero* of *Lockinge* type. The fruits were larger than he usually shows, but that may be owing to the favourable season. The fruits were highly coloured and fit for table (silver Banksian medal). Mr. J. Chinnery, Downton Castle, Ludlow, sent some very fine *Lord Derby*, *Alexander*, *Mère de Ménage*, *King of the Pippins* and *Cox's Orange* Apples, *Marie Louise* Pears and *Plums*, the best being *Coe's Golden Drop*, very fine, *Pond's Seedling* and *Reine Claude de Bayay* (silver Banksian medal). Mr. Dibben, Tilgate Manor, Crawley, sent a good collection of Pears, some twenty-six varieties being staged. The best were *Pitmaston Duchess*, *Louise Bonne de Jersey*, *Marie Louise*, *White Doyenné*, very good; *Beurré Bachelier*, *Van Mons*, *Leon Leclerc*, *Conseiller de la Cour*, and some stewing varieties (silver Banksian medal). Mr. A. H. Rickwood, Fulwell Park, Twickenham, staged a large collection of Apples and Pears, having some nice dishes of *Colone Vaughan*, *King of the Pippins*, *Wellington*, *Albion* and *Frogmore Prolific Apples*; *Pitmaston Duchess*, *Durondeau*, *Gansel's Bergamot*, and *Catillac* Pears (silver Banksian medal). Mr. J. Crook, Forde Abbey Gardens, Chard, sent a small collection of Apples and some good *Coe's Golden Drop* and *Transparent Gage* Plums. Mr. Goldsmith, Leonardslee, Horsham, contributed a very good dish of *Pomegranates*, large and highly coloured. Mr. Lye, Cliffe Hall, Market Lavington, Wilts, sent a green flesh seedling *Melon*, but of no merit. A

large white-fleshed *Melon* was sent by Mr. McGrigor, Knightsbays Court, Tiverton, Devon, and a dish of *Duke of Albany* *Pea* came from Mr. Palmer, Andover.

The lecture by Mr. Iggulden on the "Causes of Failure in the Culture of the *Eucharis*" was very interesting. At the commencement the lecturer stated he did not intend to go at great length into the question of the mite or the pests that attack this plant, but the cause and a few words as to its remedy. Everyone will admit that of late years there have been more failures, and these were put down to the mite in most cases. All the trouble was not owing to this cause, as many who had grown these bulbs well previously often failed even when a fresh stock was secured. He gave an instance where some plants of grand proportions a year or two ago were now a total wreck. This was put down to the mite, but he differed, and would put it down to other causes, one being a too free use of the water-pot, as he thought there was no surer method of destruction than pouring on the bulbs large volumes of cold water. In dull weather the bulbs could not absorb this moisture; hence the beginning of failure and so-called disease. Mealy bug he felt certain was a sure cause of many failures, as once this pest got a hold of the plants it was difficult to dislodge. Often the destruction of the bug was the ruin of the plant, as the strong measures taken to destroy the pest were too much for the tender growth. It was often stated the *Eucharis* would produce three crops of bloom in one year, and to do this the plants were subjected to extremes of heat and cold, also drought. These extremes were often the cause of failure, as the bulbs had not time to build up a store of nourishment before they were called upon to produce a succession of bloom. Excessive drying off was also detrimental. He would advise a partial rest by lowering the temperature, but he found that the bulbs did best when kept in a growing state. Some growers to obtain large specimens over-potted; this was a sure cause of failure, as once decay of roots set in there was a difficulty in arresting its progress. Another source of failure was hard shaking out of bulbs when in full vigour. This was done at times to get the bulbs to grow more quickly, but it was harsh treatment, as the loss of the succulent leaves and roots was the beginning of failure. Bottom-heat was recommended by some growers, but he did not advise it. Of course, with weak attenuated bulbs extra warmth to produce root action may be desirable, but a strong, vigorous growth was better without bottom-heat. He did not recommend a fancy compost. Excessive use of manures tends to decay, and the fresh roots coming into contact with sour soil soon went wrong. He advised good yellow loam with a portion of bone-meal with ample drainage. Some could not always get the best loam, but his plants thrived well in what might be termed hungry loam with some old lime rubble added. He advised care in watering, using clear rain water, carefully watering during the first six weeks after repotting, and if it was found the plants did well in one house or position, he would be slow to shift into others. Many good growers had found out this as a cause of failure, as often in old or low houses plants thrived well, as in these there were small panes and partial shade; whereas in modern houses there were too much light and a drying atmosphere. The *Eucharis* likes plenty of shade. He had a large plant of *Stephanotis* covering the roof of the house in which he grows the *Eucharis*. He advised watering with clear soot water, this keeping the soil sweet. Watering with thick liquid manures closed up the pores of the soil and was the cause of much mischief. His plants stood on a staging resting on coal cinders; this latter retained the moisture and the staging gave free drainage. He also syringed the ashes with and the underside of the leaves clear soot water. He condemned the use of strong insecticides for washing or dipping. If at all dirty, sponging with tepid water with a very small portion of soft soap

in it was sufficient to remove the dirt or insects of any kind. Resting before the young leaves have matured their growth was not advisable, as this caused decay and a check to roots in an active state. To sum up, he contended that good culture was the best remedy against disease, and if a check was necessary to produce bloom, lower the temperature. He advised having plants in various stages if a long succession of bloom was required. He had plants in bloom at this time with nine large flowers on a spike; these he never rested.

Professor Cheshire went into the question from a scientific point of view, and stated his conclusions were the same as those of the lecturer. Disease, he said, was brought on by excessive moisture and extremes of heat and cold.

GARDENING AND FORESTRY EXHIBITION, EARL'S COURT.

SEPTEMBER 27, 28 AND 29.

THE competitive classes at this, the last of the series of shows for this season, were confined to fruits alone, the plants and cut flowers being therefore shown in the miscellaneous classes. The feature of the show on this occasion was undoubtedly the grandly grown and superb collection of *Nepenthes* or Pitcher Plants contributed by Messrs. J. Veitch and Sons, of Chelsea. From the same source have come in other years some remarkably fine exhibits of this family, but on no occasion have they shown a finer selection than this one, the plants clothed with pitchers of fine size. Twenty-five varieties were exhibited, twelve of which were hybrids and the rest species or variations of species. Prominent amongst the hybrids were *N. Mastersiana*, both the light and the dark varieties being represented by large plants having about three dozen pitchers on each; *N. mixta*, shown on the previous day at the R.H.S. and described in the report of that show, was again staged, and it was a peer among its fellows. *N. Dicksoniana*, another splendid hybrid, a grand specimen with twenty large pitchers, was a fine feature. *N. Chelsoni*, an extra fine hybrid; *N. Dominii*, another well-known one; *N. Courtii*, *N. intermedia*, large and fine, with numbers of its pitchers; *N. Morgania*, a choice kind; *N. cylindrica*, with large yellowish green pitchers; *N. Wrigleyana*, with large and distinct ones, and *N. Sedeni*, with its neat little pitchers, comprised the list of hybrids. Of the species there were *N. Burkei* and the variety *excellens*; the former distinct and fine, the latter a grand form of it, with its pitchers of rich markings; *N. Curtisii* and the form *superba*, the latter with pitchers of extra length and well developed; *N. Northiana*, one of the rarest of species, with pitchers of grand size and remarkably distinct; *N. bicalcarata*, with its brownish red pitchers. *N. hirsuta glabrescens* and the form called *rubra* were both in good condition; so also were *N. Hookeriana* and its variety *elongata*, both with large and finely marked pitchers. The well-known old *N. Rafflesiana* was in good condition; so also were *N. ampullacea vittata* and the major form. These complete the list, forming one of the most attractive exhibits seen this season. The gold medal was never more worthily awarded than to this exhibit.

Messrs. Veitch and Sons also exhibited several new and rare plants, *Orchids*, *Rhododendrons*, with cut hardy foliage well advanced in the autumnal tints. Of *Orchids*, which consisted chiefly of hybrids, there were *Cypripedium T. B. Haywood*, with fine flowers; *C. ananthum superhum*, having a profusion of flowers; *C. Niobe*, very distinct; *C. Mrs. Charles Canham*, the flowers large; *C. Bellona*, and one of the most recently raised hybrids, *C. Aphrodite*, a choice kind, with *C. Brysa* formed a good exhibit. *Cattleya porphyroplebia*, a distinct cross between *C. superba* and *C. intermedia*, and *Catasetum Darwinianum*, which comes close to *C. Gnomus*, if not identical with it, completed the *Orchids*. The *Javanico-jasminiflorum* *Rhododendrons* were represented by both cut trusses and flowering plants, the trusses being

large and the varieties distinct and showy; the plants were dwarf and carried fine trusses. The hybrid *Streptocarpus* were exhibited as plants on this occasion, and they are thus even more attractive and pleasing than when put up in bunches as cut flowers, the distinct colours thus being more clearly seen. *Amasonia punicea* and *Phrynium variegatum* were again shown, as on the previous day, still in good form; so also were *Veronica hybrida Purple Queen* and *Aglaonema rotundum*, *A. costatum* being added and in excellent condition. *Strobilanthes Dyerianus* was represented by plants well coloured. *Vriesia leodiniensis*, *Pandanus pacificus*, a massive species with bright green foliage, and *P. Baptistii*, devoid of spines, were also shown; likewise *Begonia Arthur Malet* in good form. A large number of cut specimens of ornamental shrubs with richly coloured foliage and trees with the autumn tints well advanced were also contributed; these were a study in themselves, the best being *Rhus glabrescens*, *Eucynurus atro-purpureus*, *Acer vittatum*, *A. palmatum sanguineum*, *Cornus sanguinea alba variegata*, *Ligustrum ovalifolium*, and *Cornus mas variegata* being a few of the best kinds.

Mr. Anthony Waterer, Knap Hill, Woking, again showed the beautiful examples of *Abies pungens argentea* and *Cedrus atlantica glauca* which in the position chosen for them were seen to better advantage than on the previous day at the Drill Hall meeting. Messrs. J. Cheal and Son, Crawley, showed *Dahlias* in large numbers of all sections, the same as at the Drill Hall with others added thereto; the central group of *Cactus* varieties was a most effective arrangement. A boxful of a new *Cactus Dahlia* called *Duchess of York*, the flowers of medium size and of a rich terra-cotta colour, was much admired for its distinctive character. Messrs. Keynes, Williams and Co., Salisbury, had a similar exhibit to that of the previous day of all classes of *Dahlias*, the *Cactus* section being particularly strong, and still quite fresh and bright. Mr. Rawlings, Brentwood, showed some good flowers of show and fancy kinds. Messrs. Cannell and Sons made a good and brilliant display of tuberous *Begonias*, which were fully noted in the R.H.S. report. Mr. R. Dear showed *Venidium calendulaceum multiflorum* (*Vilmorin*), and it was duly honoured as a new plant. The habit is remarkably dwarf (5 inches) and compact, being also most profuse in flowering, but not yet at its full beauty; the flowers pale yellow and single.

Messrs. W. Paul and Son, Waltham Cross, contributed a magnificent exhibit, in all ten boxes, of cut *Roses*, the most prominent amongst which were *W. A. Richardson*, *Boule d'Or*, *Princess May*, *Ulrich Brunner*, *The Bride*, *Francisca Kruger*, *Mme. Lambert*, *Horace Vernet*, *Miss Ethel Brownlow*, *Mme. de Watteville*, *Danmark*, *Mrs. J. Laing*, *Christine de Nougé*, *Duke of York*, *La France*, *Boule de Neige*, *J. B. Varonne*, and *Hon. Edith Giffard*—in all a most instructive feature and good guide for reliable autumn kinds.

Fruit.

Good as was the fruit staged last year here, it is questionable if ever there were so many grand dishes of fruit as on this occasion. Some of the dishes of Apples were superb and of higher colour than usually seen, no doubt owing to the favourable ripening season. On this occasion the tent was filled to overflowing with the competitive classes, and the large and miscellaneous collections were staged in the main building, occupying a large amount of space. Several well-known trade exhibits could not be received owing to the want of space, being entered too late. Messrs. Veitch staged a very choice collection of hardy fruit, obtaining the premier award. Messrs. Bunyard, Cheal and W. Paul and Son followed closely with similar collections, and there were also some very fine Grapes, Melons and vegetables staged.

A first-class certificate was awarded to—

PEAR BEURRÉ FOUQUERAY.—This partakes of the character of *Marie Louise d'Uccle* and *Duchesse d'Angoulême*, but is superior in flavour to the latter and a fruit of noble proportions. It is stated to be very hardy and most prolific, a valu-

able addition to the list of good dessert Pears. From Messrs. Veitch and Sons.

Open Classes.

In the open classes there was a spirited competition. Mr. Bunyard was first for twenty-four dishes of dessert fruits, and here was seen one of the grandest lots staged, not a bad dish being shown. Mr. H. Berwick, The Nurseries, Sidmouth, Devon, was second, having large fruits, but not so even or well coloured. In this collection were fine dishes of *Gravenstein*, *Fearn's Pippin*, and *Scarlet Pearmain*. In the open class for forty-eight dishes of cooking Apples there was a close competition; indeed, this was the best exhibit in many respects, as here were seen fruits rarely staged, the favourable season having been good for the shy bearers. Mr. Bunyard secured the premier award, having fine fruits, very even and splendidly finished, his dishes of *King of Tompkins Co.*, *Cox's Pomona*, *Gold Medal*, *Peasgood's Nonsuch*, *Cellini*, *Sandringham*, *Beauty of Kent*, *High Canons*, *Annie Elizabeth*, *Emperor Alexander*, and *Tyler's Kernel* being perfect specimens; second, Mr. Woodward, Barm Court Gardens, Maidstone, with only a point or two behind the first lot, his back rows of fruit being very fine. Mr. Scott was third with smaller fruits, but a meritorious collection. The English Fruit Co., Hereford, received an extra award in this class for a good lot of highly coloured fruits. For twelve dishes of dessert Apples, Mr. Bunyard took the lead with a fine collection, Mr. G. Woodward being a close second, his dishes of *King Pippin*, *Ribston*, *Cox's Orange*, and *Adams' Pearmain* being very fine. For twelve dishes of cooking Apples, the awards were reversed, Mr. Woodward coming in an easy first with twelve of the finest dishes ever put up; second, Mr. Bunyard, with good varieties, but smaller than the first lot. There was only one competitor for the table of hardy fruits arranged for effect, Messrs. Rivers, Sawbridgeworth, securing first prize for a grand collection tastefully arranged, having a selection of Apples, Pears, Peaches, Strawberries, Plums, Damsons, Crahs, Currants, Raspberries, Nuts, Medlars and a choice lot of seedling Pears, Peaches and Apples. In the Pear classes there was a great number of competitors and very few poor fruits. Mr. Woodward secured the premier award in the large collection, having grand fruits; second, Mr. G. Goldsmith, Leonardslee, Horsham, with fine fruits, having very heavy *Durondeau*, *Marie Louise d'Uccle*, *Doyenné du Comice* and grand *Glou Morceau*. Mr. Iggulden, Marston House, Frome, was third, his back row of fruits being remarkably fine, an extra award being given Mr. Allan, Gunton Park, Norwich. For twelve dishes, Mr. Offer, Handcross Park, Crawley, was first; second, Mr. Smith, Presdale Gardens, Ware. There were only three lots of orchard-house fruit staged, and in these there was outside fruit, stewing Pears being shown. Mr. Bunyard was first with a highly-finished collection; second, Messrs. Rivers. For three dishes of dessert Apples, there was a large number of exhibitors, Mr. Woodward being a good first, having a superb dish of *Washington*; second, Mr. Hall. For the same number of cooking fruits, Mr. Nicholson was first, having fine *Gloria Mundi* and *Warner's King*. The early season had exhausted the *Nectarine* crop, only two inferior dishes being staged and no awards given. Some very fine Peaches were staged, Messrs. Woodward and Rivers taking the awards in the order named. In the single dish of Peaches, Mr. Fairweather, Bifrons Park, Canterbury, staged very fine fruit, Mr. Woodward being second. There was only a limited lot of Plums, Messrs. Rivers staging three dishes of seedlings of nice appearance, and *Monarch*, *Coe's Golden Drop* and *Autumn Beauty* in the class for six dishes.

The Amateur Classes

were strongly contested, some very fine dishes in most of the classes being staged; for twenty-four dishes of Apples, eight dessert and sixteen cooking, Mr. Woodward was an easy first; Mr. Goldsmith was second with smaller fruit. In the class for twelve dishes, including four dessert varieties, there were eight collections, Mr. Goodwin, Maid-

stone, being first. For six dishes dessert, Mr. Chambers easily secured first place with fine fruits, having a fine dish of Nanny Apple; second, Mr. Potter, St. Clere, Sevenoaks. For six cooking Apples, Mr. Minifie, Sidmouth, Devon, was first with large fruits. For twelve dishes of Pears there was a great number of dishes staged, only one poor collection being put up, Mr. Goldsmith being first with very heavy fruits, followed closely by Mr. Allan. For six dishes there were ten collections, Messrs. Wiles, Dean, and Slogrove taking the awards.

Vegetables

were well shown. For twelve kinds to fill a space 6 feet by 3 feet, there were no less than seven lots, mostly good, the best being staged by Mr. Wilkins, Inwood House, Dorset. He had splendid Cauliflower Autumn Giant, Intermediate Carrots a trifle too large, Student Parsnip, Leeks, Main-crop Onions (immense bulbs), London Hero Potatoes, Celery, Perfection Tomato, Snowball Turnip, Empress of India Peas, Beet and Artichokes. Mr. Waite, Esher, was second with smaller examples, but very choice. Collections of Tomatoes were very fine, not such coarse fruit being staged as is sometimes seen. Mr. Ryder, Orpington, was first, having very fine dishes of Perfection, Trophy, Ham Green, Mayflower and Dedham Favourite, the Frome Fruit Company, Somerset, being a close second with grand fruits of Veitch's Ladybird, Potomac, Early Ruby and Ignatum. In the single dishes of red, Mr. Ryder was first with Perfection.

In the miscellaneous classes there was an enormous quantity of fruit staged, Messrs. Veitch taking the lead in the fruit collections, securing the highest award, a gold medal. They staged nearly 300 dishes of fruit of high colour and large size. Mr. Bunyard followed closely, having a great number of dishes, consisting of the best known kinds and some of the newer varieties both in Pears and Apples. Some heavily laden cordons formed the centre of the group, these being much admired; these were flanked by two dozen large baskets of fruit of great size (silver-gilt medal). Messrs. Cheal, Crawley, staged an enormous collection of choice Apples and Pears, having 200 dishes of Apples and Pears and fourteen flat baskets. The Pears were remarkably fine and the Apples of great weight and beautifully coloured (silver-gilt medal). Messrs. W. Paul and Son, Waltham Cross, staged a large collection of Apples and Pears with a background of Roses. This was much admired, the fruits consisting of leading varieties (silver-gilt medal). Messrs. Laing, Forest Hill, contributed a smaller collection of Apples and Pears, consisting of well known varieties (silver medal). Messrs. W. Innes, Littleover, Derby, staged two dozen good bunches of black Grapes, chiefly Alicante, Gros Colman, and Barbarossa (silver-gilt medal). Mr. C. Terry, Tatton Park, Knutsford, sent one dozen Pine-apples, some nice Queens being staged (silver-gilt medal). Messrs. Deverill staged a very large collection of their well-known pedigree Onions of great size and perfect finish (silver-gilt medal). Mr. Berwick, Sidmouth, had a good collection of Apples and Pears (silver medal). Messrs. Cannell staged the collection shown at the R. H. S. the previous day (silver medal). Messrs. Spooner, Hounslow, had a nice collection of hardy fruits (silver medal). Mr. Salmon, West Norwood, had a very good lot of vegetables (silver medal). Mr. Reynolds, Gunnersbury, Acton, staged the twenty Melons shown at the R. H. S. meeting on Tuesday (silver medal). Messrs. Rivers had a very fine collection of Grapes, consisting of Mrs. Pearson, Muscat of Alexandria, Gros Maroc, Mrs. Pince, Lady Downe's, Black Alicante (silver medal). Mr. Watkins, Hereford, staged a beautiful collection of hardy fruits, the Apples being remarkable for their high colour (silver medal). Bronze medals were given to Mr. Rickwood, Twickenham, for hardy fruit; Mr. Le Pelley, Ruspex, Sussex, for Grapes; Mr. Dibben, collection of Pears; Mr. Hester, Plumstead Common, for collection of hardy fruits; Mr. Strong, Essex, for collection of Tomatoes of good varieties; Mr. Goldsmith, dish of Pomegranates; Mr. Gregor, for

Pears; Mr. Mancey, Red Hill, for Pears of enormous size, ten weighing 17 lbs. 6 ozs.

A full prize list will be found in our advertisement columns.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the floral committee of this society was held on the 27th inst. at the Royal Aquarium, Mr. G. Gordon occupying the chair. Although the exhibits were few in number the quality was of a high order, and seems to promise much for the meetings later on. Mr. Godfrey, of Exmouth, staged a new seedling, Devonshire Lass, a large, white incurved Japanese flower, tinted yellow, but rather flat; also Mme. Edouard Rey, another of the same type, colour deep purple with a pale reverse. Mr. N. Davis exhibited a new Japanese called H. Shoemith, a very fine yellow flower of good size, similar to a primrose Mme. Marie Hoste. First-class certificates were awarded to—

PRESIDENT BORREL, a grand Japanese flower of great size and substance, raised by M. Ernest Calvat. The colour is a deep purple-amaranth, with a golden reverse, and petals of great length. Shown by Mr. Rowbottom.

GUSTAVE GRUNERWALD, described in our report of the previous meeting, was again brought up as a decorative variety in accordance with the wish of the committee. Shown by Mr. N. Davis.

MRS. C. B. MYERS, a fine Japanese variety, with drooping florets, colour white, tinted greenish yellow. A full sized, deep flower of capital form. Exhibited by Mr. Owen.

The weather in West Herts.—Until to-day (Wednesday), the past week has remained unseasonably cold both during the daytime and at night. On Friday in last week the temperature in shade rose only to 54°, while on five nights the exposed thermometer showed readings below the freezing-point, and on the coldest of these (Sunday) 4° of frost was registered by it. In my own garden no damage was done by this frost. Rain fell on five days of the week, and to the total depth of rather more than a quarter of an inch. The ground remains perfectly dry, no rain water whatever having come through the 2½ feet of soil in either of my percolation gauges for a week. On Sunday the sun shone brightly for over nine hours.—E. M., *Berkhamsted*.

Lilies from Colchester.—We send you a box of cut Lily blooms, taken mostly from plants growing out of doors, viz., *speciosum* Krætzneri, s. *Melpomene*, s. *macranthum*, and *tigrinum* Fortunei. Owing to the persistent drought, Lilies have had a bad time of it; their flower-spikes are short and the substance of the blooms thin where grown out of doors in the open. As regards pot culture, where moisture has been freely given it is quite different, and the blooms and spikes are very good. We have also included blooms of *Lilium neilgherrense* and *L. Henryi*. *L. neilgherrense* has flowered very freely with us and very early, but requires the aid of glass both to start it and to finish its growth. Imported bulbs, received late in spring in a shrivelled, poor condition, plumped up rapidly, started well to our surprise, and have now flowered freely, much better than could have been expected, thus showing that it is really a very vigorous Lily under proper treatment, but a cold, sunless summer is against it. The scent is very peculiar, like honey. *L. Henryi* has been grown by us both in pots out of doors and in the open ground. It is a grand doer. We received our bulbs from China in the middle of March last. They soon began to show above ground, and broke with us some six weeks later than those established at Kew. They are now in full flower some six weeks later than those at Kew. This Lily has evidently a very hardy constitution, and can stand drought well. It roots very freely, has dark green foliage and numerous flowers. It is, from these points

and from its novel colour, a grand Lily for the hybridiser. There are two points about this new form that we wish to dwell upon: Its very beautiful, broad, dark green central axes translucent like deep sea water, and the number of large processes of an orange-yellow colour which fringe these green axes.—WALLACE AND Co., September 20, 1893.

Apple Court Pendu Plat.—This is a pretty little Apple and keeps well, but the quality is not sufficiently good for dessert. When we have such varieties as Lane's Prince Albert and Wellington, which are of large size and keep equally as well, the small Apples on slow growing trees like Court Pendu Plat are scarcely worth cultivating.—E. W. B.

Proposed testimonial to Mr. Thos. Manning.—It has come to the knowledge of several head gardeners, through the press and otherwise, that Mr. Manning, who has been for nearly half a century so intimately associated with Messrs. James Veitch and Sons' establishment at Chelsea and elsewhere, is about to retire into private life, and the enjoyment of a well earned rest. The present is considered to be a fitting opportunity of offering to Mr. Manning some slight testimony in recognition of his courtesy and invariable kindness to gardeners on all occasions. Should any reader of THE GARDEN desire to avail himself of this opportunity of showing his appreciation of Mr. Manning's good qualities, the undersigned will cheerfully acknowledge any contributions that may be sent. Subscriptions, not to exceed 10s. 6d. each, will be received by the treasurer, George Wythes, Syon House Gardens, Brentford, London, W., or the hon. secretary, James Hudson, Gunnersbury House Gardens, Acton, London, W. By request the list is kept open till October 7.

Names of plants.—W. J. Mitchison.—*Ruellia macrantha*;—C. Clarke.—*Odontoglossum Lindleyanum*.—G. B.—*I. Cyrtomium Fortunei*; 2, *Asplenium furcatum*; 3, *Adiantum assimile*; 4, a *Selaginella*, too shrivelled; send again and dry flat; 5, send better specimens; 6, *Adiantum Meritzianum*.—H. M.—1, *Anemia adiantifolia*; 2, *Mohria thurifraga*; 3, *Asplenium Selsii*.—G. Archer.—1, *Retinospora leptoclada*; 2, *Thujopsis dolabrata*; 3, *Abies canadensis*.—C. James.—1, *Cattleya aurea*, good variety; 2, *Laelia elegans prasiata*; 3, *Odontoglossum Schlieperianum*.—J. Elliott.—1, *Pulmonaria officinalis*; 2, send again; 3, *Atriplex littoralis*.—C. Ames.—1, *Miltonia Peetersiana*; 2, *Oncidium Jonesianum*; 3, *Lycaste Skinneri*, light variety; 4, *Lycaste Skinneri*, dark variety; 5, *Aerides saaviusimum*.—I. of W.—1, *Habrothamnus elegans*.—Col. Paget.—*Paulownia imperialis*; the growth sent represent future flowers, which will open if late spring frosts do not injure the buds. —Blackadder.—*Lavandula Stachys*.—H. Baverstock.—*Plumbago Larpenae*.—Reginald Kelly.—Kindly let us see flowers.

Names of fruit.—H. S. Nevill.—1 and 2, not recognised; 3, King of the Pippins; 4, Ribston.—I. of W.—1, Fondante d'Automne; 2, Beurré Bosc; 3, Beurré Hardy; 4, Bleuheim Orange.—R. C. Coode.—1, King of the Pippins; 2 and 4, Blenheim Orange; 3, Fearn's Pippin; 5, Cox's Orange Pippin.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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All of our readers who are interested in the improvement of cottage homes are invited to help us to make Cottage Gardening known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill E.C.

No. 1142. SATURDAY, October 7 1893 Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather but
THE ART ITSELF IS NATURE. —Shakespeare.

ORCHARD AND FRUIT GARDEN.

APPLES FOR MARKET.

IN face of the extremely low prices realised for certain varieties of Apples this year, it may be worth some little trouble on the part of intending planters to study which kinds are likely to prove the most valuable in the future. Ecklinville Seedling is such a great bearer, and the fruit attains so large a size, that it has been extensively planted, and, judging from my own experience, many will wish they had planted it in smaller quantities. Various salesmen, both in the north and south, informed me that they had more difficulty in disposing of Ecklinville than any other sort. Being a soft Apple, it does not travel well, arriving in the market in a more or less bruised condition, and this season decay has set in almost immediately at the bruised parts, and buyers have fought shy of it after purchasing once. The good old Keswick Codlin is a favourite with many, but this I have always considered the most unprofitable variety I grow, for though it is most prolific, the average value is not more than 6s. per cwt. after deducting 1s. 6d. per cwt. for carriage, portage, and commission. This does not leave much profit for the grower when all home expenses are considered. There are many excellent kinds that are very popular with consumers (of the upper class) which will never pay to plant for market—for instance, Ribston Pippin, American Mother, &c., and it is important that growers should grow only a few varieties of good quality, large size, and handsome appearance. These, if marketed on proper principles, will not only pay well, but realise more than the best from the States or Canada. The following varieties have proved all that could be desired for market on our light sandy soil: White Transparent is a valuable early Apple, ripe about the end of July, first-class for cooking or dessert. The tree is a vigorous grower and very prolific. Coming into use so early, the fruit is a welcome change from Rhubarb and Gooseberries for tarts, &c.; consequently it has always sold at good prices. A capital successor is Duchess of Oldenburg. Like the preceding, it is of Russian origin; consequently it is hardy, and the tree a very free cropper. The fruit attains a fair size and most beautiful colour, causing it to sell freely. It must be carefully packed, as it is rather soft. Worcester Pearmain is so well known as a most prolific variety and producing such beautiful fruit, that any further description is unnecessary, beyond stating that the demand exceeds the supply every year. In spite of glutted markets, Worcester Pearmain has been in great demand this season, and for selling in large manufacturing centres no Apple equals it. Lord Suffield cankers so badly on some soils, that it cannot be universally recommended. Neither can Lord Grosvenor, as it produces so many small or malformed fruit here. A variety that promises to excel either is Cardinal. It comes into use about the same time as the two last named; the fruit is as large as Warner's King, with a bright crimson cheek, and is produced in

abundance. I have had many fruit's measure 18 inches in circumference. So far there is no sign of canker, and the growth of the tree is erect, sturdy, and covered with fruit-buds. Yorkshire Beauty answers admirably on our soil, bearing heavy crops of fruit. It always sells well, owing to its attractiveness. One of the largest fruit salesmen in the north informed me a few days ago that it sold better than any other variety in his market (Manchester). Pott's Seedling realises a fair price, and as the tree is an enormous cropper and the fruit large, it is worth planting; for smoky districts it has no superior. Frogmore Prolific crops heavily and is a desirable variety, but care should be exercised, as it will not answer on all soils. My favourite Apple is Lane's Prince Albert, which does splendidly here, producing immense crops of heavy fruit, which may be sold at any time from the end of September to the end of March, according to the state of the markets. A very good companion is Bramley's Seedling; fruit large and keeping well, tree a free bearer. King of the Pippins is excellent for market, and the following newer varieties promise to be a great acquisition, viz., Wealthy, Benoni, Bismarck, Gascoigne's Scarlet, and Sandringham, all of which have so far carried good crops of handsome fruit. W.

Strawberry Laxton's Competitor.—This is worthy of a trial. The fruit is large and it has stood the drought fairly well. It comes in just after Noble, and though not so prolific either in producing runners or in fruiting on the young plants as that variety, it is hardy, very robust and a fair cropper when the plants once get well established. It should have plenty of room on good soils.—E. W. B.

Top-dressing Strawberries.—Plants of more than one or two seasons' growth are greatly benefited at this season of the year by a good top-dressing. This has especial reference to light or thin soils, or where the plants are apt to suffer much from drought. It will have been noticed that the older ones were the first to collapse during the past season. To obviate this or to lessen it considerably, a top-dressing of suitable compost will be found of great benefit, this assisting in the formation of surface-roots near the collar of the plants. It will also have been observed that as Strawberries grow old, hard woody stems are formed, and it is these which are the first to collapse under a heavy strain of bright sunshine and drought. In very many cases the plants quickly flagged, and when this was the case, all hopes of securing a crop of fruit had passed. Before adding the top-dressing the surface should be very lightly pricked over, but not deep enough to disturb roots. A dressing of soot should be first applied. The top-dressing should consist of burned garden refuse, some well decayed manure, and any other soil that may be at hand. Old Melon and Cucumber soil, surface soil from Vine borders, or anything similar is what is needed, the whole being mixed and spread over the surface, working it also well in about the crowns. If a depth of 2 inches or thereabouts could be given, it would be both labour and material well spent.—Y. A. H.

Quality in early Pears.—By early Pears I do not mean those extra early varieties such as Jargonelle, Doyenné d'Ete, &c., but the varieties which are timed to ripen throughout September and October. These include Williams' Bon Chrétien, Beurré d'Amanlis, Souvenir du Congrès, Louise Bonne de Jersey, Fondante d'Automne, Mme. Treve, Flemish Beauty and a few others. The question is, which is the best method of growing these so that the quality may be so improved that they will be appreciated? According to my experience and observations in some other gardens, the quality of these varieties is best brought out by growing them in the open and away from the shelter of walls of any kind. I know it is some-

times recommended to grow them against an east wall, but in this position they do not receive sun enough. When the varieties mentioned above are grown in the open they receive the full benefit of the sun with a free circulation of air. Far better is it to occupy the space where either of the varieties are growing against a western or southern aspect with later varieties. Williams' Bon Chrétien and Souvenir du Congrès are certainly never so good in quality as when the fruits are produced from trees in the open, either standard or bush, and it is the same with that excellent hardy Pear Beurré d'Amanlis. Flemish Beauty, again, is excellent in quality this season. It is of no use to grow it against a wall; in this position certainly the fruits grow to a large size, but the quality is very poor. It is only since I took to growing it in the open that it has become satisfactory. The only two varieties which are improved by the protection of a wall are Beurré Hardy and Beurré Superfin, but on favourable soils and districts in the southern counties these are excellent in the open.—Y. A. H.

NOTES ON LITTLE KNOWN APPLES.

ALTHOUGH there is a very great number of sorts of Apples in cultivation, we cannot have too many provided they are worthy of attention and are a distinct gain when grown. Some sorts will succeed capitally in one county, while the same kinds will be looked upon as worthless in the next. A striking instance of this has just come under my notice. Here

BENONI is considered well worthy of extensive planting, so well does it crop and colour, while its habit of growth is all that could be desired, upright, and not too rampant. The fruit resembles King of Pippins very much in appearance, but is not quite equal to it in point of quality. It, however, has another virtue in that it ripens just when there is a dearth of dessert kinds ready for use. The early summer sorts, as Red Astrachan, Devonshire Quarrenden, and Irish Peach, are past, while such as Worcester Pearmain and King of the Pippins are not ready for use. In Kent, I am told it does very badly.

WEALTHY is perhaps, next to Peasgood's Nonsuch, the most shapely Apple we have. I have to-day gathered one fruit from a small tree bearing six others, which measures 1 foot in circumference and 3½ inches high. It is richly coloured all over, and certainly deserves attention in every respect.

CARDINAL, or, as it is sometimes named, Peter the Great, is an early ripening variety that must be valuable for market, as it is ready for use so early and of such a taking appearance. With me, however, its cooking qualities are not of the highest merit.

COUNSELLOR, or what is perhaps the more correct name, Greenup's Pippin, and by some named Yorkshire Beauty, is decidedly a handsome Apple. The fruit is large, smooth, deep yellow, with a deep flush of colour on the sunny side. It is a free bearer, and, what is of equal importance, its cooking quality is of the highest. It is one of those white-fleshed kinds that resembles a ball of flour when roasted, and yet firm. The smallest collection should include this.

BAUMANN'S RED REINETTE is one of the small or medium-sized dessert kinds, with exceedingly red skin, rendering it a showy and handsome Apple. It is a capital keeping sort and one of those desirable kinds in point of habit of growth, occupying but little space, the branches growing erect.

THE SANDRINGHAM is a somewhat new Apple, of free growth, bears well, and is most peculiar in point of colour, being a dense green until it changes to yellow after being kept some time. It is a late Apple of much promise.

QUEEN CAROLINE is of medium size, of exquisite shape and pure golden yellow even when hanging upon the tree. It is not a rampant grower, but is well adapted to a small garden.

HOLLANDBURY.—Those in search of an extra large Apple should cultivate this. From a two-year-planted tree I gathered twelve fruits, one

weighing just over 1 lb. In some districts it bears abundantly. A tree of it in this neighbourhood last year produced fifteen bushels of well coloured fruit.

GOLDEN SPIRE is a capital Apple to grow in a small garden where space is limited. It comes into use along with the early Codlins, as Lord Suffield and Lord Grosvenor. Golden Spire has an advantage, however, over those named in the matter of its keeping qualities, as fruit of it will last sound up to Christmas. The tree is of rather weak growth and needs spurring in rather closely to strengthen the branches. As it crops so freely, this method of pruning is suitable.

BRAMLEY'S SEEDLING is likely to take a high position amongst late varieties when it becomes better known. It is only within the last few years that its merits have been generally recognised. In constitution it is all that could be desired, and so it is in the matter of cropping. I know of no better sort to plant as a standard where late Apples are required and the position is at all exposed. In a young state also it bears freely. Fruits each nearly 1 lb. in weight I gathered this year on trees but three years from the graft. In strong soil it behaves admirably; the weight of fruit brings the branches downwards, keeping the middle of the tree open.

PINE-APPLE RUSSET is an Apple with a flavour peculiarly its own. As a mid-season dessert variety it is valuable, being ready for use at the end of September or early in October. It is of vigorous growth and does not fruit freely in its young state, but does so when well established.

SCHOOLMASTER is an Apple well adapted for small gardens, as it is not a rampant grower, bears freely and is of good cooking quality. The fruit is not extra large, and has a pleasing yellow skin with just a little colour on the sunny side. In strong soil the tree should be planted on a mound to ensure better drainage during the winter.

THE QUEEN is disappointing in some respects, being a little too flat in proportion to its width, which detracts from its appearance as a market Apple. In point of growth, cropping and quality it deserves high praise.

NANNY is much grown in this county and Sussex; it is an excellent dessert Apple, ripening as a rule in October, but this year it was ready for use in August, so peculiar has been the season. The fruit is of medium size, much resembling Ribston Pippin in flavour. It is an Apple worthy of extensive planting.

HARVEY'S WILTSHIRE DEFIANCE is seldom met with in private gardens; it grows to a large size, golden yellow skin with white flesh, an excellent cooking Apple. In form it is decidedly remarkable, having as it were five sides or parts.

TYLER'S KERNEL belongs to the section of conical-shaped fruit. The tree requires a good deal of attention in root pruning in its young state, as it is a vigorous growing kind.

Not only does the situation have a direct influence on certain sorts, but the soil is an important factor in the success or otherwise of certain varieties. Although some Apples will flourish in a heavy soil, many sorts are unable to bear the cold which soil of this character is liable to during the winter and spring. So much does it affect their maturation, that shoots made one season are killed during the succeeding winter. Where soil of this kind has to be dealt with, extra care in planting must be exercised; the trees should be raised above the level, their roots kept as near the surface as possible, just sufficient soil being laid over them to prevent their being injured by drought or otherwise.

E. M.

Bishop's Waltham.

The propagation of Strawberry plants.—This has been one of the worst of seasons for the production of runners, but if you have a limited quantity of any new or valuable variety which it is desirable should be increased with a view to growing an extended area speedily, it is quite possible to propagate a large number of runners in-

dependent of the weather by taking some care. First of all the plants should be put out, say 2 feet apart in rows, any time before Michaelmas, or, if laid in in a sheltered position this autumn, they may be removed with soil attached next February, and 6 feet will be none too much between the rows. The richer the soil the better, and as moisture is essential to success, a mulch of rotten manure over all the ground will prove beneficial. No other kind should be near, or if near, it must be divided off with slates or boards, for it is of importance that not a single plant of any other variety should get mixed with it. As the runners push out in spring they should be pegged down, or, better still, covered with a little soil at the joints, and in a dry time watering must be done thoroughly and systematically. Weak liquid manure is very beneficial, and there need be little fear of giving the plants and whole bed too much in a season like the present. When the runners are spreading and rooting, weeds must be pulled up—never hoed, and if you wish to have the greatest number of plants, the bed should not be disturbed before winter. The runners are planted out in February—the best month of the whole year for planting on a large scale, and if the original bed is required for bearing, the strongest plants may remain at proper distances. By this method I succeeded, when Noble came out first, in raising 2000 runners from fifty plants. The original plants were purchased at Michaelmas, laid in for the winter and planted out carefully in April; so that if your land is not ready, or the weather or other circumstances prevent, it is possible with this prolific variety to plant runners for fruiting or propagation at any time up to the middle of April, provided due care is taken in the lifting and watering.—E. W.

Pear Williams' Bon Chretien.—This is generally classed as a not very frequent bearer, but this, I think, is on account of growing it either on a wall or as a closely pruned in pyramid or bush tree. As a standard, under which form of culture it has more head room, it is a much more frequent and regular bearer, freedom of growth being much in its favour. As a freely grown bush, it is also much more satisfactory, especially if care is taken to thin out crowded branches in the autumn. This has been a good season for this Pear, it being much more melting than usual, especially where care was taken to gather the fruits before they changed colour. It will ripen up better than any other variety, even when gathered two, or even three weeks before it is supposed to be ready; consequently its season may be prolonged for a much longer period.—Y. A. H.

Pear Louise Bonne of Jersey.—This is one of those fine Pears which for September or early October use has few equals. In some gardens it is no infrequent occurrence to see several very old trees trained to walls on various aspects, although I do not consider it by any means an ideal variety for a wall, the quality not being nearly so good as when cultivated in the open. Grown under this latter form either as a standard or a bush on the Quince stock, and not allowed to hang too long before being gathered, it is really a delicious fruit, and, what is better, it does not go off nearly so quickly as the majority of early Pears. Where planters are on the look-out for fruit trees to plant for effect as well as utility, Louise Bonne of Jersey will be found suitable. As a standard it takes on a pyramidal form and towers upwards, its heavily-laden branches of ruddy-cheeked fruit showing up conspicuously. After the fruit is gathered there remains the highly coloured, bronzy crimson foliage.—H.

Storing Apples.—From all parts of the kingdom the same accounts are to hand—most abundant crops of Apples. Old trees that had long been given up as useless, young ones only recently planted, or those in their prime, are all loaded with fruit, and, as a matter of course, Apples at the present time are only realising low prices in the market. It is surprising, with the quantity grown in all directions, that they realise as much as they

do, considering that varieties which should be kept for mid-winter supply are gathered and sent direct to the market for present use, thereby forcing down the price of sorts that must be used lower than they otherwise would be. I have lately seen in quantity Blenheim Orange, Wellington, Lane's Prince Albert and other good keepers which only need storing for a few weeks until the glut of the midseason sorts are over. I fear that many have an idea that some very elaborately constructed fruit rooms are necessary, with tiers of shelves, &c., for laying the fruit out in single layers; whereas, this sort of thing is not only not required, but is by no means the best means of keeping Apples crisp and juicy until mid-winter or even far into the spring. My plan is to sell all early and midseason varieties either direct from the tree or after they have been gathered about a fortnight, and only to store those that will keep for some time. It is a mistake to gather these too soon, for if some drop, it is better to utilise them as windfalls than to spoil the whole crop by premature gathering. By leaving until fully ready for storing, all maggot-eaten fruit will have dropped and nothing but sound fruit be left. These if gathered with care and put into barrels, boxes or bins, or even into large heaps covered with straw, will keep far better than on elevated shelves. It is useless expecting townspeople to store fruit or anything else, as the space at their disposal only allows them to live from day to day, and the storing must be done in the country. It is playing into the hands of the foreigner and importer to rush late Apples on the market and sell them for little more than half their value.—JAMES GROOM, *Gosport.*

COARSE FRUIT.

"FRUIT GROWER'S" most sensible remarks on this (p. 240) are, unfortunately, very far from being out of date. Since the sensible test of tasting as a test of quality has fallen into abeyance, size has had the cream of many great shows. Of course, it was very trying to exhibitors to have their choice fruits hacked out of selling form or value through the testing and tasting of jurors, who insisted that the proof of the fruit, as of the pudding, lay in the eating of it. Occasionally, too, the tasting was carried to extreme, as once at a great show at Manchester, when all that remained of a first prize Melon exhibited by me was a few slices of rind and fewer seeds; but the quality was so superb, that the jurors, and their friends could not resist the temptation. But generally careful tasting does not involve demolition or serious disfigurement. Of course, it lowers or destroys the selling value of the fruit; but what of that? The honour of prizes, to say nothing of their value in hard cash, is supposed to be a sufficient compensation for the loss of or injury to the fruit. I do not deny that not a few of our most experienced judges may award prizes according to merit without tasting it there and then, but such awards of precision can only be arrived at through a long series of previous tasting and the most careful assessment of the character and condition of the fruit before the judges; hence, judging by appearance is far more difficult and needs a larger stock of fuller, riper knowledge than judging by direct cut and taste on the spot. The fruit is saved, its selling value preserved at the cost of the jurors' brains, and at a greatly increased risk of failure. That is assuming that the jurors are familiar with the merits of special varieties and with their appearance when in the most perfect condition. For example, such judges will be in little danger of confounding the bloom, colour, size, and quality of such Grapes as Hamburgh, Alicante, Gros Maroc, Madresfield Court, Muscat of Alexandria, Foster's Seedling, or Buckland Sweetwater. No experienced judge

would pit the special merits of either of these Grapes one against the other, as is so often done, to the great wrong of exhibitors and the serious discouragement of horticulture. To make my meaning clearer, I may say that there are some judges who will place almost any Muscat Grapes before the very best and white Grapes of any other sort, and who have such a craze for bloom, that they will place indifferent Alicante, Lady Downe's, or any other sour Grape over the heads of the most luscious Hamburgs. Bloom, as a rule, is prodigiously overrated, and yet all experienced cultivators are well aware of the fact that its maximum amount or density is seldom found abreast of maturity—that is, quality. A certain, I had almost written a considerable, amount of acidity is well nigh inseparable from the heaviest coating of bloom, and yet how many award prizes to Grapes for bloom chiefly. Doubtless it is beautiful in its way, and may even indicate careful finish, handling, and carriage, but it is at best but a flimsy as well as an evanescent basis of quality. And as for big Peaches, where shall we find any to beat in flavour the Royal George, Noblesse, or Grosse Mignonne? I agree with "A Fruit Grower" that judges of late seem to have had a craze for size among Apples, Plums, and Pears, especially Plums. It is marvellous to have seen the high place given to Pond's Seedling, Prince Englebert, Diamond, White Magnum Bonum, and Goliath, in open classes of Plums, while the luscious merits of Coe's Golden Drop, Jefferson, Kirke's, Oullin's Golden, and the Gages, Green Transparent, &c., seem to have been overlooked or underrated. A good deal of this might easily be prevented by the classification of Plums into the two classes of cooking and dessert, while simple tasting in open classes would give a fair chance as against size. D. T. F.

FIGS FOR FORCING.

I HAVE much pleasure in supplementing my note on the above, as requested by "D. T. F." (p. 253). I only mentioned two kinds of recent introduction in my note because many growers of this fruit have not had an opportunity of testing the value of these varieties. The note by "D. T. F." finishes with the remark that good culture is the best preventive of dropping, and I agree with it. Some varieties are worse than others in this respect, but under pot culture there is a certainty of a crop, provided there is attention to details, as under pot culture several kinds succeed which are otherwise useless. I am of opinion that there are few crops which better repay good culture than Figs, as good fruit may be had eight months in the year. It is not wise to allow forced plants to continue to fruit and exhaust themselves if required to force early the following season, as a certain amount of rest must be given.

With regard to "D. T. F.'s" question as to the merits of the older varieties, I would place Brown Turkey at the head of the list for most purposes. I admit it does not come first on the list for flavour. I would give Bourjassote Grise or Monaco Bianco the preference for flavour, but the latter are not so reliable as Brown Turkey. In placing Brown Turkey in so exalted a position I may be taken to task. From close observation I am of opinion there are other points to be considered. Are there not various forms of this variety, some far superior to others? Indeed, I have seen so-called Brown Turkey small and even third-rate as regards flavour. We have an old tree planted at the back of a vinery that gives mag-

nificent fruits, and in quantity, whilst its near neighbour is much inferior in every way. Of course we do not perpetuate the stock of the latter, but being large trees one cannot get rid of them in a hurry. In this case soil cannot have any influence on quality, so that, as previously remarked, there are good and bad varieties of Brown Turkey. I fail to see any difference in any way in the last named and Lee's Perpetual and Osborn's Prolific. Mr. Barron, who grows this fruit to the greatest perfection in pots at the R.H.S. Gardens, Chiswick, classes them with Brown Turkey, and he has tried nearly seventy kinds, so that with its numerous synonyms the original stock may have deteriorated in places, and under the circumstances it is best to get trees from a good source. Our next most useful Fig is the White Ischia. There is a serious objection to this variety on account of its small size, but the tree is very prolific, the fruit of first-rate quality and early. It is a shy first cropper if the wood is not hard stopped and plenty of light allowed. We have trees of this kind which have no doubt been planted nearly forty years that bear enormous crops; this is also a grand variety for pot culture. I do not consider the Black Ischia of so good quality as the white, so do not grow it in quantity. Early Violet I do not care for, owing to its small fruit and inferior flavour, though it is a great bearer under pot culture and a good forcer. I prefer the Black Marseilles, a small fruit, but richly flavoured. White Marseilles is a good forcing Fig either in pots or planted out, and was one of our most useful pot varieties. Of late I have not grown it, as the St. John, one of the newer introductions, proves a better fruit, being richer and not so watery as the White Marseilles, and more prolific. I gave Nebian a trial last season; it is a large showy Fig with a deep green skin and bright red flesh, very rich and free bearing, but it is useless to force it early. The fruit also splits badly. Brunswick, a variety "D. T. F." mentions, I can recommend for early forcing in pots. It is a Fig of great merit, but second-rate in quality. It is excellent for a warm wall in the open, where this fruit succeeds. I grow the early trees in 12-inch to 14-inch pots, and keep them dwarf, as I force the pot trees in small pits, and by propagating or purchasing occasionally newer kinds I keep up a succession of young trees. Plenty of good yellow loam well mixed with old mortar rubble is a good compost, using manures sparingly in the soil. Firm potting and plenty of food in a liquid state when in fruit are essential. I never saw pot trees look better than they do this season, the wood being well ripened and a mass of fruiting spurs and shoots. These are now standing in the open, the roots being protected from heavy rains and frosts. G. WYTHES.

Apple Annie Elizabeth.—Even in this bountiful season of Apples there are some varieties which show up conspicuously. The above-named variety is one of them. This has done well with me this season both on young standards and freely grown bushes. As an orchard standard to produce fruit for storing for late use it is one which I can well recommend.—Y. A. H.

Apple Gibbon's Russet.—This, to my mind the finest of all midwinter or late-keeping Apples, I must again refer to in order to put "D. T. F." right as to what I may have left unsaid in any previous notice. I never intended to convey the idea that placing the fruit in a close drawer for a period was for any but the one purpose, viz., the getting the fruit's most unique perfume. As regards the term "Cherry Brandy Apple," this needs supplementing, as the fruit was known in other localities as "Syrup and Brandy."

The Apple is highly coloured this year in old orchards where the soil rests on limestone, but the trees are worn out.—W. BAYLOR HARTLAND, Cork.

Apple Peasgood's Nonsuch.—In my note on the above-named Apple (p. 273) a curious mistake occurs. I am made to say, when recommending it for standard culture, that the fruits are "not so large as those produced from the more highly 'cropped' bush trees." The sentence should read "more highly 'cultivated' bush trees."—A. YOUNG.

Apple Hambledon Deux Ans.—"A. D.," in his interesting article on "Old Apple Trees," refers to the Hambledon Deux Ans as being a most valuable late Apple, a statement I quite agree with, that is, when produced from trees growing on a warm soil in a favourable climate. During the spring months it is of excellent flavour.—A. Y.

Russet Apples.—Never have I seen or tasted better Russet Apples than in Herefordshire, where the trees were growing on a warm site, the soil overlying the old red sandstone formation. Here on a clay soil the Russet Apples will not thrive nearly so well as they used to do there, and this I find is a general experience on cold soils. The Brandy Apple or Golden Harvey, as spoken of by "D. T. F.," is a beautifully flavoured little Apple. Both Royal Russet and Golden Russet are excellent varieties on suitable soils, but I think the palm must be given to Egremont Russet, which is a beautiful looking Apple and of excellent flavour. It is hoped that planters will not neglect the Russet Apples where they can be grown well.—Y. A. H.

GRASS DRIVES AND WALKS.

IN the larger country places the often noble opportunities for beautiful woodland drives are not always seized; it is often because people have the primitive and wholly inartistic idea that the proper way to make a drive is to plant two or four lines of trees along it. These are usually planted far too close at first, and as the trees are in nine cases out of ten never thinned in time, the whole thing ends in a gloomy tunnel without air, light, shade, or life. Even where the avenue is not the "leading feature," drives through woods and parks are too narrow! Noble effects might be got by breadths of low covert or fern on each side of the drives. These drives should take the lines of easiest grade and the best for views where possible. There is no reason why they should not pass under trees here and there, but generally a better effect is got by keeping the stately groups and trees a little off the drive itself, and having fine groups of hardy shrubs and carpets of things as a foreground to the woodland picture.

Here and there, as at Penrhyn, we have seen beautiful gardens of wild Ferns coming near the drives, and there is a lovely example at Powys of the value of our native plants in the foreground of a really picturesque drive. But by a little forethought we might easily get finer things in this way—Fern, Heath, Foxglove, or Willow Herb, wide sheets of large Ferns with breaks of wild Roses, large and rambling colonies of Sweet Brier, lovely fields of native Heaths, double Furze, as well as the common kind, Broom on warm banks and hills, Partridge-berry for the hollows and half-shady places, and a host of beautiful things that would spread about and give excellent covert and pretty effects. Of regularly formed

drives and roads there are three times too many in most large country seats. We mean those of gravel, flint, or other stone. It is very good economy to reduce them to the needs of the place. All places are uglier for being beset with gate lodges, usually ugly in themselves, and leading to needless cutting up of beautiful ground, increase of gates, and the springing up of the iron fiend in every direction. As the artistic and true way is to reduce as much as possible these needless drives, either made through vanity, or to save five minutes, let those we keep be as good in grade and view as we can make them, and have many pictures by them.

GRASS WALKS.

What we never have enough of is grass walks and drives. When we want a way merely for our own pleasure or convenience, by far the best thing is often a grass drive or walk through pretty woodland scenery, park, hill, or by stream or river. A delightful privilege which English gardens have and few others possess is that of having grass walks of the finest texture and verdure. At Holwood, in the late Lord Derby's time, it was pleasant to see the great range and the delightful charm of the grass walks there. Around our houses we must have good firm walks; but once free of the house and regular gardens, one may break into the graceful lines of grass walks without injury to anything. Some say that they like dry walks in winter. The gravel walk is not much drier than a well-made grass walk, but as people use their gardens in summer most, it does not matter so much. Even in heavy soils grass walks may be delightful throughout the greater part of the year, and on dry soils grass walks are as dry at all times as those made of gravel.

It is not only the effect of grass walks that is in their favour—they are a great economy. These grass walks can be cleaned with one-fourth of the labour which the gravel walks take. In many gardens, where there are now gravel walks, a much better and happier effect would be got by good turf walks. But, free of the garden, it is rather in the rougher parts of the pleasure ground and about the park that grass walks are made with the best results. They should be taken in the most picturesque and interesting lines. The line of ground should be studied both for ease in walking and mowing, and for the sake of the best views. Nothing in gardening rewards us so well as well-considered grass walks. To reduce gravel walks to the necessary area, grass walks in many positions where gravel walks are used enable us to do this. If, as we hold, the walks about the house are reduced to the often strictly necessary dimensions, it is surprising how much the old and wearisome trouble of hoeing is done away with. The toilsome labour of ripping up walks, raking, and hoeing seen in so many gardens need not, happily, go on. It only makes matters worse by softening the walks for the weeds, and is a serious labour for the men in the hottest season.

Having got our grass drive or grass walk, what shall we place beside it? Our common British plants are as fair as any others. Sometimes we see as beautiful groups of Fern, Heather, Thorn, and Bramble as one could see in any country. Still, those who care for the plants of other countries have a charming opportunity of adding other pretty things to our own wild flowers.

There is a great difference in places as regards wild flowers and beautiful effects from native shrubs. Some may be full of beautiful shrubs and trailers; others have very little. What a place has in this way depends upon the cultivation and the quality of the land and other conditions which need not be gone into—it is enough to know these differences exist. Where the natural vegetation is poor, there is all the greater need for adding beautiful things of easy naturalisation. Our wood Anemone is pretty in the fields and groves in spring, but the blue Apennine Anemone, which is quite hardy, gives us a wholly distinct and charming colour; and so with many other things. Then the high mountain plants of the Alps of Europe, to whose flora these and many other early flowers belong, give us a precious gift in earliness. The Crocus, early Narcissus, and the Scilla all come before our own vegetation is awake, while nearly all are as hardy as our own native flowers. Then there are the many hardy climbers which, if we care to put them about or against trees, would be quite as beautiful as any native climber, of which the number is small. The Indian mountain Clematis is hardy and as easy to establish as our native Clematis, while we think it is much more beautiful; in fact there is no end to the beautiful exotic things one may add to our own flora in such positions.

The prettiest group of shrubs we ever saw was an immense group of the common Barberry in fruit at Compton Winyates, weeping down with glowing colour.

Much may be done in the direction of grass walks to take them not only where the views and landscape charm us, but also where the native flora shows itself best. Very often our common Ferns in the west country and in moist districts make themselves great ferneries which ought to be seen. The idea that the fernery can only be made with heaps of old stone or other rubbish is too absurd to be worth disputing. The plants rarely ever grow in that way, and certainly not the most vigorous and effective of Ferns which make evergreen covert and give such cool and beautiful effects. There are also a number of fine hardy North American and other Ferns tempting us to naturalise them, but for all artistic ends our native Ferns are sufficient as far as effects by drives are concerned.—*Field*.

THE "FLOWER GARDEN" AT KEW.

We hope the improvements so manifest as regards hardy flowers in many parts of the pleasure grounds at Kew will not stop at the flower garden in front of the Palm

house. Two large beds of common Beetroots form the central feature of this, and masses of flowerless Pelargoniums and dots and stripes of red and blue are not worthy a place as a flower garden in the Royal Gardens at Kew. If the idea exists that a garden in such a position cannot be made beautiful through the aid of nobler types of vegetation, it is quite erroneous. That is a position above all others in which beautiful things, gracefully grouped and well grown, would tell best. The scarlet Pelargonium in the dry soil of Kew is as well worthy of a place as any other flower, but it is only one of the many beautiful things that should find a summer home there. Some of the prettiest beds of half-hardy flowers in the parks might well find a place here, and are far before the Beetroots, &c., of the present year. In such a flower garden it would be well to use the best of the half-hardy flowers also. Moreover, where the collection is so rich in sub-tropical and other half-hardy Palms, Oranges, Oleanders, Datura, and many beautiful plants which enjoy, and are all the better for, a sojourn in the open air during the summer, it would be well to make artistic use of them, and put them in groups not only in the flower garden, but also in the unused parts of that waste of gravel around the Palm house.

So, too, that piece of water between the museum and the Palm house should be a garden of handsome water flowers which to Victoria regia house in the world would equal in beauty. Not only Water Lilies and beautiful water flowers of the northern world have we to enrich such water now, but, owing to our friend M. Latour-Marliac, we have a noble series of hardy hybrids, groups of which in such a position would give delightful pictures. The unclean water-fowl should be taken somewhere else—to the Zoo, perhaps. The banks of this water should be planted with the many fine plants, such as Spiraea venusta, which delight in the waterside, flower at the same time as the Water Lilies, and would form with them a garden worth seeing. The flowering herbaceous plants for the waterside are numerous and handsome, and, seen in bloom at the same season as the Water Lilies, give effects which few people have any idea that gardens are capable of. Then, after the Iris and Globe Flowers, and other handsomer flowers of the waterside, there are many plants with fine habit, as the Gunnera, great Reeds, some hardy and free Bamboos, Royal Ferns, great Water Duck and Bulrushes, and the more graceful and smaller Reeds, Arrowheads and Reed Mace. We not only wish these things for themselves, but for the good it would do in the minds of the many people who see Kew. Unhappily, the idea that a flower garden can only be formed of a few things in a stiff way is still very common even in the "fine places" in the home counties, and a real flower garden at Kew would do much to dispel it. Thousands of gardens would be influenced for good if the right thing were done in the flower garden at Kew; and it is very easy to do it there.

W. R.

POWIS CASTLE.

OF the many gardens we have seen, very few give us the pleasure of Powis—first, because of its noble drive through great Oaks with breaks of Fern between, so unlike the dark inartistic avenue which spoils so many places. The light and shade and the noble forms of the trees, and also their contrast with fine-grown vegetation, make them ten times more beautiful than any primly set-out avenue. The flower garden itself is very beautiful, partly owing to its position, which is that of a real terrace garden—*i.e.*, the ground falls so steeply, that terracing is necessary. These terraces were, as they should be, wreathed with Clematis and beautiful with shrub, and flower, and life, a picture of what a flower garden should be.

A friend who has recently visited Powis sends us the following description of the garden and grounds:—



Powis Castle, Welshpool. Engraved for THE GARDEN.

Powis Castle is a few miles inside the Welsh border, and close to the old town of Welshpool. It occupies a most commanding and picturesque position on the crest of a bold eminence, from which the several passes in and out of the Principality can be seen, a fact of great importance in the old days of feudal strife. The extent and variety of the views obtained from the castle heights are charming in the extreme. The Breidden Hills tower majestically in the distance in the direction of Salop, and the windings of the Severn carry the eye through the fertile valley away into the several Welsh ranges in the opposite direction. As the original name, "Castell Coch," signifies, the castle is built of red sandstone, and the formation upon which it is founded is of the same material. The terraces, too, of the famous hanging gardens are literally hewn out of this red rock, which forms the walls, for the most part unaided by masonry. Indeed, an artificial height is given the castle by the great depth of its foundation being cut away nearly perpendicular from the

masonry for the formation of the highest of the three terraces. Glancing over a balustrading from the castle level on to the terraces beneath, the scene is gorgeous, and we are struck at once with the harmonious blending of the flowers and their surroundings, and one very marked improvement we note has of late been made in this respect, namely, the substitution of a warm red gravel on the paths for a very cold and ineffective grey material. A very happy idea has been adopted in regard to colours, the three terraces having each its predominating colour, viz., the lowest white, the middle yellow, and the highest purple; not that other colours are excluded in either case, but these characteristic tones are maintained all through.

Entering the lower terrace by means of a winding pathway, and through an entrance in a pathway of stately Yews, the effect is dazzling. A broad pathway runs from end to end of the terrace, deviating only where it encircles an oval bed on a broad platform in the middle,

and on either side broad borders are richly and tastefully furnished in charming variety. A feature of this terrace has been for years a number of dome-shaped trellises 8 feet to 10 feet high covered with Clematis Jackmanni, and recently the effect has been heightened by the introduction of many more trellises and other light-coloured varieties of Clematis. Here and there a blaze is produced by the aptly called Flame Flower (*Tropæolum speciosum*), which is induced to cover a few branching sticks loosely, and to suspend therefrom in graceful festoons of brightest colour. Pyramids of Sweet Peas are very noticeable, too, among the wealth of the most deserving perennials and choice annuals which back up the bedding style proper, the latter consisting of a very dark and dwarf Lobelia as an edging, behind which is a very fine white tufted Pansy, backed again by West Brighton Gem Geranium. This arrangement is carried throughout this terrace with the exception of the centre oval bed referred to, which has also the same Lobelia

for edging and the same white Pansy, backed by the old Vesuvius Coleus, then a broad band of Flower of Spring Geranium and a band of Lobelia cardinalis intervening between these and clumps of Tritomas, Dahlias and other sturdy subjects, with an elevated vase in the centre, from which *Tropæolum canariense* gracefully depended. To the back of this bed is a conservatory-fernery, the roof of which forms the pathway of the next terrace. This house was occupied by some interesting plants and Ferns. In another bed to the front of the oval we notice a very pretty though simple arrangement, consisting of H. Jacoby Geranium (crimson) and a good white Geranium dove-tailed into it, backed by yellow Calceolaria. Although design and method are abundantly apparent, there is no air of formality in any of the arrangements, the stiffness of lines, &c., being quite broken by the Clematis, &c., already mentioned, supplemented by Roses, standard and dwarf, Sunflowers, Solidagos, Golden Arbor-vite, Silver Elders, Irish Yews, Hollies, Japanese Maples, Tree Peonies, Tobacco plants, &c. The walls of this terrace are furnished with Roses, Clematises, Pears, Peaches, Nectarines, &c. In the latter cases crops have been exceptionally good this season and the trees are in capital condition. On the next terrace are some more fruit trees on the walls, and more Roses too, and, what is not seen every day, a fine plant of Pomegranate, which flowers freely every season. Magnolia conspicua, too, is good. There are also fine plants of Wistaria sinensis. This terrace is considerably narrower than the first and differently arranged. From the centre to one end, the higher side of the walk is finely planted with Carnations in splendid variety and rudest health. The other side contains among other herbaceous plants Gladioli, &c., and a capital representative collection of Helianthus. Extending from the centre in the opposite direction, among a number of closely clipped Yews and a few remarkable specimens of Irish Yew, are Dahlias in large quantities, Roses, tall growing herbaceous plants, with semi-circles, the band of which is formed mostly of Coleus and Flower of Spring Geranium, and the interior filled with one subject in each space; sometimes tuberous Begonias, which do well, Geraniums in colours, fine-foliaged Geraniums, &c., the semi-circles at intervals on both sides creating quite a striking effect. I had almost forgotten the early-flowering Chrysanthemums and the Fuchsias, which are doing splendid service here; also the clumps of Pampas Grass that add considerably to the general effect.

Ascending to No. 3 terrace, we find still further surprises in store. Beds of Geraniums worked in four distinct colours, and the beds themselves in pairs, prepare us for more formal designs which we find in several distinct beds of pretty and effective colours, worked with Lobelia, Alternanthera of sorts, Mesembryanthemum, Sedum, Echeveria, &c. The most effective bed to our mind and according to the expressed opinion of our genial guide was a round, somewhat large bed with a groundwork of *Tropæolum Mrs. Clibran*, with an edging of purple Pansy and a light dotting of a somewhat dark coloured Fuchsia. The lovely warm golden colour of the *Tropæolum* in such a mass was very effective. Cactus Dahlias are evidently favourites at Powis Castle, and are represented by a very fine collection. Among other things not already enumerated the following are conspicuous: Scabious in good variety, Love-lies-bleeding (red and white, the latter being a favourite of Mr. Lambert), Everlasting Flowers

of all kinds, *Centaureas*, *Convolvulus*, *Mari-golds*, *Asters* everywhere, *Stocks*, &c. The varieties of *Geranium* principally used are Lord Eversley, Queen of the Whites, Ferdinand de Lesseps, Henry Jacoby, Flower of Spring, Vesuvius, West Brighton Gem, Avalanche, Master Christine, Black Douglas, Lady Cullum, Prince Silverwings, *Sophia Dumaresque*, &c.

Several of the large Yews that skirt the castle have recently been pruned in considerably, thus affording views long hidden. Much judicious thinning and pruning have been well carried out of late both among these fine old Yews and other trees. Among the former splendid trees there is one whose branches had overgrown the path, and by continual clipping has become quite a summer-house, wherein a seat has been placed, which doubtless is much resorted to as a curiosity as well as a shade. Leaving the flower garden by the opposite end from which we enter, we pass some useful pits and houses for the propagating and storing of the immense quantities of bedding plants necessary in such a garden, and one old structure we find has been considerably altered and improved by replacing flues with hot water, &c., and here we find a splendid young plantation of Vines, among them being some of the recent new varieties. Underneath, on stages and in specially designed wall pots, are a capital lot of Maiden-hair Ferns much in demand for decoration.

From here we are conducted by the end of a pretty dingle into a fine woodland called the wilderness, which is for the most part on a summit running parallel with the hill on which stands the castle. Immense trees are luxuriating here, and in the shelter afforded by them are clumps of *Azaleas*, *Rhododendrons*, *Skimias*, &c., of quite unusual dimensions. Much has been done here during the last year in the way of thinning and opening out of glorious views to the opposite hills, &c. A grand view of the fine old Castle of Montgomery has thus been obtained, and more remains to be done when time permits. In the kitchen garden there are fine breadths of Strawberries, and quantities of these in pots for forcing. Here, too, is a fine hatch of *Callaæthiopica* and *Calla Little Gem*, the latter flowering, and both promising abundance of bloom later on; *Solanums* also planted out and loaded with berries. A large plantation of Cabbages; Ellam's Early, Battersea and Heartwell are planted 1 foot apart. During early spring every other is cut away, allowing the remaining ones 2 feet space each way. Batches of Bouvardias and other winter-flowering stuff in frames, and particularly a fine lot of *Cyclamens*, are in splendid condition, and batches of *Amaryllis* are equally good. *Gardenias* plunged in cocoa-nut fibre and useful batches of *Poinsettias*, *Carnation Souvenir de la Malmaison*, winter-flowering *Begonias*, &c., are all in the best possible condition, awaiting their own times of flowering. The old vineries are being renovated piecemeal, a policy that secures a crop during the renovating process; indeed, a crop of Grapes here is quite indispensable. The newly-planted Vines in these several vineries are making good progress notwithstanding the crowding occasioned by a stock of fruiting canes in pots that have done excellent service by the weight and quality of their produce. There is a lean-to house in two divisions for the early batches of pot Vines, from which Mr. Lambert secures a remarkable succession of crops in addition to Grapes. Whilst Vines occupy the centre bed, Strawberries crowd the stages near the glass front and back, giving way in their turn to Tomatoes, which share the roof space with the Vines,

until the latter in their turn are after fruiting consigned to other quarters. Then the bed is filled with fibre or other plunging material for the reception of a splendid batch of *Amaryllis*, the Tomatoes being kept on during winter, and French Beans, &c., filling whatever gaps there may be until the Strawberries, &c., demand their own place again. Pines, embracing Queens and Smooth Cayennes, are in the most perfect health.

Miscellaneous plants for decorations fill several houses, *Calanthes* being particularly good in one of these structures. A fine lot of early-flowering *Chrysanthemum* Mme. Desgrange was carrying quite large blooms under the shelter of some old lights that were raised on stakes, leaving the front and sides open, and a little further along some hundreds of the later kinds in bush form for cutting, beyond these being several hundreds more of dwarf, stout, healthy plants for the production of large blooms.

STOVE AND GREENHOUSE.

BOUVDARIAS.

As flowering plants for the greenhouse the different varieties are very valuable, and where there is a demand for the choicer class of flowers for button-holes, sprays, wreaths and similar purposes, Bouvardias are extremely useful. Blooms of them can be had to a limited extent almost throughout the year, but their regular season of flowering is in the autumn and winter, when, of course, they are more appreciated than at any other time. For winter flowering the cuttings are usually struck early in the spring, potted off as soon as rooted, and grown on during the summer months. Different methods are followed by cultivators, for by some the plants are kept altogether in pots, and by others planted out in a frame (under which conditions they will grow with great freedom) and carefully lifted and potted in the autumn. When this last is carried out, the plants should be kept close and shaded from very bright sunshine till they have recovered from the check of removal. The nurserymen that grow Bouvardias in large quantities, as a rule, keep them altogether in pots, for neat flowering specimens may be had in pots 5 inches in diameter; whereas, if planted out they would receive so great a check to get them into pots of that size that the plants would suffer greatly, and large pots are, as a rule, not appreciated by buyers. Large specimens for conservatory decoration where pot-room is no object can be grown well on the planting-out system, and so can those needed for the supply of cut blooms. For this last purpose if the old plants are in the spring, when all danger from frosts are over, planted out in a warm prepared border, they can in an ordinary summer be depended upon to give a good sprinkling of flowers, which are very useful, for even with the wealth of bloom at that season, Bouvardia flowers are sure to be appreciated. With the advent of the first double-flowered variety, Alfred Neuner, this section of Bouvardias was thought to have a very great future before it; but Alfred Neuner still remains the only one of this class grown in any quantity, for the second that made its appearance—the pink-flowered President Garfield—was not sufficiently decided in tint to make much headway; while the bright-coloured forms with double blossoms—Hogarth fl.-plena, Thomas Meehan, Sang Lorraine, Victor Lemoine, Triomphe de Nancy and the yellowish flavescens fl.-plena—have never been grown to any great extent. Of single kinds with white blossoms, Humboldtii corymbiflora, a somewhat upright, vigorous-growing form, with long-tubed, Jasmine-like blossoms that are most deliciously scented, is good, the only drawback being that the tube of the flower is weak, and from its length

liable to be broken. The variety Parity is of dwarfer habit and with a shorter tube to the flower than the preceding, and altogether it is well worth the award of merit bestowed upon it by the Royal Horticultural Society on October 14, 1890. Other whites belonging to the hairy leaved scentless class are Bridal Wreath and Vreelandi, both of which are, however, liable to become tinged with pink. Of bright-coloured blossoms far and away the best is President Cleveland, but other good ones are elegans and Dazzler. The salmon-pink sport from President Cleveland—Mrs. Green—is, except in colour, the counterpart of its parent; while Priory Beauty and rosea multiflora are also good pink-flowered kinds. The sulphur-tinted flavescens adds variety, while two species, triphylla and leiantha, are both pretty bright-flowered kinds.

H. P.

Tabernæmontana coronaria flore-pleno.

—The genus *Tabernæmontana* is a pretty extensive one, but very few members of it are in cultivation, and that above mentioned is, as a rule, the only one to be met with in gardens. It is a very beautiful stove shrub, with pure white, sweet-scented blossoms, not so large and double as those of a *Gardenia*, but more like those of one of the *Oleanders*. The oblong-shaped leaves are of a dark glossy green, which serves well as a setting to the pure white blossoms. The typical form with single flowers is also very pretty. This *Tabernæmontana* has been known in this country for more than a century. It is often seen in a by no means flourishing state, owing in some cases to overpotting (for this must be especially guarded against), and in others to being drawn up in a shaded place. Given much the same treatment as a *Gardenia* it will succeed perfectly, and produce its pure white blossoms in great profusion. If in pots a compost of good loam and peat or leaf-mould with a liberal dash of sand will suit it perfectly, and in potting thorough drainage must be ensured. Plants grow freely during the summer, and thoroughly ripened by full exposure to the sun afterwards will flower well in the spring, but its season of blooming is not limited to any particular period of the year, for I recently saw some good examples in flower.—H. P.

A hybrid *Amaryllis*, a cross between *A. Belladonna* and *Brunsvigia Josephina*, is flowering in the frames against the economic house at Kew. We admire greatly this splendid cross, and hope that this good work will not be discontinued, as the hybrid is a distinct gain to the garden. It is quite different in general aspect to the well-known *Belladonna Lily*, of which there is a perfect forest of spikes, near the same place. The great distinction is in colour, the hybrid bearing smaller flowers, but they are of a brilliant rose-purple, very rich and striking, and appear to have larger heads, whilst the scapes are taller, and the colouring is more of a glaucous tone than the rich chocolate of the *Belladonna Lily*. Such a brilliant flower should be more known, as it would look well in pots, but a mass of it in the garden at this season would create a superb effect. The only disadvantage is that the position must be warm and sheltered.

Notes from Gunnersbury Park, Acton.—There have been seasons when *Amaryllis Belladonna* has flowered better at Gunnersbury Park than in others, but this year it may be said to have established a record, so freely has it bloomed. The dry spring proved favourable to ripening the bulbs, and as a result a greater number of flower-stems has been put up, each carrying a large umbel of flowers of fine colour. No doubt some liquid manure is given during the spring and early summer when growth is being made. In one of the cool houses the beautiful *Carnation Mrs. Leopold de Rothschild* is now to be seen at its very best. It has been described as an improved *Miss Joliffe*, and it certainly partakes of its free bushy growth, but in point of colour the blossoms open a blush-pink, but change to a soft rose; the flowers are thus not only deeper in colour, but larger in size, sweetly fragrant, and do not burst the calyx to any

serious extent, and only when old. Plants from cuttings struck a year ago are seen with specimens two years and three years old, and all bloom freely, but the finest flowers are on the young plants. On the roof of a stove can be seen *Allamanda Williamsi* mingling with *Dipladenias*, and forming a pretty sight. The deep yellow colour of this fine species is particularly noticeable, and being so free blooming is a great acquisition as a stove climber as well as an exhibition specimen. In another stove house can be seen *A. Hendersoni* completely filling the roof interior. It is still almost a sheet of yellow, though past its best. *Isoras* grown for cutting have been a great feature, and are still throwing up from vigorous quarter specimens numbers of trusses of bloom. *Vanda teres* has been very fine planted out at the east and west ends of a range of houses so as to be near the glass. The plants at the west end have flowered more freely.—R. D.

Monstera deliciosa.—Will any reader tell me whether *Monstera deliciosa* can be kept in an ordinary greenhouse during the winter, or whether it requires stove heat? I had a fine specimen of the *Monstera* given me this summer which has fruited. I would like to know if it usually does so in this climate.—L.

*** An ordinary greenhouse is barely warm enough to keep this plant in safety through the winter. Provided the temperature could be kept at about 50° as the minimum, it would be considered tolerably safe for it. The better way would be to keep the plant correspondingly drier at the roots as the temperature declines; then by the time severe frosts are anticipated in the usual course it will withstand with greater safety a lower temperature. In a greenhouse that is only kept at 45° at night the *Monstera* should have the warmest place that can be given it, made all the more secure by a covering thrown over the glass outside. Rather than water to any extent in the winter I would advise that the leaves be sponged occasionally, but it would be better even for a few of the older ones to fade or shrivel than to risk the loss of the roots by an excess of moisture. As a further protection still the pot in which it is growing might be stood into a box or tub, the intervening space then being packed with cocoa fibre or other dry material that would act as a protecting medium, preventing the soil within the pot from becoming so excessively cold. The plant should be so stood if possible as to allow a fair distance between the leaves and the glass; if too near, there will be more risk of injury to topmost foliage and the points of the shoots. Do not on any account repot the plant before next April or May when active growth recommences. During such a summer as the present the *Monstera* would fruit in the open air in warm situations, but it is comparatively rare for it to do so. Finer and better developed fruits in every way are obtained only when the plant is grown in a warm house. If it is possible to keep the plant in question in a house with a night temperature of 55° in cold weather, it will be far better to do so, and more moisture which is congenial to its healthy growth can then be given it.—G. A.

Eulalia gracillima.—This forms a very pretty pot plant and one that is likely to become more popular now that Grass-like plants are so much grown. This form is a less vigorous grower than either of the better-known kinds, the leaves being a good deal narrower and more gracefully recurved. The colour of the leaves is bright green, with a comparatively broad stripe of white down the centre of each—a style of variegation by no means common. So pronounced is this white stripe, that this form is sometimes called *E. gracillima univittata*. Very effective little specimens may be had in pots 5 inches or 6 inches in diameter, and in this way they are useful for decoration.—H. P.

Sweet-scented Pelargoniums.—It was a rare treat to have these old favourites presented in such size and perfect form as they were by Mr. Hudson, of Gunnersbury House, at the recent shows at the Agricultural Hall and Earl's Court. A renaissance of these scented or so-called Cape

species of *Pelargoniums* is indeed welcome to all lovers of these showy and useful plants. It is feared that not a few of them, especially the semi-bulbous *Pelargoniums*, have dropped out of cultivation. But in such good hands as Mr. Hudson's there is little fear of the popularly known Oak-leaved section suffering a similar fate. In fact it is doubtful if any cultivator has ever forced these plants into such extraordinary vigour before. One of the most striking of them all, *P. filicifolium odoratissimum*, used to be grown under the name of *glaucum* or *glabratum*, owing to its sticky qualities pointed out by Mr. Wythes (p. 256). This also used to be considered rather milky, and assuredly such plants as those exhibited by Mr. Hudson would have astonished the late Mr. Beaton, of Shrubland, who did more in his day to grow these beautiful plants successfully alike out of doors and in than any other cultivator. I agree with Mr. Wythes' estimate of the great popularity of these fine plants at the Agricultural Hall, Islington. While admiring all the forms, perhaps the standards were the more striking, though the fan-trained plants would form useful furnishing for fireplaces, windows, or other recesses. These sweet-scented *Pelargoniums* are also admirable for the clothing of vacant walls in conservatories or corridors, and in not a few gardens of the old-fashioned type most vacant spaces in houses or corridors were furnished with Oak or other leaved *Geraniums*. These and other Cape *Pelargoniums* often had one or more houses to themselves where quantities used to be grown specially for cutting. In those days, not so far off as they may seem, no bouquet or basket of flowers was considered complete unless plentifully perfumed with the foliage of Cape or other sweet *Pelargoniums*.—D. T. F.

Browallia elata for winter.—In the autumn and winter blue flowers are not too abundant, more especially for cutting from. This plant, although only an annual, is a most useful blue-flowered plant to cut from. It is of the easiest culture and may be had in bloom the greater portion of the year, provided seed is sown at several different times. I find it most useful during the autumn and winter months. Last year I had it in bloom through the winter and till March in a warm greenhouse. When the plants are nicely grown they are useful for placing in vases in light rooms. Any plant that can be grown in a few months and that has such useful qualities should be better known. I find the best way is to sow a little seed in July. When strong enough, prick out the seedlings, putting three round a 3-inch pot. Place in a close frame for a few days, after which they are removed to a warm spot in the open air. When the pots are full of roots, they are potted into 4½-inch, 6-inch or 8½-inch pots, as the case may be. They are then placed in a cold frame, and when the weather becomes too cold and damp, removed to a greenhouse shelf, using every effort to keep them dwarf. Should a few be needed early, they are removed into a house with a temperature of 50° by night. The plants should be pinched according to the size they are needed and time they are wanted in bloom. This *Browallia* is not particular as to soil. I use loam and old Mushroom manure and sand, two parts of loam to one of manure, adding sand enough to keep it open.—DORSET.

Begonia fuchsoides.—While some classes of *Begonias* have at the present day attained a high degree of popularity, others are allowed to a great extent to pass unnoticed, and among these last must be mentioned *B. fuchsoides*, which is a really handsome species, though the individual blossoms are but small. It is one of the fibrous-rooted section, and in a warm greenhouse will, under favourable conditions, reach a height of 6 feet. This *Begonia* is, for such a structure, one of the best pillar plants that we possess. The leaves are ovate, about 1½ inches long, of a deep shining green when mature, though in a young state they are tinged with red. The bright scarlet flowers are borne in large drooping panicles, and where favourably situated will keep up more or less of a succession for a considerable period. Several of this class of *Begonias* are well worthy of a passing

notice, especially all the forms of *B. semperflorens*, which are, however, now rapidly coming to the front; *B. laagana*, whose large bluish coloured flowers are borne nearly throughout the year; *B. corallina*, with tall wand-like shoots, from the upper part of which are produced large drooping clusters of coral-red blossoms; *B. glaucophylla*, a good basket plant with flowers of a reddish salmon tint; *B. manicata*, whose leaf-stalks are clothed with whorls of large scale-like hairs, while the small flowers, which are borne in large branching panicles during the winter, are pink; *B. nitida*, with large glossy green leaves and pink blossoms; *B. weltoniensis*, still one of the best; *B. Carrieri*, white; *B. insignis*, pink; *B. ascotensis*, silvery bluish; and *B. Gloire de Sceaux*, with handsome bronzy foliage and large pink blossoms. This commences to flower by the early days of the new year, and is one of the best fibrous-rooted *Begonias* in cultivation.—H. P.

Curcuma Roscoeana.—There are several species of these Ginger-worts in cultivation, but many of them greatly resemble each other, and that named above is one of the best, while it forms a very pretty flowering plant for the stove. It usually blooms towards the end of the summer or in early autumn, though blossoms are occasionally produced earlier in the year. It is well worthy of consideration for its foliage alone, as the large Canna-like leaves are very handsome, but its beauty is still further enhanced when they are supplemented by a distinct and showy spike of blossoms. The inflorescence is totally distinct from anything else in common cultivation, by far the showiest portion being not the flowers themselves, but the large bracts, which to a great extent hide the blooms. These bracts are of a bright reddish orange tint, and retain their beauty for a considerable time.—H. P.

SHORT NOTES.—STOVE AND GREENHOUSE.

Salvia compacta splendens.—This variety is well worth a note. In the temperate house at Kew are several fine plants of it smothered with large, brilliant scarlet flowers, which stand out well from the deep green leafage. It is a remarkably showy pot plant, and very bright at this season of the year in greenhouse or conservatory.

Begonia corallina.—This is a very striking object at Forde Abbey. It is growing in a Fern house, trained up under the roof, where its bunches or racemes of rich coral-red flowers hang down in great profusion. It is not a good thing to travel when cut, but at home the flowers are very beautiful when used for vase decoration. Close by the pale-flowered *Begonia nitida alba* was also most pleasing and blooming freely.—D.

Begonia Martiana gracilis is a very beautiful kind in bloom in the stove at Kew. The plant is not large, but sufficiently so to enable one to judge of its character, and a fine specimen would be distinct and unusually handsome. The leaves are of the deepest possible green, which brings into bold relief the clear pink coloured flowers, shading off to white towards the base of the segments. They are about the size of a halfpenny and borne freely.

Bouvardia at Kew.—The *Bouvardias* in the temperate house at Kew are well worthy of note. All the leading kinds are grown in pots, and some of the plants are of large size. We made note of a few kinds, and one of the best is the well-known *B. Humboldti corymbiflora*, which was a remarkably fine specimen, about 3 feet in height and almost as much through, whilst the flowers were freely produced. *B. Vreelandi*, Mrs. Robert Green, with salmon coloured flowers, and *President Cleveland*, bright scarlet, are also grown well.

Witsenia corymbosa is one of those fine old plants that have disappeared in a great degree from gardens. We saw it in bloom a few days ago, and it is difficult to tell why such a pleasing blue-flowered plant should have almost dropped

out of cultivation. The *Witsenia* belongs to the Iris family, and we can trace a likeness to them in the tufted character of the leaves, which are very much like those of some of the Irises, whilst the flowers are produced in autumn, when they are highly appreciated, as then one requires some relief from *Chrysanthemums*, *Cyclamens* and a few other things which fill our greenhouses. It was introduced from the Cape in 1803, and perhaps something is due to its rather difficult culture as to why it is not more grown in English gardens. The flowers which are produced plentifully, are of a bright and most pleasing blue colour.

ORCHIDS.

AERIDES SUAVISSIMUM.

This belongs to the same set as the well-known *A. odoratum*, and it has from time to time appeared in various gardens under different names. "H. H." sends me a short spike, cut from the base of a branching raceme, with beautifully coloured flowers. The plant, I am told, is between 3 feet and 4 feet high, and it has borne three spikes this season, each carrying a spur or short branch from the base of the main raceme, which was about 2 feet in length, thickly set with its very fragrant flowers. This plant appears to have been introduced many years back by the Messrs. Loddiges, of Hackney, with whom it first flowered nearly fifty years ago, but nothing definite is recorded of its native habitat. The Messrs. Loddiges said they received it from the Straits of Malacca, but from what island it came no one can say, and up to the present time I believe we still remain in ignorance of the precise locality whence it was brought. The plant used to be cultivated far more, say thirty years ago, than it is now. Indeed, such was the case with many other species belonging to the distichous leaved sections, as *Aerides*, *Saccolabiums*, and *Vandas*.

Aerides suavisimum enjoys a fair share of heat and moisture when growing or in the summer season, for although it continues to grow a little through the winter, the temperature should be let fall to 60°. I do not like the glass to fall lower where these plants stand, although I have had *A. odoratum* stand a few degrees lower and flower well the next season. The pots this plant is put into must be nearly filled with drainage. It should be put into some clean fresh Sphagnum, and should have an abundant supply of water during the summer both from the watering-can and also overhead. When the dull days come round the syringe may be laid on one side, and less water must be given from the watering-can, only just sufficient being administered to prevent the leaves shrivelling. Less water must also be put upon the floor and stages and the air generally kept dry.

W. H. GOWER.

Oncidium phymatochilum.—This is not a new species, for it has been known about fifty years. It was for a long time thought to be of Mexican origin, but it was at last sent from Brazil by M. Pinel. It bears an erect scape several feet in length, which is paniculate, the flowers numerous, with the sepals and petals of a greenish yellow, spotted on the face with deep orange, the lip white, having a yellow crest, round which are some red spots. The plant has been termed a hard one to cultivate successfully for any length of time, and I think, perhaps, this has been from not having it well drained. It does not like much soil about its roots, neither does it thrive if any water is allowed to lie about it. For this reason it does best upon a block of wood. It thrives at the cool

end of the *Cattleya* house with a moist atmosphere when growing, but does not like syringing overhead. If grown upon wood it requires extra care to bring it safely through the resting season.—*Orchid Album*, p. 470.

Cymbidium Lowianum.—This beautiful species was introduced from Burmah about sixteen years ago by Mr. Stuart Low, and some two years afterwards it flowered with and was exhibited by its introducer before the committee of the Royal Horticultural Society, and received a first-class certificate. On account of *Cymbidiums* being such robust growers, many persons have been induced to feed them with liquid manure, and in many instances ill effects have been produced by this course of treatment. When growing, the plant likes the temperature of the *Cattleya* house, with a nice moist atmosphere, but when at rest a temperature of 50° will be ample with a drier air.—*Orchid Album*, p. 471.

Ornithocephalus grandiflorus.—This has not been seen much in cultivation, because these small-flowered Orchids do not find great favour with growers. One striking exception is to be found in Sir Trevor Lawrence's collection, where Mr. White devotes much care and attention to these kinds. The plant was first found by Gardner in Southern Brazil nearly sixty years ago. It is best grown in a small shallow basket or pan, so that it can be suspended near the roof glass. These must be thoroughly drained, using for soil peat and chopped Sphagnum Moss.—*Orchid Album*, p. 472.

SHORT NOTES.—ORCHIDS.

Stanhopea platyceras.—This plant is again flowering, so I am informed by Mr. F. Lidderdale, of White Hill, Berkhamsted, in his collection, the flowers lasting about three days.—W. H. G.

Cattleya citrina.—This, figured in the "*Orchid Album*" (p. 469), is a very beautiful *Cattleya*, and the only species which has yet been found in the Mexican territory, although the allied genus *Lælia* is present in great profusion in that country. It first flowered in the Duke of Bedford's collection at Woburn Abbey. Mr. Williams recommends it to be grown in a shady position in the *Cattleya* house, wintering it in the cool house with the *Odontoglossums*.

Oncidium Lanceanum.—H. Dalruple sends two flowers of this species, which was figured in THE GARDEN, Vol. XXIX., t. 539, asking if the two are the same species. No. 2 is the typical plant, having a deep purple lip, and the flowers have a rich perfume, which resembles vanilla. No. 1 is the variety known as *Louvrexianum*, which has the front lobe of the lip white, passing into rose, and from that into violet-purple at the base. It has the same fragrance as the typical form. This plant requires the very hottest house. Give shade and an abundant supply of water.—W. H. G.

MARKET GARDEN NOTES.

I HAVE an indistinct remembrance that *Fuchsia fulgens* was at one time grown for market, and was rather a favourite in Covent Garden. To the younger generation of market growers it appears to be unknown, and some nicely grown little specimens that were brought this season into Covent Garden were regarded in the light of a novelty, and were quickly sold. The man who had the happy idea of re-introducing this old *Fuchsia* to the London markets is so far satisfied with his experiment, that in the forthcoming year *Fuchsia fulgens* will probably be offered in quantity. Purchasers are always on the look out for something new or distinct, and I should not be surprised if *Fuchsia fulgens* becomes for several years at least rather popular. *Amaryllis Belladonna* has been much in favour this year. The peculiar colour of the blooms happen to be very popular just now, and for that reason they have met with a ready sale. They are

mostly imported, coming, I believe, from the south of France. It is curious how the fashion as regards colour changes now-a-days. A soft shade of pink appears to be most in favour at present, and any flower that possesses this particular tint commands a quick sale. Florists are sometimes puzzled to meet these changes, especially in provincial towns, where the choice of flowers is more limited than in the metropolis. I know of an instance where a lady will just now have no flowers for room decoration that is not of this particular shade. When Baroness Rothschild Rose can be had, it is used in preference to anything else, but at this season it is very difficult to get anything that will supply its place.

The first consideration now is whether a flower will harmonise with the decorations of an apartment or with ladies' attire, so that for a season or two some particular variety of Rose, Carnation, or *Chrysanthemum* will be in high demand, but which at other times gets no special attention. The pink Everlasting Pea is a case in point. Two or three years ago it was very popular; this year one cannot get rid of the blooms. "They will not go with anything," a florist remarked, meaning that the rosy pink blooms will not harmonise with the colours used in dress materials and room decoration. Freesias have already made their appearance in Covent Garden—an unprecedentedly early date for this flower. They came, presumably, from that paradise for tender bulbous flowers—the Mediterranean shore. *Richardia albo-maculata* (the variegated Arum Lily) is coming at length to the front. Market growers have strangely neglected what is probably one of the most useful decorative plants we have. The blooms are much smaller than those of the ordinary form, but it is as a fine-leaved plant that it will be cultivated for market. Under ordinary culture the leaves die off in late autumn, but if required for winter use the bulbs can be kept dry through early summer, and if potted up in July and August and kept in a genial temperature, they will remain in good condition all through the winter. One man is now so impressed with its merits, that he will not part with a single plant till he can number his stock by thousands. Some excellent Strawberries were brought into Covent Garden a few days ago, probably the produce of early forced plants put out in the open ground.

J. C. B.

FLOWER GARDEN.

MICHAELMAS DAISIES.

HOWEVER it may be in the south of England, Michaelmas Daisies here in Cheshire, in spite of prophesying that they would be over before Michaelmas, are no earlier than usual, and are true to their popular name in their time of flowering. Most of them are at their best in this Michaelmas week, though some late kinds, such as *turbinellus*, *Diana* and *Archer Hind*, have hardly yet opened a flower. It is an agreeable novelty to be able to speak of them by names which convey a definite meaning to all gardeners who have given their adherence to the classification adopted at the Chiswick conference, and we ought all of us to hope that the botanical affinities of each kind will not again be called in question for a generation. It matters little to a gardener whether the characters of a plant come nearest to *A. laevis* or *A. Novi-Belgii* or *A. versicolor*, provided all of us agree to call the same plant by the same name; but it must not by any means be supposed that finality has been reached in Michaelmas Daisies. Those who are interested in the flower hope that the collection exhibited at Chiswick two years ago was only the beginning, and that the race of perennial Asters is destined to develop great improvements in the near

future. It is probable that many varieties, better in their kind than anything shown at the conference, were already in existence then. Some of the specimens there selected as first-class had been raised from seed only two or three years before, amongst them W. Grant and J. Wood. The flowers of one now called *Areturus* were sent to me whilst the conference was sitting. It was found in a garden near Scarborough, and is one of the finest *Asters* known. What its botanical name is I do not care, but the plant grows 6 feet high with glossy black stalks, dark green leaves, and large dark purple flowers, and the habit is in every way excellent. As for other novelties, I have selected twenty or thirty out of some thousand seedlings sown in the spring of 1891. Some of them are new in colour, but none of them have yet been judged or named. I hope many other gardeners are growing *Michaelmas Daisies* from seed. If the plants have flowered earlier than usual in the south of England, it will be a good opportunity for saving seed from some of the best of late-flowering kinds, such as *Archer Hind*, which has seldom ripened seed here. Amongst those which I have found most satisfactory as seed parents I may mention *Diana*, of which the seedlings, if not crossed, come very true to name—*versicolor*, *Antigone*, and *Harpur Crewe*, and *John Wood*, of which a large crop of seedlings sown in the open air last February is now beginning to flower. Perhaps the best colours and best formed flowers in the *Novi-Belgii* class come from a variety called *decorus*, which name I think was retained at the conference; it is of moderate height, full round flower, and broad disc. I have other seedlings, of which the mixed parentage is obvious; for instance, crosses between *levis* and *cordifolius*, with large flowers, dense upright branches, and gigantic stature of 7 feet or 8 feet. These, however, are not quite first class, but distinct in habit and appearance. Everyone who can save good seed of it should raise *Aster Amellus*, the prince of the whole genus. I have come to the conclusion to which I think Mr. Dewar came, that the distinctions, whatever they are, between *Amellus* and *bessarabicus* disappear in cultivation, and that the name *bessarabicus* had better disappear from gardens also. If distinct varieties of *Amellus* can be established, let them have garden names, but unless botanists will tell us definite characters by which to distinguish the variety *bessarabicus*—and they did not tell us them at the conference—the name is only confusing. No doubt seedlings of *Amellus* vary much in merit, especially in respect to colour; they are more or less good in proportion to the mixture of red with the blue, and a red-purple variety sold as *Amellus ruber* ought to be consigned to the rubbish heap. A true blue *Amellus* is within easier reach of gardeners than a true blue *Primrose*, and ought soon to be raised. It is remarkable how the colour of this *Aster* varies in different lights, sometimes appearing to be quite blue. A pure white *A. Amellus* is a thing to be longed for, and will probably be found some day.

In one part of the outside of my garden, separating it from the grass park, is a row of hurdles 70 yards long, and lined with rabbit wire; a walk of coal ashes runs between this fence and a long border. In these coal ashes against the hurdles a row of *Michaelmas Daisies* grows admirably, and now makes a fine show. There is, of course, a wide and deep ditch outside to prevent the cattle grazing on the flowers, and as this secures good drainage, the plants are a picture of health and vigour. The difficulty I have is not to supply enough

plants to make such a row, but to choose amongst the endless candidates for the honour of a place. A hundred plants quite fill the distance, and they are this year all two-year-old seedlings, marked for selection last year. Half of them or more will be eliminated next spring, to be replaced by this year's selection of seedlings. In this way vacant fences or sides of shrubberies are made to do duty as trial grounds. No one, until he has tried, knows how easy it is to add improvements to a collection of *Michaelmas Daisies* in this way.

Few of the varieties of *Aster* are exacting in their requirements, but some of them have likings. For instance, the *cordifolius* section prefer shade, being easily burnt up in hot sun, whilst the varieties of *versicolor* do badly in shade. The dwarf gem of this class, *versicolor nanus*, which was not appreciated at the conference, is worthy of special care in this way, being easily spoilt by autumnal over-growth. It makes an excellent edging, alternating with the later autumn purple *Crocuses*, such as *C. medius* and *C. longiflorus*, and produces dense bunches of white flowers, rising 6 inches from the ground and lasting through October. All



Lilium Martagon album. Engraved for THE GARDEN from a photograph sent by Mr. R. A. Jenkins, Highgate, London, N.

these grow on the very same margin on which *Chionodoxas* and spring *Crocuses* flowered in March, and they do not interfere with one another.

C. WOLLEY DOD.

Edge Hall, Malpas.

Dahlias at Colchester.—One of the best collections of this autumn flower we have seen this season was in the nursery of Messrs. D. Prior and Son, of Colchester, where many things are grown besides *Roses*. Of the *Cactus* section, now so popular in gardens, the four more conspicuous varieties were *Delicata*, *Panthea*, the colour a brilliant reddish salmon; *Mrs. Tait*, white, the petals serrated; and *Lady Marsham*, bright salmon. The show section is also grown largely, but one wants only a few kinds unless a large collection is desired. One of the most distinct was *Georgina*, the flower large, but not too much so, and creamy white in colour; whilst others of note were *Walter H. Williams*, bright scarlet, surpassing all others of that colour; *Earl of Radnor*, intense plum colour; and *Mrs. Gladstone*, delicate blush, a model in shape; whilst the best fancy

was *Lottie Eckford*, a white flower striped with purple. Two good singles were *James Scobie*, one of the best of this section, the flowers finely striped, and *Negress*, deep velvety maroon almost black.

THE WHITE MARTAGON LILY.

The white *Martagon Lily* is one of the most distinct of the family, and if given a suitable soil and position there are but few of its relatives that excel it in beauty, hardiness, or freedom of bloom. No one who has seen the graceful spikes of chaste wax-like blooms of snow-white purity thrown up by this Lily can deny its beauty, while as to hardiness, all the bulbs which I planted in the autumn of 1890 survived the abnormally long period of severe frost which ensued, although they were not afforded any protection, and bloomed freely in the following summer. As to the free-flowering qualities of the subject of this notice, suffice it to say that three bulbs in my garden after being planted as many years ago gave me no less than 167 blooms this June, two of the stems carrying forty-two and forty-nine blooms. The annexed illustration is from a photograph taken last year of the same specimens which gave me ninety blooms, the finest spike carrying thirty-one buds. This was the second year after planting. Even in the summer immediately after planting the Lilies sent up forty blooms. This I attribute to their being moved early in September, for if planted late in the year, most of the *Martagon* section refuse to bloom in the ensuing summer. So convinced am I of the advantage of early planting, that, finding it necessary to remove my bulbs before next March, I resolved on lifting them early this August, and on the 5th of that month I planted them at Great Houghton Hall, Northampton. If the plants (which are the original three bulbs planted in my garden in 1890) bloom well during next summer, my theory of early moving would seem established. Anyhow I hope to send a short account of the results to THE GARDEN next June. I find that this Lily does best in good deep soil well enriched with leaf-mould, and without manure or sand. As the above-mentioned soil suits such plants as *Anemone sylvestris* and *Lily of the Valley* to perfection, I have carpeted the ground with them, and they serve to keep the soil cool during the summer, while in May they furnish me with countless flowers. The bulbs of the white *Martagon* increase very slowly, and this accounts for the high figure at which this Lily is usually sold. They do best planted 3 inches to 4 inches deep.

Highgate.

R. A. JENKINS.

Euphorbia pilosa.—A short note on this plant may be not out of place. I have lately heard two counter statements about it made by amateur gardeners, one saying that she brought it from Hyères, and that it is tender, but ornamental and seeds freely; the other that it is a native plant and not ornamental at all. *E. pilosa* of Linnaeus is included in the "British Flora," being found in two spots, one near Bath, the other in Sussex, but Benthham considered it certainly not indigenous. I have seen it growing near Biarritz and Bayonne, but in Godron's "Flore de France" we have a very full summary of its distribution in France, and it does not extend there eastward of the Rhone, so is not found at Hyères. It reappears, however, in Eastern Europe, extending into Central Russia, so there can be no doubt of its complete hardiness. I have grown it for about twenty years, and the first plant I had is still flourishing where I first put it, not having spread at all. It dies down to the ground in winter, and in April makes a branching

growth, having the upper leaves and bracts of a rich gold colour as bright as a large double Daffodil, which lasts for three months. In early autumn it becomes as scarlet as a Virginia Creeper. I consider it very ornamental both early and late, and visitors to my garden have frequently asked for a plant, which I have seldom had to give them, as I never could increase it except by cuttings taken off to the base in early spring. The portrait in Sowerby's "English Botany," in which the whole plant is coloured dull green, gives no idea of its merit as a garden plant.—C. WOLLEY DOD, *Edge Hall, Malpas.*

Tritoma McOWani is one of the dwarfest of the Tritomas. We noticed a quantity of it in bloom a few days ago in the Long Ditton nursery, the flowers of a distinct orange-red colour. It only grows about 18 inches in height, and should be in every choice collection of hardy plants. The leaves are between 1 foot and 2 feet long and narrow, and if the flower-heads are small, they are showy through their distinct colouring. It is more suitable, therefore, for the rockery than beds or borders. The variety *longiflora* is so named from its longer flowers, and one finds this *Tritoma* catalogued as *T. rigidissima* and *T. maroccana*. A very pleasing *Tritoma* is named *T. corallina*, which is a hybrid between *T. McOWani* and *T. aloides*, and raised by Delenil, of Marseilles. It has the character of both parents, and is a good garden plant.

Eomecon chionantha was still in bloom a few days ago on the Kew rockery. A coloured plate was given of it in THE GARDEN, January 26, 1889. It is a native of China, from whence it was introduced about the year 1884. It belongs to the Poppyworts, and when grown in groups or colonies, forms a very charming plant during the summer and early autumn. The flowers at first sight are not unlike those of the Japanese *Anemone*, but much smaller. They are pure waxy white, relieved by a central tuft of yellow stamens. The soil best suited for the *Eomecon* is a moist sandy loam, and on the lower parts of the rockery the plants will succeed to perfection, producing a wealth of leaves, with the flowers appearing above them. A ready mode of increase is by seed or division of the roots.

THE FLAME NASTURTIUM.

(*TROPEOLUM SPECIOSUM*.)

NOTES which appear from time to time on the above-named plant indicate that it is a difficult thing to establish in many places, and a variety of causes has been mentioned as leading to failure. On June 9 last year I planted in different parts of the garden several pieces, which had been sent to me from Scotland. These pieces mostly had shoots about 3 inches or 4 inches long, and thick, fleshy root-stems double the length of the shoots. To the goodly proportions of the roots I attribute the first step towards success, and the care which had been taken in packing the pieces in damp Moss was another great help. No special preparation of the soil was made, but care was taken to choose shady positions for planting. All but one lot has done exceedingly well, especially when the present dry season is taken into consideration. The lot which failed to make satisfactory progress was planted in a rather dry spot, and with coarse Grass, &c., growing almost close up to the plants. The lots that have done best were those planted in a fairly damp position against walls facing a little west of north, where they get a little sunshine in the afternoon. Another lot was planted against a west wall, shaded on the south by a Holly bush, and on to which the western sun shone through a large Cedar that stands some distance away. The success of these last-mentioned plants is especially a pleasant surprise, as the site is a dry one, close to a gravel path, and more than one thing has refused to grow when planted there. The *Tropæolum*, however, has sent up a dozen or more strong shoots, which are now beautifully in flower, and thinly cover a big window in the prettiest way

imaginable to a height of over 8 feet. A photograph enclosed with this shows one of the lots planted in a damper position, and here it has taken possession of the horizontal branches of a very old Duchesse d'Angoulême Pear tree, which never has any fruit on that side of the wall, but which bears well on vertically trained branches brought down the other side. Several gnarled old spurs of the Pear tree surmount the wall, and these again are topped by the long, straggling growths of a *Devoniensis* Rose rising to quite 9 feet high. The *Tropæolum* has gone to the full height of these, and many of the shoots have bent over and come downwards again another 3 feet, and for more than two months it has been quite smothered in flowers—a very brilliant object. The photograph was taken on July 17, since which time the plant has made a great deal of progress. It does not do justice to the plant, the leaves and flowers of which are too small and too numerous to stand out distinctly. The earlier flowers have been succeeded by berries which when ripe are of a lovely azure-blue colour, with the tone and brilliancy of a lapis lazuli stone.

J. C. TALLACK.

FLOWER GARDEN NOTES.

FOLLOWING on the remarks of last week, which treated of some few herbaceous plants that had done very well this season, I may note some annuals, or at any rate plants treated as annuals, that have either scored a success or that have promised sufficiently well to warrant another year's trial. Beds or borders that are to be devoted to anything special in this way should have a good dressing of short manure and be broken up in early winter to ensure not only a deep rich tilth, but a fine well-pulverised surface for another spring. Such a preparation, especially in a season like the present, is of immense advantage as compared with the system of leaving the preparation until just before sowing. Apropos of annuals, I was very much interested in the account of an experiment with a vast number of varieties in order to determine not only their free-flowering properties, but to make accurate observations as to the relative duration of season. The peculiar season was all against such an experiment, and it is to be hoped, therefore, it may be repeated, as it is likely to be of great service in flower garden operations.

Seedling *Hollyhocks* have been remarkably good this year. Sown where they were to flower, and thinned out to the number of plants to form the required line or clumps as the case may be, they have formed a good background for smaller subjects or associated well with the bright foliage of small coniferæ or large deciduous shrubs. The new shades of colour in *Convolvulus major* are very beautiful, and the plants themselves admirably adapted for those old-fashioned raised beds still to be found in some gardens, also for large sloping borders. Here their effectiveness may be increased by the occasional insertion of small mounds of twigs from *Pea* boughs, which, when covered with bine and flowers, will help to make a nice undulating surface. Passing through the flower garden in the evening, the remarkable contrast in the habits of different flowers is borne out in beds of *Convolvulus* and *Sweet Tobacco*; the one closed for the night, the other with fully expanded flowers charging the air with delicate perfume. I gave *Phacelia campanularia* a trial in the flower garden this year on account of its colour, but it will have to retire to the wild garden. It is a rich and telling shade, but too short-lived for prominent positions. *Nemesia strumosa* must have another trial. The *Godetias* must take rank among the most enduring of the annuals; a very handsome bed can be made with these in four or five varieties, with an occasional *Retinospora* or *Cupressus* among them as dot plants. They are also useful for cutting, standing a long time in water. Whilst on the subject of useful plants easily raised for cutting, I should like to say a good word for the varieties of *Gomphrena* (the *Globe Amaranth*). They do not come in strictly as outdoor subjects, and yet well-grown

bushes make nice verandah, porch or house plants, and the value of the flower in a cut state is well known. The purple is the most striking and serviceable variety, at any rate as a pot plant. Dwarf *Petunias*, double *Zinnias* and East Lothian Stocks have been so satisfactory, that they will be grown next year in greatly increased numbers. The Stocks are already fairly well advanced and will shortly be pricked out into winter quarters, whilst early sowings will be made in the spring of 1894 of the *Zinnias* and *Petunias* to get them early into flower. Good dot plants for the dwarf *Petunias* are the whitest of the *Eucalypti* or the variegated *Abutilon*. The housing of Violets will receive attention this week; they have required a lot of extra care this season in the way of occasional soakings of water and additional mulching, but are now very good plants. With careful lifting and planting, a good soaking of water, and a little shade for a few days if the sun is bright, they will soon become established in their new quarters. We are fortunate in having a flow and return pipe in the pit devoted to their culture, and as a consequence are not troubled with damping.

Outdoor *Chrysanthemums* under skeleton frames intended for cutting have been tied and cleaned and given a dusting of sulphur where necessary. They will not be so good as usual this year, as we have been able to give only a small quantity of water, but they will doubtless furnish a very fair supply of cut flowers. What are known as October flowering varieties, such, for instance, as *l'Ami Conderchet*, *Achievement*, *Sœur Melanie*, *William Holmes*, *Lady Selborne*, and *Mme. Dufosse* amongst others are most useful for this purpose. If a slight protection in the way of tiffany is given them, very few of the flowers will be lost even in the event of an early and somewhat severe frost. All tender plants in pots in the way of *Palms*, *Ficus*, *Grevilleas*, and anything of a similar nature must come under cover if ample means for protecting outside is not available. We also make a practice of getting in on the shelves of a vinery or Peach house from which the fruit has been taken a good supply of zonal *Pelargoniums* (doubles) in pots that have done duty in various positions in the flower garden through the summer months; they furnish a capital lot of cut flower for a considerable time, and are very handy in connection with a few light *Palms* and some variegated *Aspidistra* in forming little indoor groups for dwelling-house or church, contributions for the latter in connection with the harvest festivals being pretty general at this season. We have gone through the beds of *Marguerite Carnation* this week, and, selecting nice sturdy, bushy plants with a goodly supply of buds, have lifted them carefully and potted in 6-inch pots, using a compost of three-parts road sidings and one of horse droppings rubbed up rather fine. A frame under a north wall will suit them best for a few days, when they can be transferred to a light, airy house. In any list of the most useful plants for universal culture I should most decidedly include this race of *Carnations*. Anyone with a tiny house can get the seed up early, and as a consequence early-flowering plants, whilst the same house will afford to the plants lifted in the manner above indicated ample shelter to keep them in health and flower until, say, the middle of December. E. BURRELL.

Claremont.

East Lothian Stocks.—I am sure that anyone who may once have grown these will always make a point of so doing. They fully merit all that has been said of them in previous numbers of this paper. Sown in late summer or early autumn and kept under glass through the winter and early spring, they yield a rich supply of flowers. In Scotland I believe these Stocks are much grown, but in the southern portions of the kingdom they are seldom employed in this way. In this district I never saw but one lot of them, and the grower learned his trade from a Scotch gardener. I thought that I had never seen a fairer picture of floral beauty than offered by a mass of the pure white variety. Anyone who may

begrowing for profit and is not quite decided what to fill up with for the spring markets cannot make a mistake in growing a house of Lothian Stocks. They make very fair and sometimes really good prices—much better often than those obtained for what are termed choice flowers. Everyone likes Stocks, and to many they come thus early in the year as a delightful surprise. The white one makes, as a rule, the best price.—J. C. B.

—The remarks about East Lothian Stocks in your issue of September 16 from the pen of "D. T. F." brought to my mind the magnificent lot I lately saw in the nurseries of Mr. John Forbes at Hawick. They were in six different varieties, viz., crimson, purple, white, scarlet and white, and crimson wall-leaved. These show how well the East Lothian Stocks are adapted for massing in beds where distinct colour is wanted. Another point which struck me when looking at them was the very small percentage of singles.—D. S.

Aster Amellus bessarabicus.—This is certainly one of the best of the Michaelmas Daisies, being really good in colour. There is nothing quite equal to it for supplying cut flowers at this time of year. Although we can ensure an abundance of white and yellow flowers in autumn, those that approach blue are much rarer. I am going to work up a stock of it for cutting from, as I find that the fine tint of this Starwort is much admired. For harvest decorations or any purpose where showy flowers in quantity are necessary, this Aster is well fitted, and the same may be said of all the members of the family.—J. C., *Byfleet*.

OUTDOOR BEGONIAS AT FOREST HILL.

THE present year has not proved favourable for tuberous Begonias in the open, the brilliant sun scorching the foliage and preventing the plants flowering so freely, as in more humid seasons. In the Forest Hill Nurseries of Messrs. J. Laing and Sons a very fine break of outdoor varieties plainly shows the great value of the plants for the enrichment of the garden through the summer and autumn months. Upwards of 400,000 plants are bedded out, and the colours, or at least shades of one colour, are kept distinct, the effect being unusually fine, rich and striking, evidence that when judiciously planted, splendid contrasts may be obtained. The light and dark crimsons are remarkably rich, and a bold mass of either shade would be welcome in the garden, and the same may be said of the rose, yellow, salmon, bronze and scarlet colours. The white-flowered kinds are very pure, and when associated with the variegated *Dactylis* make a delightful bed. All the kinds here are the outcome of most careful hybridising, and are very true to colour. This is a great gain, for one can by getting seed of a certain colour be fairly certain of securing a large percentage of varieties true to that colour, and the few "rogues" can be easily eradicated. This is a great advance in the culture of the tuberous Begonia, which is one of the easiest plants to grow, and is in beauty in all except very hot seasons.

The careful observer will see in the lines of plants at Forest Hill a great difference between the tuberous Begonia of to-day and a few years ago, not only in the colours of the flowers, which vary from the softest blush to almost black, so deep is the shade of maroon, but also in the habit of growth. This is dwarf and compact, and the flowers are produced well above the leafage, thus being displayed to the fullest advantage. One sees few of the leggy specimens that were frequent not many years ago. The seed of the large mass of plants in the open here was sown in the second week of January, and the seedlings potted on in due course until they were put out the second week in June, a week later than usual. All the varieties seem to be much alike as regards freedom of flowering. During the past few days the Begonias have improved greatly, and if severe frosts keep off we may expect a gay show until quite the end of the month, as in many gardens, public or otherwise,

they are now the brightest things in the various arrangements. The tuberous Begonias in the houses at Forest Hill are still beautiful, but we need not make further notes upon them, as they were dealt with in THE GARDEN when in perfection in early summer. We were pleased to see at Forest Hill several varieties of that fine bedding Begonia, *B. semperflorens*, of which *Crimson Gem* is one of the more effective forms. There is, we feel sure, a great future before this type for bedding, as it has been largely planted. The flowers are crimson and produced in great profusion, whilst the leafage is of a dark green, a rich contrast of two decided colours. Even in spite of the great heat and brilliant sunshine *B. semperflorens* has not been affected in the least. The plants are also very useful for pots and easily grown.

DELPHINIUMS.

THESE are particularly easy to cultivate and form one of the most showy features in the herbaceous border; indeed, there are few subjects which will give so much bloom and for so long a time as the Delphinium.

The propagation of named varieties should be taken in hand at once. There are two methods of increasing stock of any particular variety, viz., division of the crowns and by cuttings. I prefer the latter, and am now busy among my own plants. The best cuttings are obtained by cutting away the older growth now that bloom is over. At the same time the best of the seed may be secured, Delphiniums being very rapidly increased in this way. Having cut down the older wood about a fortnight ago, the crowns are now pushing out a number of fresh growths that are not nearly so strong and sappy as those produced in the spring; consequently they are much better suited for propagation. But this is by no means the only advantage of propagating in the autumn instead of leaving it until spring. In the latter case the growth is not so suitable, the plants do not make a flowering clump the first season, and you also cut away the earliest and finest spikes of blossom when removing spring growth for cuttings. When the autumn growths are 3 inches high, cut them off as close to the crown as possible and insert in 3-inch pots of sandy leaf soil and loam. Place them in a cold frame, keep them close and occasionally sprinkle to avoid flagging. Every cutting will strike, and if kept in a frame until spring, each one will make a fairly good clump the first summer, being in perfection the second season. Division of the roots is also best done in the late autumn; this does not check the plants so much as when left until early spring. A rich and deep loam will grow Delphiniums to perfection. Planted in masses or in small groups in the shrubbery in conjunction with a few Lilies, their bold and immense spikes of blue are very conspicuous. Slugs are their chief enemies and are very destructive early in the spring. They eat the young shoots directly they push from the crown. A little fresh lime or soot sprinkled over the crowns occasionally, particularly from February until March, will help prevent their attacks. R.

Bedding plants and the drought.—Our beds here are very exposed, the soil also being of a heavy nature, yet the following things have done well, viz., *Tagetes*, *Coleus*, *Heliotrope*, *Iresine*, *Petunias*, *Alyssum variegatum*, several sorts of *Geranium*, *Lobelia*, *Alternanthera*, *Ricinus*, *Begonias*, *Ageratum*, *Mesembryanthemums*, *Cannas*, and *Fuchsias* have not been satisfactory. Of course, constant watering was the order of the day until rain came.—A. J. LONG, *Wyfold Court, Reading*.

Cactus Dahlia Mrs. A. Peart.—This variety is well worthy of note and likely to be much grown for cutting. It is the nearest approach to a pure white Cactus variety, the flowers of the true shape—that is with pointed petals narrowing towards the apex, and if not quite pure, of a

creamy white tint touched with citron-yellow in the centre. It has been exhibited on several occasions by Mr. T. S. Ware, of Tottenham, who had a large bunch of it at the recent show at Earl's Court. We hope it is free flowering, as then it would be certainly valuable for cutting, as a good creamy white Dahlia of pleasing shape is an acquisition. This variety, *Lady Penzance*, clear yellow, and the lovely salmon-rose *Delicata* are an exquisite trio of Cactus Dahlias.

Primula obconica.—One of the most enthusiastic admirers of this Primrose is Mr. J. Crook, of Forde Abbey, who not only grows it very largely, but has also devoted much time to cross-fertilising it with other kinds, with some amount of success. There is in several plants now in flower ample evidence that the *sinensis* blood is operating. Blooms of much larger size and of a much deeper colour have already been obtained, also there is in some distinct evidence of fringing of the edges, so marked a feature in the *sinensis* varieties, and further there are in some very marked lemon eyes, and in several cases these have a distinct circle of a dark colour surrounding them.—A. D.

Seedling Aster Amellus.—When visiting the Royal Nursery, Slough, recently I was much interested in a bed of seedlings of this fine European species. It was an illustration of the fact of differences in seminal varieties, for a large bed showed variations in colour, in the size of the flowers, and breadth of petals, and also in height, while the tints ranged from a pale silvery hue to purple. There was nothing in the seedlings that could be regarded as superior to the type or its fine varieties *bessarabicus* or *major*, but they were full of interest, the dwarf, compact habit of some being particularly noticeable. Among the many Michaelmas Daisies which find a place in collections *A. Amellus* can still hold its own, and a number of plants in small pots plunged in a tan bed was a really striking sight. This Aster does remarkably well treated in this way, and grown in pots it might be employed for decoration in many ways. There is every promise that perennial Asters and also other plants not prone to seedling freely will produce a good deal of seed this season, and so opportunity will be afforded to sow, as the raising of seedlings is a most interesting study.—R. D.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS PLANTED OUT.

IN growing Chrysanthemums on the planting-out system for cut blooms, I have always considered a regular and plentiful supply of water in hot, dry weather indispensable. An experience this season has caused me to modify my ideas on this subject very considerably. In April, having some old stools of a late kind or two in hand, I parted them and planted them out. Having been wintered in a cold frame and the lights being drawn off as soon as the hard weather broke, they had made but little growth and the shoots were naturally very hard. When planted they were watered in, and once a week later. From that time to the present date they have never been watered, and during the past six months we have not had sufficient rain to moisten the ground more than an inch in depth, the heat being at times terrific. Under such circumstances I should have expected the foliage to turn yellow at the base and the plants generally to have made hardly any growth. On the contrary, the foliage is of a rich green from top to bottom—the very picture of health. Naturally, the plants are not so tall and gross as would have been the case had they been watered, but the wood is so firm and well ripened, that I have no doubt they will produce good blooms. Sometimes on the planting-out system the growth is too gross, especially when the ground is in good heart. I have never found that the blooms are better or more numerous when the plants run up tall but, on the

contrary, that more compact specimens are most satisfactory. With the soil in good condition, deeply stirred and given a mulch of short litter, I am of opinion that very little, if any, water would be needful, especially on soils of a rather heavy nature. If on a light soil like mine, plants will come through such a season as this without water fairly well, it is certain that in ordinary years they would do very well if not regularly watered. The earlier the young plants are put out the better. If they can be got out the first week in April they get good hold of the ground by the middle of May, about the time that the first burst of hot weather may be expected. For this way of growing Chrysanthemums division of the old stools is the easiest mode of propagation. They can be packed away closely in frames in light mould, and if the lights are pulled off on all favourable occasions the young growths will be almost as hard as those of the hardier kinds that remain in the open all through the winter. When putting them out, it is better to pinch them back to about three eyes so that the first growths are made in the open, as they are then not likely to suffer from cold winds and frosty nights.

As regards quality of bloom, I have never seen any difference when propagation is effected by division or from cuttings. I have tried both ways, and grown the plants side by side under identical conditions, with the result that both sets of plants gave blooms similar in quality and quantity. If cuttings are put in, say, at the latter end of January or beginning of February, they must necessarily be hardened off after having been in the confined atmosphere of the propagating frame, and it is hardly safe to put them in the open before May. During that month a lot of attention is necessary if the weather happens to be hot and dry, or the foliage will turn yellow and the plants will get a check from which they take some time to recover. Some kinds naturally form a mass of fibrous roots, so that they can be taken up with a ball of earth to them, but this is not the case with the bulk of them. In light soils it is especially difficult to keep any amount of earth to the roots. Such varieties as *Boule de Neige* and *Golden Gem* have a tendency when planted out to make a few coarse roots, so that when lifted there is little but roots and foliage to take indoors. Naturally there is a severe check, which must be minimised as much as possible, or the greater portion of the leaves will drop before the blooms can expand. When the plants are housed they must be well watered in, and if the weather is fine they will need watering every other day until they get well hold of the soil. They must also be drenched overhead with the syringe several times daily. However much they may flag in the daytime, they will not sustain any serious check if they revive again during the night. *Elaine* is the worst Chrysanthemum I know of to deal with in this way. Being an early blooming kind, it has to be got in while the sun has still much power. What with the heat of the sun and the parching air it is rather difficult to keep the foliage from wilting. Only great care for a month till new roots form can ensure the plants against much injury. In the case of such early blooming kinds it is impossible to get flowers of fine quality by this method of culture, and for this reason some who grow Chrysanthemums largely in this way make an exception in favour of *Elaine*, and keep the plants in pots all through the summer. As this variety is so largely used for wreath-making and church decoration, it is not so much size of blooms as purity of colour that is required. Very large blooms are not so suitable for wreaths and crosses as medium-sized ones that are up to the mark in form and colour. For the London markets, the varieties that yield an abundance of flowers of this description are most valued. In their respective colours, *Golden Gem*, *Cullingfordi*, *Boule de Neige*, and *Mlle. Lacroix* may be said to realise the needs of the florist. It is only occasionally that they require blooms that in any way approach the exhibition standard. Nearly all the late blooming kinds will yield nice marketable flowers by the rough and ready way of growing now generally practised in market gardens. If

housed early in October they have time to get hold of the ground by the time the buds open. I have never found any difficulty with plants that bloom in the middle of December, but there is some uncertainty when one wishes to extend the season up to February. I find that the defoliation which inevitably takes place during December seriously affects the expansion of the buds, and as the year approaches its end the roots come into a more or less torpid condition. In private gardens, where the plants can have ample space, the effects of short days and decreasing light are not so marked, but growers for profit, anxious to make the most of their space, pack their plants so closely, that there can be but little circulation of air among the leaves. In a mild winter, when the ventilators can be almost daily opened, the foliage will remain till the new year in fair condition, but in severe ones, such as the last, the greater portion of the leaves turn yellow by that time.

J. C. B.

Chrysanthemum Mme. C. Desgrange and the yellow sport *G. Wermig* are grown out of doors well and with fine effect by Mr. C. Gibson, Morden Park. A number of plants, with the colours alternate, is trained against a low fence alongside the path leading to his house. Being on the main road, it can easily be seen that this floral treat is appreciated by passers by. Of course the plants have been well cared for in the matter of water, and no disbudding has been done. The little hedge of bloom is a perfect mass, and no more than 2 feet high. In parts of the garden proper of Morden Park, these well-known early kinds are planted pretty extensively for the supply of cut blooms in quantity. When grown as they are here in well manured ground and constantly supplied with water, these Chrysanthemums are not the least useful or indeed beautiful among hardy plants.—H. S.

Chrysanthemum Mrs. G. Rundle is grown at Morden Park in a manner not often seen. The plants are allowed to grow to a natural break in the first place, as in the case of those grown for exhibition blooms. This gives them stems about 1 yard high; afterwards they assume a natural habit and are not pinched or the blooms thinned in any way. The result is on each plant a multitude of shoots covered with flower-buds, which will ultimately make a fine head of bloom. For mixing with *Palmas*, *Camellias*, &c., in large conservatories such plants are very useful.—H.

Chrysanthemum White Vivian Morel.—A pure white bloom of the type was exhibited by Mr. Agate at the National Society's show the other week. It is claimed to be a sport. Whether or not it is properly fixed remains to be seen, but I feel rather dubious about accepting these white flowers from pink varieties, as it has so often been proved that they are no other than results from early bud selection. Any way the particular bloom under notice is the best yet seen at an exhibition, and I hope it may continue white and be seen in the ordinary season (November). If that be the case, a great acquisition is in store for the many growers of the Chrysanthemum.—H. S.

Chrysanthemum Mr. E. Rowbottom.—This new kind, which obtained a certificate from the National Chrysanthemum Society, will, it is safe to predict, become a favoured variety for early blooms. The colour is a rich pleasing yellow and the bloom of a light, feathery character. It is especially free flowering, the specimens that were shown, which were about 5 inches in diameter, being cut from a plant that bore a dozen flowers. Although exhibited by its namesake, Mr. Jones, of Lewisham, can claim the credit of raising it from seed.—H.

Early Chrysanthemums are certainly increasing in favour, but more varieties of stronger colour would be welcome. The shades of colour are in many cases weak and lacking in variety. Unquestionably the most beautiful kind that has been raised of recent years is *M. Gustave*

Grunerwald, which has been called a pink coloured *Mme. Desgrange*—not an inapt comparison. The flowers are about the size of those of that type, and of exquisite colour—pink, melting away to white. At Kew we noticed that several early-flowering kinds are planted in masses, and they assist greatly to make the garden gay at this season. *Mme. Desgrange* is a mass of flowers, and other varieties are in full bloom. One is *Précocité Japonaise*, the flowers rose passing to crimson in the centre, whilst the other is *Précocité*, the flowers yellow. Both are very dwarf, dense in growth, and remarkably showy. Healthy groups of such fine single varieties as *Miss Rose* are smothered with buds. We hope to see the September and early October blooming varieties of Chrysanthemums grown largely in all good gardens.

Seedling Chrysanthemums.—Among the many interesting things connected with the Chrysanthemum to be seen at Morden Park is a batch of promising plants from seedlings raised in Algeria. From this source came *Gloire du Rocher*, a Japanese sort of great repute, and the new light yellow of last year, *Le Prince du Bois*. It is not too much to expect that Mr. Gibson will obtain something equally valuable this year.—S.

GARDEN FLORA.

PLATE 930.

THE SMALLER-FLOWERED CAMELLIAS.

(WITH A COLOURED PLATE OF *C. SASANQUA*.)

NOTWITHSTANDING the great number of garden varieties of Camellias that are now in cultivation (nearly all of which are double-flowered forms originating from *C. japonica*), there are very few distinct species, and of that limited number the giant of the genus, *C. reticulata*, has been illustrated by means of a coloured plate in THE GARDEN, June 14, 1890. The present plate represents *C. Sasanqua*, and it is so well portrayed thereon, that little need be said concerning its general appearance. The neat, freely-branched habit of growth, small leaves, and flowers to match, are all widely removed from those of the forms in common cultivation, and as a conservatory shrub it is both handsome and distinct, while Messrs. Veitch say it has at Coombe Wood proved itself to be much hardier than the ordinary Camellias, and also sets its buds more freely. A first-class certificate was awarded this Camellia at a meeting of the Royal Horticultural Society, on December 13 last year, when it was exhibited by Messrs. Veitch, who also showed a double white form of the same species. The plants then exhibited are said to have flowered in a cool house, which at that time of the year is especially noteworthy, and if this early flowering feature is permanent it will be an additional point in favour of this pretty little Camellia. It should make a good wall plant in favourable situations, and it will doubtless be employed by the hybridist, for between this species and some forms of *C. japonica* a very desirable class of Camellias might reasonably be anticipated. *C. Sasanqua* was found in Japan by Thunberg about the latter part of the last century, and was soon introduced into this country, but it is now quite a rare plant, though Messrs. Veitch are, I believe, busy working up a stock. There are several different forms, some with single and others with double blossoms, while I am acquainted with one plant that has the foliage prettily variegated. The leaves of this species

* Drawn for THE GARDEN in Messrs. Veitch's nursery by Gertrude Hamilton. Lithographed and printed by Guillaume Severeys.



CAMELLIA JAPONICA

are said to be used for the adulteration of Tea, and from the resemblance they bear to some forms of the Tea plant (itself now regarded as a *Camellia*), such adulteration would be difficult to detect. Four years ago two single-flowered varieties of *Camellia* were illustrated in THE GARDEN as Japanese *Camellias*, under which heading several forms were distributed by one of our leading nurserymen, and their appearance would suggest that *C. Sasanqua* had played a part in their production. The mere fact that single or at most semi-double *Camellias* are grown for sale serves to show the great difference that takes place in public opinion, for some years ago single-flowered forms of *Dahlias*, *Chrysanthemums*, and other subjects as well as *Camellias* would have been consigned to the rubbish heap, whereas now they have many admirers and are grown to a considerable extent. Where *C. Sasanqua* is employed for furnishing a wall out-of-doors, a south position should if possible be chosen for the purpose, in order that the wood may be thoroughly ripened.

CAMELLIA THEIFERA, the second to mention of these smaller growing species, is the well-known Tea plant, which is more generally met with under the generic name of *Thea*, though by the latest botanical authorities it is now included in the genus *Camellia*. The flowers of this are white and about a couple of inches in diameter, being composed of five spreading petals. As a flowering shrub this is not nearly as showy as some of the other *Camellias*, but still the pure white blossoms are very pretty when nestling among the dark green leaves. There are several forms in cultivation, selected, however, more from an economic point of view as Tea producers than for their beauty as flowering shrubs. Of the Tea plant there is a variety with variegated leaves.

Other species of *Camellia* are—

C. EURYOIDES.—A small-growing, white-flowered kind, said to be employed as a stock for grafting purposes by the Chinese, and though introduced in 1822, I am not aware that it can now be obtained in this country.

C. ROSEFLORA is very much in the way of *C. Sasanqua*, and apparently but a variety of it.

C. OLEIFERA.—Flowers white, 2 inches in diameter. This was at one period in cultivation, but does not appear to be so at the present time.

C. JAPONICA, so well known as the old single red *Camellia*, has given rise to an endless list of cultivated varieties, and is in itself a really handsome shrub, the foliage being more robust and of a richer hue than in most of the double-flowered forms. This *Camellia* is used as a stock on which to graft the others, and though seeds are rarely produced in this country, they are often imported, and when they germinate soon form stocks fit for grafting; while, singularly enough, it strikes root readily from cuttings, while the common forms are very difficult to increase in this way.

The flowers of the garden varieties differ a good deal in shape, there being the regularly imbricated bloom as well as the *Anemone*-flowered group; while a few, particularly *fimbriata alba*, have the edges of the petals fringed. T.

Ivy-leaved Pelargoniums at Swanley.—The zonal *Pelargoniums* are amongst the chief flowers grown by Messrs. H. Cannell and Sons in their Swanley nursery, but the Ivy-leaved section is also well represented. The double kinds are remarkably fine, and we made note of a few of the more beautiful. One of the finest is *Beauty of Castle Hill*, which bears very large flowers of a bright rosy colour, with a dark blotch on the upper petals. It is vigorous and very free blooming. *Rycroft Surprise* is another fine addition, a cross, we believe, between *Mme. Thibaut* and *Souv. de Chas. Turner*. We have previously noted this fine variety in THE GARDEN, and it is certainly unsurpassed for freedom and brightness of

colour, the flowers being of a salmon-pink shade. *Liberty*, pale magenta; *Edith Owen*, best described as rose-magenta, but not a dead colour; *Flambeau*, scarlet; *Galilee*, rose-pink, very free, and of excellent habit; and *Souv. de Chas. Turner* are all worth growing. The last mentioned is one of the finest of this section, the flowers rich rose-pink, and borne in large trusses, whilst individually they are larger than in any other variety. To these may be added *Beauty of Jersey*, very free, and of excellent habit, the flowers scarlet, touched with purple; *Jeanne d'Arc*, white, suffused with a lavender tint; and *Mme. Thibaut*, deep pink. There is also a fine collection of single kinds, two of the finest being *Masterpiece* and *Victoria*. The former has rich crimson-magenta flowers, borne with great freedom, whilst those of the latter are rose-pink.

THE WEEK'S WORK.

ORCHIDS.

It may be thought tedious by some were I to enlarge upon the importance of attending well to the heating of the houses at this particular period of the year, but it is of much importance that sudden



Camellia japonica anemoniflora.

falls of temperature should not take place in the houses even if it should happen that there may be a sudden change in the external atmosphere; we have already had those sudden changes within the last few days. It is even more likely that we may get such changes in October. It is generally towards morning that the frost is likely to take effect, and as we are now entering the period when sudden falls of temperature may happen, it is well that the treatment of the houses should be given when the thermometers show a lower temperature than they ought in the morning. When the temperatures happen to be very low in the morning my advice is, do not sprinkle any water about, keep the doors and ventilators close, and make up a sharp fire, being careful not to put on much fuel. One can have little or no control over a fire when the grate is choked full of coke or coals, and as the object is to get up the temperature quickly, a moderate-sized fire is best for the purpose; and not only so, but should the sun shine out brightly, it is much easier to damp up a small or moderate fire than a large one, which would have become a glowing mass rather too late to do any good, and with the sun shining brightly would do much harm. It may be taken for granted that the less artificial heat that can be used the better in any department; but we have passed through such a hot period, and that so recently, it would certainly for a time at least be better to err on the side of the

temperature being 2° or 3° too high rather than too low. The effects of cold at this season of the year are seen on the foliage of some Orchids when it is not far removed from the glass. The temperature of our own warm house fell below 60° on several cold nights, owing to the plants having to be removed into another house during painting, and the leaves of the deciduous *Calanthes* show that they do not like it. The time has arrived when the foliage will naturally decay, but it has become blotched and marked in places with decay rather too early, showing, I think, that it would be better if the temperature did not fall below 65° at this season. Other plants, although they do not so unmistakably show its effects, may feel it. All the beautiful species and varieties of *Phalenopsis* are easily injured by being exposed to a temperature below 65°, more so if the atmosphere is ever moist, because "spot" is engendered under those conditions, and this disease causes much consternation amongst growers. Although I write about it as appearing in collections, I can truly say that during the thirty years I have had charge of Orchid collections, it has never once showed itself on plants under my charge, and I fancy it is getting less common than it used to be. This is doubtless owing to two things: first, greater knowledge of the requirements of the plants, and, in the second place, better houses to grow them in. I well remember the late Mr. Dominy, who had for

so long a time charge of the Orchids at Chelsea, telling me that *Vandas* and some other Orchids had never succeeded so well in the new houses where large panes of glass were used. He fancied that the small panes and sash bars about 6 inches or so asunder were the best for Orchids. They were the best for engendering "spot" in the winter time, but I do not fancy they are the best for the general culture of the plants. Old growers doubtless can remember many handsome specimens of Orchids, especially *Aerides*, *Vandas*, *Saccolabiums*, &c., such as are now seldom seen, but in those days Orchids were few, and handsome specimens could be counted on the fingers of one hand, and everybody heard of them. Now they are plentiful in every public and private collection, and although I must be classed with the old growers, I have no hesitation in saying that the general health of all the leading collections is far in advance of what it used to be in the "good old times" of small panes of glass and sash bars placed closely together.

Those who are having their houses repainted, as we have had this year, should not only be careful to see that the plants are made thoroughly clean before being placed in the house again, but it is much better not to be in a hurry to get them back again after the painting is finished. I fancy the smell of the paint is as bad for the plants as it is objectionable to ourselves; besides, it is in every way better that the paint should be thoroughly hardened before the house is shut up. I have allowed a full week for the house to be empty after the painting was finished. During that time the pipes have been heated and the ventilators open night and day. It is better to make sure in a case of this kind. I well remember some twenty years ago one of our best Orchid growers getting a fine collection of *Cattleyas* into bad health owing to their being placed too soon into a freshly painted house—at any rate, I could never see any other cause for it; they were without exception pictures of health before the house was painted, and they never did any good afterwards. I am well aware that other causes might be at work, such as change of temperature in the removal of the plants from one house to another, but under careful management this ought not to happen. The careful cultivator will pay extra attention to his plants when painting is going on, and I may add that the fumes of paint from the pipes is even worse than that from the woodwork. The pipes should be heated when the paint is being applied, and if kept heated for a few days afterwards with an empty house and the ventilators open, there is not the least cause for

anxiety. I have found that keeping *Cymbidium Lowianum* rather pot-bound does it no harm, and if the plants get occasional doses of weak manure water the leaves still retain their healthy green colour. Some of our large specimens have been in the same flower-pots for two and three years; it is, therefore, quite time that they should be repotted, and this will be done in a few days, using good fibrous yellow loam, a little good peat, sand, and decayed manure. Attention should be given to the *Bolleas*, *Pescatoreas* and plants of this class. See that the leaves are quite free from red spider, and that the plants are kept near the glass roof in a moist equable temperature of about 60°. As many of them will be in growth the state of the atmosphere and temperature of the house is important.

J. DOUGLAS.

THE KITCHEN GARDEN.

CARDOONS.—The blanching of these must now be proceeded with. The plan of earthing at intervals is not the best, one earthing up about now being sufficient to ensure well-blanching produce. Care, however, has to be taken that the plants are perfectly dry before being confined, as if this is neglected the chances are the stems will decay. Any small leaves or suckers clustering about the base must be removed. Being of strong growth, the outer leaves must be gathered well up together, and then with some well-twisted hay-bands commence to bind the stems well around from the bottom, binding closely up to within a foot of the top. This being finished, the whole must be well banked up with soil, bringing the sides up sharply, and making smooth with the back of a spade so as to throw off wet. Any strong flowerless growths of *Globe Artichokes* which were reserved and prepared for Chards should now be treated in the same way as Cardoons, there being but little if any difference when cooked.

YOUNG CARROTS IN FRAMES.—On frames in which young Carrots were sown for maintaining a supply during the winter months the lights must now be placed so as to keep them free from cold autumnal rains, and also frosts. Where a sowing was made on a south border for the same purpose, the Bracken or litter covering should be left off until protection from frost is necessary.

STORING ONIONS.—Where the Onions were not spoiled by the Onion fly, good crops will have been secured and also harvested in fine condition, the bulbs being now very firm and clean. But to necessitate their keeping sound and good throughout the winter, it is very essential that they should be stored well and in suitable quarters. If the bulbs are stored where they may be under the influence of warmth and also close, they will not be long in starting into growth, when, of course, their keeping properties will be much impaired, damp also being an enemy to guard against, this causing decay. The best position is a cool and airy loft where they will not be subjected to frost, laying the bulbs out thinly. The bulbs keep the longest when they are roped, and where the crop is short this will be found to be the best means of preserving them so as to prolong the supply. Where there is not a good store, the "ropes" may be hung up in an open shed, and then during severe frost they may be taken down and placed away from harm, to be replaced again after the frost has passed away.

PRICKING OUT CABBAGE PLANTS.—The plants of the succession kinds of Cabbage, such as *Enfield Market*, *Nonpareil*, or any other approved kind, may be planted out into their respective positions directly they are fit, these forming a good succession to the early varieties recommended to be planted in a former calendar. In the case of ground not being ready, the young plants should be pricked out into nursery beds to come in for spring planting, as if left as they are in the seed bed they become overgrown, and in this state are apt to suffer if a severe winter should come upon us. It is also advisable to prick out a bed of any small plants left over from the earlier plantings for filling up any gaps in the spring.

MUSTARD AND CRESS.—The season is now past for raising this under cool conditions. A succession in most cases being a necessity, the sowings should take place at not less than weekly intervals. Although such a simple crop, there are often failures with it, decaying sometimes just before ready for use. This is mainly on account of using exhausted soil, which probably has produced a crop or two previously. The soil must be rich and light, and also fresh, and then there is no difficulty if given sufficient warmth and moisture. Ordinary cutting boxes are the most suitable, these being filled with soil, the rougher being placed at the bottom with a layer of fine for the surface. A gentle watering should be given previous to and after sowing. It may also be necessary to add that the seeds should be pressed in. Shade heavily, as darkness is essential both for regular germination and securing a sufficient length of stem. When ready for use remove to a cooler position.

A. YOUNG.

PLANT HOUSES.

EARLY BULBS.—**ROMAN HYACINTHS.**—Where the bulbs have been obtained and potted or boxed up early as advised, the forwardest will now be well advanced in growth both at the roots and upwards. In our case the shoots are fully 3 inches in length; these with a little steady warmth will soon be in flower to commence the season. After a few boxes have been thus brought for the very earliest, the others will follow from the earliest started ones in the cold frames without any difficulty whatever. We have moved the early boxed ones under cover for several days; in doing so we found that the roots had already penetrated into the ashes beneath. This fact proves that they will come on well with but little inducement. It is useless to attempt to force early when good root action has not taken place. Nothing is more conducive to failure, and if this does then occur, it is not fair to blame the quality of the bulbs when the fault lies nearer home. Look to it that none suffer for want of water; the roots will not work kindly in the soil if it be on the dry side, and this may possibly happen where the rainfall has not yet been sufficient to thoroughly penetrate to the bulbs and their surroundings. If any bulbs have not yet been potted up no time should now be lost in getting the work done, otherwise the bulbs by later exposure will be weakened in growth; even if not wanted until the turn of days, it is better to pot up and then keep them quite cool.

OTHER HYACINTHS.—The general stock of these should now be got in, as, in the other case just quoted, these also will be none the better for remaining out of the soil any longer. One of the best successions to the Roman Hyacinth is the straw-coloured French, the value of which is not yet fully realised. It will come into flower very well for Christmas if potted at once, although I would prefer to have had it done a fortnight or three weeks back; thus it will be a fitting companion to the later Roman. The older type of Hyacinths for forcing from Christmas should at once be put in; in fact, it is now rather late for early work if time be allowed for rooting. The earliest kinds can be easily chosen from a good bulb catalogue; these bulbs it will pay to order by the dozen far better than only having one or two of each sort. Choose the best and depend on these after having secured the desired colours. No fault can be found that the early sorts are in any sense dear ones to purchase, and as these prove of the greatest value through January and February, they should not be lightly passed over. In potting these and the later sorts at one time, each should be kept separate from the other, so as to save future trouble. The early ones may well be potted up in trebles, thus producing a far better effect. For this purpose 6-inch pots are the best ones to choose, a saving of pots and room also being thus effected.

OTHER BULBS.—These, as Tulips and the *Narcissi*, should also be got in at once; good sorts of each should be depended upon. *Keizer Kroon*, *Vermilion*

Brilliant, and the old *Tournesol* are not easily surpassed for utility amongst the former, nor are *Grand Monarque*, *Gloriosa*, and *Soliel d'Or* of the latter. Do not lose sight of such fine kinds as *Bazelman* major, but unfortunately it is still dear. The *Daffodils* should also be potted or boxed up without any further delay, more particularly if they are intended for early forcing. These are as likely to fail as any bulb, when forcing is attempted, if the roots are not well in advance. Where such as *Crocus* and *Scillas* are found to be of service, as in the conservatory or elsewhere, these also should be attended to. They both make a beautiful display when in flower, giving colours not obtainable so easily in other things.

LILIUM HARRISI.—The earliest bulbs are already to hand from Bermuda, and no time should be lost in securing them for early flowering. In any case I would prefer to get them in at once to save injury by exposure to a dry atmosphere. These will often start into growth of their own accord if not kept quite cool; this is no more desirable in their case than in others already instanced. It is a mistake to use large pots for this Lily. What are termed small 32's or large 48's are amply large enough for the best of bulbs when potted singly. In larger pots with more soil there is the risk of too much water being given them, the roots consequently suffering long before their work is done, the flowers thereby being weakened.

LILIES OF THE VALLEY.—The earliest of these will soon be to hand; then if extremely early flowers are desirable they should be potted at once when they can be started; otherwise I prefer to let them rest awhile after being potted up. As a rule I think Christmas is quite early enough to have them in flower. Do not in any case let the single Berlin crowns be exposed after their arrival, otherwise the roots will be weakened beyond recovery. Immediately they are received it is not at all a bad plan to dip them into water for a few hours and then plunge in soil or cocoa fibre refuse to keep them moist until potted.

FREESIAS.—None should be left out of the soil any longer now. If not wanted for forcing it is all the same, the small tubers suffering, with a tendency to shrivel if left exposed. Pot up and keep quite cool is the better plan. Early potted ones, I note, are already several inches high, but for these a cold frame will still be good enough for weeks to come.

JAMES HUDSON.

FRUIT HOUSES.

MELONS.—Without being actually in great demand, a few late Melons are yet very serviceable, being a welcome addition to the more than ordinarily meagre list of dessert fruit. In order to keep the latest formed fruit swelling freely, rather high temperatures must be maintained, 70° being the lowest figures permissible during the night, with a slight increase in the daytime. Keep the soil uniformly moist, liquid manure being applied occasionally, especially where the roots are much confined. Remove all superfluous shoots and sling up the fruit at first by means of ties at the stem, a few strings or strips of raffia being passed under and round the fruit a short time before the ripening period commences. When nearly or quite all the fruit are fully grown and are on the point of colouring, give rather less water at the roots, but at no time permit the soil to become dust-dry. Remember also that the fruit nets most perfectly when not unduly shaded by foliage. Late fruit keeps very much longer after it is ripe than do Melons cut earlier in the season. If cut before they are either cracked or on the point of separating from the footstalks, they will keep well for three weeks or a month in a dry fruit-room and be found good to eat at the end of that time. *Hero* of Lockinge and *Blenheim Orange* are among the best keepers.

CUCUMBERS.—Where red spider has been kept in check, plants put out in ridges in well-heated houses some time in July or early in August will very probably be nearly or quite as productive as

at any time previously. If it is desirable that they should be kept in a bearing state for some time longer, rather light cropping ought to be the rule, nearly or quite fully-grown fruit in particular being kept closely cut. Cucumbers are certainly at their best when used quickly, but will at this time of year keep fairly well if stored in a cool room with only their footstalks in water. Cut out exhausted growths and allow some of the clearer young shoots to extend freely before stopping, this stimulating root-action and is also the means of getting a number of fruiting side shoots. If the reserved older leaves are syringed with water in which a handful of flowers of sulphur has been mixed, this effectually checks the increase and spread of red spider. Overhead syringing should be resorted to only on clear days towards noon, and much less water at the roots than heretofore should be given. There is no necessity to ventilate at any part of the day, both old plants and younger ones thriving best when the house is kept constantly close. The night temperature ought not to fall below 70°, and a fair amount of atmospheric moisture should be kept up by means of damping down the walls and floors occasionally. Quite young plants that are to bear fruit during the winter ought especially to be lightly cropped. After the trellis is thinly covered with haulm practise close stopping of side shoots, one, or at the most two joints being left to all that there is good room for. A brisk heat and moderately moist atmosphere being sustained, root action will be brisk, quite filling the lumps of fibrous loam given occasionally by way of a top-dressing with fibres. Very much depends on this root activity, and the loam ought always to be as coarse and open as possible.

STRAWBERRIES IN POTS.—This season there ought to be few or no plants not well established, but if from any cause the final potting was late or the plants are very weakly, it is advisable to do something towards assisting them to mature their growth. All that stand in need of it should be placed in cold pits or frames, being raised well up to the glass, freely ventilated, and not allowed to become dry at the roots. It is yet somewhat early to store Strawberries in pots in rough pits or frames, but all should be moved with a view to preventing roots from leaving the pots, being also cleared of runners and weeds if any. If a single strong crown is preferred to two or three, it is not yet too late to remove all but the stoutest, and the latter will plump up more strongly accordingly.

LIFTING FRUITING STRAWBERRIES.—A considerable number of plants that fruited in the open early last season, in addition to those that were turned out from forcing houses, have borne, or are bearing good second crops. So heavy are these late crops, that it would pay well in many cases to lift a number of plants in order that the unripe fruit may have a chance of swelling and ripening under glass. Heavy rains having fallen, the soil may have become well moistened, otherwise it will be better to use the watering pot freely before lifting rather than attempt remoistening the hard, dry soil subsequently. They should be dug up with a moderately large ball of soil about the roots, and be placed in pots that will hold them without a severe reduction being necessary. What little fresh soil is needed ought to be rather rich. The smaller pots may be set on shelves in Peach houses and vineries, the fruit ripening well in these or other cool, light quarters. Some of the plants may need 10-inch pots, and these can be arranged in the front of fruit houses generally.

STORING LOAM.—After enough rain has fallen to well moisten turf, and before it becomes saturated, is the time to cut and store for future use. Very often there is no choice, fruit growers in such cases having to do the best they can with available material. For Pines it is of the greatest importance that a good brown fibrous loam should be forthcoming, nothing but the thin strip of turf from an old, well-drained pasture being really suitable for these. It ought to be cut and stacked, grass downwards, apart from the rest, and if kept fairly dry should be in prime condition for use

next spring. Also cut and stack turves not more than 2 inches thick for Vines, Peaches, Cucumbers and such like. A rather strong loam best suits the first-named, and in fact most other fruit trees, but Cucumbers should have soil with little or no clay in it. Melons, on the other hand, thrive best in a solid root-run, fibrous loam not being indispensable in this case. In many instances the soil immediately below the top strip of turf would suit Melons well, and could be dug in quantity, ordinary garden soil being substituted and the turf restored to its original position. If the removal of turf is objected to, and it is a very common occurrence, the same plan might be adopted when fresh loam is required in quantity for other purposes. The turf should be pared rather thinly, and it will then be possible to dig a thin layer of fairly fibrous loam from underneath. Rather rich fibrous loam answers best for top-dressings, and if a thin layer of good farmyard manure alternates with the turf in a stack, this will improve it considerably. Soil generally should be stacked where there will be no likelihood of its becoming saturated by stagnant water, and where also the roots of Elms or other forest trees cannot reach it. A hard, dry bottom is preferable.

PRACTICAL.

ROSE GARDEN.

ROSES AT COLCHESTER.

THE present year, although exceptionally trying for the flowers of Roses, has not affected the plants. We are surprised at their healthy and vigorous aspect, rewarding us at this late date with a profusion of bloom. It is the Tea section in particular that is most noteworthy, and when in the nursery of Mr. B. R. Cant at Colchester a few days ago the plants were in full beauty, giving promise of continuing in that condition for several weeks. Roses this year have proved most quixotic. The calculations of exhibitors have been entirely upset, and in Essex—in fact the eastern counties generally—the flowers at the time the shows were in full swing were not in perfection. Those who care little for shows do not grumble at this, as the autumn display is highly enjoyable. The nursery of Mr. B. R. Cant stands on hilly ground, overlooking, so to speak, the town of Colchester, and here on this exposed breezy spot the Roses flourish in a way seldom seen in other parts of England. Of course the highest culture is given, and at an interval of a few years the position is changed, whilst the soil is of deep, strong character, with the result that the Roses are in the rudest health. All classes are grown, and especial attention is being given to the garden types, as the Provence, Moss, Bourbon and others, which are increasing greatly in favour. We have only to visit an exhibition to know this, and the splendid bunches of flowers are amongst the most pleasing features. The Roses are for the most part upon the Brier stock, and Mr. Cant gives preference to the cutting Brier.

It is the Tea section that we may first mention. Jean Ducher has proved one of the best varieties this year, and though a comparatively old Rose, having been distributed by Ducher in 1874, it is of note, the plants strong in growth, and the flowers of a charming yellow shade, suffused with salmon, which is touched with rose in the centre. Marie van Houtte is also superb this year. It is interesting to note the behaviour of certain varieties placed under similar conditions. Mme. Pierre Guillot, one of Guillot's most recent additions, is evidently of no good for England, at least in the eastern counties it refuses to bloom with freedom, the flowers developing far better under glass. Sappho, raised by Messrs. Wm. Paul and Son, is a splendid variety as seen here, a good garden Rose, exceptionally free, the flowers of an apricot colour, suffused with rose, passing to rich yellow in the centre. Very beautiful is the variety Mme. Bravy, which is a very old kind. It was sent out by Guillot as far back as 1848, the flowers of charm-

ing shape, white, suffused with delicate pink in the centre. It is still one of the best of the Tea-scented varieties. Princess of Wales, one of the late Mr. Henry Bennett's seedlings, was in full bloom, but it varies greatly in colour, sometimes almost a rich rose; the characteristic colour is deep yellow in the centre of the flower, the outer petals touched with rose. Rows of Rubens are worth noting, and also of the variety Souvenir de S. A. Prince, which is placed against Catherine Mermet, its parent. There is no difference between the two except the important one of colour, the sport being white, the flowers large, full, and of great value for cutting. A Rose that will be useful in the garden is Grand Duc Guillaume de Luxembourg, to give its full name, but an abbreviated form of this is essential. French raisers seem afflicted with a mania to give names to their novelties of inordinate length, but no greater mistake can be made. This new Tea Rose will not, we think, be of much account for exhibition, but the rosy-coloured flowers are bright, produced freely, and the plant is compact and vigorous. It was raised by Souper and Notting.

In a field of several acres is a splendid piece of standards and half-standards, and it may be useful to our readers to give an indication of the most successful varieties in this form. Amongst Hybrid Perpetual varieties, Merveille de Lyon is one of the finest. It is a splendid Rose and makes sturdy half-standards, the large flowers of a creamy white colour touched with rose. Of course, Mrs. John Laing is of note, but this seems to succeed under all forms. La France did not bloom well in the summer, but it is very beautiful just now; whilst a note may be made of the popular Maréchal Niel as a half-standard, a large break of this kind being in bloom. It makes a better climber for the conservatory or greenhouse when grown as a half-standard than as a dwarf. When visiting Mr. Cant some time ago we mentioned Suzanne Marie Rodocanachi, raised by the celebrated Verdier. It was very beautiful in late September, and also flowered freely during the summer months. The flowers are clear shining rose in colour, bright in the garden and useful for exhibition. Curiously this year the dark Roses have been in perfection, and kinds that seldom prove satisfactory were in superb condition, such as Pierre Notting, of intense colour, rich crimson, touched with a purplish tone. One would suppose that the dark Roses would have been burnt up by the fierce sun, but such is not the case. The only reason why this type fails in warm countries is the scorching of the petals through excessive heat, but in the height of the show season the dark Roses were the most beautiful, in spite of tropical sunshine. We think that the experience of Mr. Cant is general. There has been much discussion respecting the American kind named Waban, a Tea-scented variety, but it is not thought much of here. The flowers are pleasing in a way and the crimson colouring is bright, but it is not a Rose for general cultivation. Perhaps a more lengthy trial of it will produce a better impression. Mme. de Watteville, a Rose which is of delightful beauty when in true character, was sent out by Mr. Cant and raised by Guillot. It is not so satisfactory as one would like this year, although on half-standards we saw some very good blooms, but they are not constant. Such favourites as Mme. Lambard, Anna Ollivier, Souvenir d'Elise, Mme. Hoste, Mme. Cusin, which is, unfortunately, inclined much to mildew, Luciole, Ethel Brownlow, Amazone, the Hybrid Tea Augustine Guinoisseau and Isabella Sprunt are very beautiful.

Nothing except Roses have a place in this nursery, and every style is grown. We were pleased with a fine break of climbing kinds, including many that are little known as yet in gardens. One of these is Henriette de Beaurveau, one of Lacharme's acquisitions, and sent out in 1887. But it is not often seen, although a very fine climber, strong, free and useful either under glass or in the open. The flowers are rich yellow, full and very sweetly scented. Mme. Berard is of the Dijon type, but it is difficult to eclipse in general excellence the old Gloire de Dijon, a Rose for every garden, and

without rival for freedom, fragrance and bardiness, in spite of what some writers aver, that there are other superior kinds. It would be interesting to know their names. A strong growing climber comparatively little known is the Tea-scented Duchesse d'Auerstadt, one of Bernaix's acquisitions. The flowers when in the bud are deep yellow, but on expansion get a tinge of nankeen colour. It may be recommended for the sake of variety amongst climbers, because, however beautiful a certain kind may be, it should be varied with others. W. A. Richardson was superb for colour, and L'Idéal, raised by Nabonnand, was bright with many flowers. It is exquisite in the bud, but the flowers are thin when fully expanded, the colour, however, being yellow and crimson shaded, touched with gold. It makes a strong rambling growth. One of the most recent additions to the Gloire de Dijon type is Kaiserin Friedrich, which was raised by Drogemüller. It is distinct, but resembles most closely Mme. Berard, the flowers yellow with a tinge of apricot in the centre, a few petals perhaps tipped with rose. Judging from the specimens here, it is of strong growth. Climbing Niphetos has become a thoroughly well established climber, and it was very beautiful at Colchester. When first sent out by Messrs. Keynes, Williams and Co., we thought it too close to Niphetos itself for any award, but the climbing habit is very pronounced, whilst as regards freedom and beauty of flowers it is identical. A very welcome climbing Rose is Climbing Perle des Jardins, which is most suitable for walls or under glass. It has bloomed remarkably well this year, and is a sport from Perle des Jardins. A Rose that has been exhibited frequently this year is Gustave Regis, a good variety for a wall and of vigorous growth. The flowers are nankeen-yellow, and in the early summer the buds are very long, but not in the autumn. A new Rose that has not yet bloomed at Colchester is Climbing Souvenir de la Malmaison, sent to Mr. Cant from Mr. Bennett, of Australia, where we believe it originated. It is described as a vigorous climbing sport from the old Souvenir de la Malmaison, and if it is as fine in other respects will be a valuable novelty.

A Rose that has been exhibited on several occasions remarkably well by Mr. Cant is Gustave Piganeau, one of Pernet and Ducher's finest seedlings. The flower is of immense size and almost faultless for exhibition, its colour being perhaps best described as a deep shade of carmine. It promises to be as useful as Ulrich Brunner, which became a favourite at once. Three other Roses may be mentioned, and one is Mons. de Morand, sent out by Schwartz in 1891. The flower is large, and the colour deep velvety crimson. Judging from the plants here, it is a thoroughly good kind. Gen. Baron Berge appeared about the same time, and is one of Pernet père's additions. This will prove, we think, a good dark Rose for the garden, the flowers bright red and very free. It is a good grower. Amongst Teas a very fine Rose of comparatively recent date is Ernest Metz, a variety highly prized in the garden and exhibition, the flowers soft carnation-rose, which deepens in the centre. They are held on a sturdy stem, and useful for cutting. A bed of it in the garden is full of charm, and the plant blooms well through the autumn.

The Manetti stock is not in great favour at Colchester, as we have previously remarked, but a large break is on this stock, and the varieties comprise twelve of the most useful garden Roses in cultivation. We give the names, as such a short and select list might prove of value to amateurs who want only a few kinds. They are the old, but still worthy Alfred Colomb, A. K. Williams, Charles Lefebvre, Gustave Piganeau, La France, Marie Baumann, Merveille de Lyon, Mrs. John Laing, Suzanne Marie de Rodocanachi, Ulrich Brunner, Prince Arthur, which was raised by Mr. B. R. Cant, and Jeanne Dickson, raised by Messrs. A. Dickson and Sons, a splendid variety, the flowers large, silvery rose in colour, and very fragrant.

An important and fast-increasing class of Roses is that called the Hybrid Tea-scented, but this

section is getting much mixed, some of the more recent additions being as like a Hybrid Perpetual as a Tea. But we place all kinds under this heading that are so arranged in the best catalogues. The Hybrid Teas this year have been in most places a complete failure, with the exception of the varieties Grace Darling and La Fraicheur; but at the present time they are making amends for their behaviour earlier in the season, several kinds blooming very freely. Grace Darling, which is one of Mr. Henry Bennett's best Roses, is a thoroughly good variety for gardens. It commences to bloom early and is one of the last to cease, whilst weather seems to have little influence upon it. The flowers are full, creamy white, lightly touched with rose, and the petals are margined with the same shade; whilst both leafage and growth are exceptionally robust. Mr. Cant praises La Fraicheur highly, and plants on the cutting Brier are very fine, whilst in pots it is first-class. The flowers are of a rosy shade touched with carmine, and the buds long, expanding into a full handsome bloom. Lady Henry Grosvenor, quite a new Rose, is especially recommended for pots, and its blush-white colour is certainly pleasing. One of the more famous acquisitions to this section is the variety Caroline Testout, a very beautiful Rose, and the plants

upon this stock and in rude health. Near Mr. Cant's residence are some noble bushes of well-known kinds, which show the beauty of the Rose when advanced in age, large standards covering much ground and giving hundreds of flowers.

MILDEW ON ROSES.

THIS disease has come on very suddenly—in fact during the last week my plants have become smothered with it. Of the two, I think the Hybrid Perpetuals upon the Brier stock are most affected. There is no disease more annoying or destructive among autumnal Roses than mildew, and, unfortunately, the last few weeks have been greatly in favour of its development. The nights have been exceedingly cold for the time of year, and when these are contrasted with the hot days we discover a serious difference between the two temperatures. In some respects it is very seasonable, for no one who has given a little trouble and observation to the matter can doubt but that plants grow much more during the night and early morning than they do throughout the remainder of the day. Now as we do not want much more growth colder nights are beneficial, while the fine



Nephrolepis davallioides furcans.

were blooming with great freedom. Each row was bright with colour, the flowers large, reminding one something of those of La France, and soft pink, in which there is a suspicion of salmon shade. It will, we think, become much grown both for the garden and exhibition. Viscountess Folkestone, one of the most beautiful of Bennett's Roses, has not been so good this year as usual. It requires cooler weather, but it is a Rose that should be in every collection. The flowers are very beautiful early in the season, and even now are satisfactory, whilst the cream-white colour, touched with a delightful salmon-pink shade, is unsurpassed. A group of this should be planted, as in this way one gets the full beauty of the large, informal flowers.

Much is said and written against the De la Grefferie stock, but for a certain class it is of value. A large break in Mr. Cant's nursery is upon this stock, but only used for the very strong growing climbers. Perhaps they are no better on this stock than on the Brier, and if matters could be reduced so that only one stock is used, so much the better for gardening. Such very vigorous varieties as l'Idéal and Homère were in marvellous health upon this stock, the last-mentioned variety in particular, which we have never seen so beautiful in the autumn months. That splendid trio, General Jacqueminot, Jules Margottin, and Gloire de Dijon, are

and dry autumn is ripening the wood of Roses in a splendid manner. But it is owing to these extremes of temperature that mildew has increased so rapidly during the past fortnight. Mr. Mawley's interesting note upon the "Weather in West Herts" is very similar to that experienced in mid-Sussex. More than once last week the temperature reached 100° in the sun, and upon two occasions there was slight frost in the morning, with a dense and very cold fog on Friday. Whether indoors or out, plants that are so subject to mildew as the Rose cannot stand these sudden changes. That this is one of the chief causes of mildew has been noticed over and over again, and we find yet another instance this season. All through the hottest part of the summer, when both day and night were proportionately warm, we did not suffer from mildew, but early in the season, when the temperature was fluctuating considerably, we were threatened with a severe attack. It is already very general upon Roses in this district, and autumn crops of bloom are greatly damaged. The parasitic character of mildew robs the plant of all life and energy, while at the same time it chokes up the pores and arrests all development of foliage. There is no remedy really worth the trouble for outdoor application in the autumn, but in the spring and early part of the summer remedies are

necessary. You cannot possibly kill and prevent the recurrence of this disease upon Roses in the open border late in the season, the chief causes being so entirely beyond our control. But where it has attacked plants under glass measures should be taken to eradicate it and prevent its spreading. I have already pointed out that the chief causes are the extreme variations in the temperature. We can remedy this under glass, and with care, combined with a few simple remedies, mildew may be prevented from doing much harm. At night time, so long as we are favoured with such extremes of temperature, it will be found much better to close the house, opening again about 7 or 8 o'clock in the morning. In the case of plants that are almost ripe, and which are not intended for early forcing, I am not much alarmed at the presence of a little mildew, and would rather open the houses sooner than risk the too premature excitement of their wood. In this case a stronger solution of the insecticide I will presently name may be used when all of the foliage is off. Some authorities state that the spores of this fungoid disease remain in the soil. While not disputing this fact, I am certain they will not germinate unless it be under favourable conditions, and as it is, or should be, the aim of all growers to avoid this,

syringing the plants, otherwise the bulk of the paraffin will be at the top and the sulphur at the bottom of the solution. This is a splendid remedy for mildew, and can do no harm. Use it freely, bringing the whole of the wood and foliage into contact with it, and applying it immediately mildew appears. The sulphur and paraffin are death to all mildew spores they come into contact with, and at the same time they leave the foliage clean and in a disease-resisting state. I have tried many remedies, but this is the cheapest and most effectual I have yet met with. Not only is it deadly to mildew, but it kills green-fly, red spider and thrips.

In mentioning the chief causes of mildew, I did not give sufficient attention to watering. Sudden atmospheric changes are only little more injurious than the same extremes in moisture. We are occasionally reminded of this very forcibly. One may have been watering a few plants in order to throw more size and colour into an exhibition bloom. When this has been secured, less attention is oftentimes given to the plants, and mildew attacks them much more than those which had no artificial watering. Under glass, too, we find neglect in watering has a great influence upon the appearance and spread of mildew. Whether it be

A. Carrière, white, with a yellow base; Gloire de Dijon, buff; Rêve d'Or, yellow; Mme. Chauvry, copper and nankeen; Mme. Berard, buff and orange; l'Idéal, coppery orange and peach; and Gloire de Bordeaux, deep rose. All of the above are very hardy, and will afford a good variety of colour. They may be planted 12 feet apart and trained to meet one another. A long iron fence in my neighbourhood is completely clothed with the four first varieties I have named. As the plants will be much exposed, together with the fact that frost is more injurious near to water, I would advise allowing them to grow at will, simply removing a portion of the oldest wood late in each spring. For growers of more compact habit I would choose the following dozen as being very hardy and free bloomers: Annie Wood, deep scarlet; Baroness Rothschild, delicate flesh; Dr. Bailon, deep carmine; Dupuy Jamain, bright cerise; General Jacqueminot, deep scarlet; Francisca Kruger, copper and peach; Goubault, rosy pink; Homère, rose and flesh; Mme. de Tartas, bright rose; Captain Christy, clear flesh; the common blush China Mrs. Bosanquet, pale creamy flesh; and Souvenir de la Malmaison, white and flesh. Three feet apart will be none too close for the above if the fence is to be clothed as soon as possible. If a few more of the darker coloured kinds are wanted than can be found among the climbers, they may be selected from the list of shorter growers, the relative distances apart recommended for each being observed.—R.

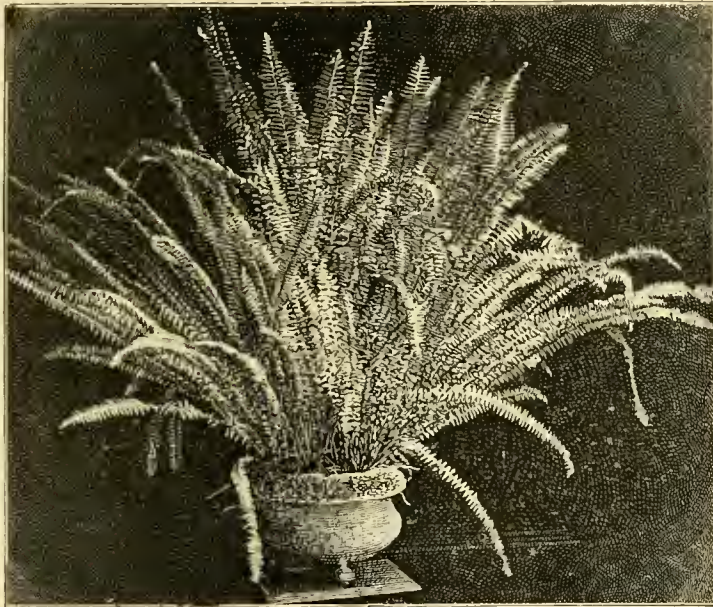
FERNS.

NEPHROLEPIS.

I AM asked by Mr. Watson, a reader of this paper, to say a few words upon these Ferns. The falling pinnae and the bare stems he complains of are the result of dryness at the root. The genus has a very wide distribution, being found in both hemispheres. Some of the kinds are useful for planting in the stove fernery, while many of them form excellent specimens for pot culture. They also make beautiful objects when grown in hanging baskets. Water must always be given in abundance, as well as plenty of moisture in the atmosphere, for by this means I believe the long creeping roots and young shoots obtain a great amount of sustenance. Although these plants require such a large amount of water, they do not like it to be about them in a stagnant manner, so that it becomes specially requisite to provide ample drainage, using for soil two parts good loam, one part leaf-mould and one of peat, the whole made sandy and thoroughly mixed. The following kinds are well deserving the attention of Mr. Watson, or, indeed, any grower and lover of Ferns; all of them like stove heat:—

N. BISERRATA.—This, which appears to be very widely distributed, is a fine strong-growing plant, admirably adapted for a pot specimen. It makes large fronds from 2 feet to 4 feet long, and indeed Col. Beidome records them double that length; pinnae some 5 inches or 6 inches in length and about an inch in breadth, both surfaces tomentose when young, but with age becoming smooth and deep green.

N. DAYALLIOIDES.—Another kind which, like the one previously named, succeeds best when grown as a pot plant. The fronds, which are some 3 feet or more in length, are arching, the pinnae large at the lower part of the frond, but in the upper part they are contracted. It is one of the best and most handsome Ferns for the stove decoration or for public exhibition. This fine plant is said to have been introduced from Java about forty years ago by the Messrs. Rollisson, then of Fotheringhay. The cut herewith represents a form of it called furcans.



Nephrolepis exaltata.

and also bearing in mind that a few of the spores are certain to be in the soil, and are capable of such rapid reproduction, I fail to discover any advantage in lessening their number now. This is only referring to ripe plants. When young growth commences again, we must avoid giving the spores any opportunity to germinate, and if the following solutions be used as directed, with careful ventilation and watering, I have very little fear of mildew under glass.

I find the cheapest composition to be good soft soap boiled for about ten minutes, and immediately it is taken off the fire I add a wineglassful of paraffin to every pound of soft soap, also about the same quantity of flowers of sulphur. Stir the whole together, and give it a few turns at intervals while cooling. I have given the amounts in the above form to simplify matters, and if a gallon of water be used when boiling each pound of soap, the result will be ample for making 12 gallons of solution. More or less may be made, but it will be best to manufacture enough for more than one application, as it will keep good for a long time. Before adding any of the mixture to a larger quantity of water it should be thoroughly stirred together. The same precaution should be taken when

a check afforded by drought or from sudden atmospheric changes, the result is much the same; the tone of the plant is lowered, and consequently any disease gains an easier footing. Most of the advertised insecticides will check mildew, but when used at the strength recommended they are somewhat expensive. They may, however, be considerably improved by the addition of more sulphur and a little paraffin when used for the purpose under notice; in this case half strength of the original insecticide will be sufficient.

RIDGEWOOD.

Roses for exposed positions.—In reply to a query upon p. 294, I would suggest that the following varieties be used. Roses with a bushy habit would be preferred, so I propose dividing the list into two sections—extra vigorous growers, and those with a dwarf and more compact habit. For my own part I should choose the vigorous growers, and train the shoots horizontally right and left of each stool. By doing this the fence will be covered more quickly. Strong growers.—William Allen Richardson, orange and apricot; Miss Glegg, white; Aimée Vibert, white; Reine Marie Henriette, red; Dundee Rambler, blush white; Mme.

N. ENSIFOLIA.—In this plant we have a remarkably fine and useful kind for the fernery. The fronds grow from 2 feet to 4 feet long, having broad pinnae about 4 inches in length and bright green; these are borne upon a very slender rhizome and are pendent.

N. EXALTATA.—This is the one which Mr. Watson encloses for a name. It is the one most commonly met with, and it is as widely distributed. When grown in the stove with arching fronds from 3 feet to 5 feet in length, and bearing upwards of 100 pairs of pinnae, which vary in length from 1 inch to 1½ inches and pale green in colour, it is one of the most beautiful kinds.

N. FALCIFORMIS.—This is more suitable for a pot specimen, because its fronds are more erect in growth. I have only seen this plant with fronds some 2½ feet long and 4 inches broad in the widest part. The lower pinnae are sterile. The sori are large, forming a decided ornament. It comes from Borneo.

N. HIRSUTULA is a species not commonly met with, a great many associating it with *N. exaltata*, from which it is quite distinct. It is erect in habit, from 18 inches to 2½ feet long, and 2 inches to 3 inches broad; the rachis clothed throughout with bright ferrugineous hairs, and the pinnae also covered more or less with short ones of the same colour. This plant one of the most beautiful of the *Nephrolepis*.

N. PECTINATA is a small-growing and exceedingly pretty Fern. I have received specimens from J. Reynolds, some of which are forked at the top, which is quite unusual. The normal form of the plant is to have a frond from 1 foot to 3 feet in length, and about 1 inch in width, the pinnae being set very close and bright green. It is a grand plant for the rockery.

N. TUBEROSA.—This is an evergreen plant which makes tuberous roots, and hence it has been confounded with *N. undulata*, from which, however, it is quite distinct. It is an excellent basket Fern, and produces pendent fronds some 18 inches or 2 feet long and deep green. It much resembles a gigantic form of *N. pectinata*.

N. UNDULATA is a very pretty species, quite distinct from any other which we have in cultivation, and it is admirably suited for basket culture, being deciduous. The fronds are usually from 1 foot to 2 feet long and between 2 inches and 3 inches wide. The brown sori make it a very showy plant, the upper side being light soft green. Care must be taken not to dry it too much during the resting season.

W. HUGH GOWER.

THE LITTLE TREE FERN OF HONG-KONG.

(*BRAINEA INSIGNIS*.)

AMONG some specimens of Ferns named by me last week for "Globe Trotter" I omitted one or two. One which he thinks is *Brainea insignis*, after careful examination, I consider a narrower form than usual of *Blechnum orientale*, which is a somewhat common Fern throughout India, but I am unaware if it is found in the island from which the *Brainea* was first introduced, and which, with the Khasya Hills and one or two other places on the Indian territory appear to be the only places where it is to be found. *Brainea insignis* is a very elegant plant, which a few years ago I was glad to see had been obtained from spores, and was becoming somewhat widely distributed, but during the past year or two it has apparently died out. I should like to have the experience of those who have raised these young plants from spores, because, although I have raised many thousand Ferns in this way, I never got this one beyond the prothallium state. Not a frond was produced from them, and I utterly failed to raise young plants of this species. Of the Fern sent by "Globe

Trotter," I have raised many from time to time, although I think it is one of the rarer species of *Blechnum* in cultivation. One particular point of distinction is that in this plant the pinnae are sessile and adherent, whilst in *Brainea* the pinnae have a truncate base. *B. insignis* is a highly interesting plant, and I have had it with stems 3 feet and 4 feet high which had been imported from its native country (Hong-Kong). I have never seen the Indian form in a living state. The stems are stout and very much like a *Lomaria*, as indeed is the whole plant; the fronds are some 2 feet or more in length, having opposite, somewhat narrow pinnae of a rich green, which in the fertile frond are much contracted, so that the under side is entirely covered with the sori. The plant grows well if potted in a mixture of light turfy loam and peat made sandy, with good drainage. It enjoys a good amount of heat and a moist atmosphere. I do not know the spots this plant grows in naturally in Hong-Kong, but I have found that it likes shade. I believe in its Indian habitat it grows from 3000 feet to 4000 feet altitude.

W. HUGH GOWER.

KITCHEN GARDEN.

DEEP CULTIVATION.

IN this long season of drought and bright sunshine it will have been noticed that those soils which were the most deeply worked, and especially those of a gravelly or light nature, held out surprisingly well, whilst in others which were but lightly worked there was the greatest difficulty imaginable in enticing the various subjects to grow. Even where there was an ample supply of water the returns were anything but satisfactory, and not to be compared to others produced from well or deeply-worked soils, and without any water, or but little being applied. I have long been of the opinion if those people who are responsible for the cropping of a kitchen garden were to bestow more pains in the proper working of the soil, there would be far less need in having recourse to the watering-pot upon a spell of dry weather occurring. That this has been an exceptional season I must admit, but this does not lessen the necessity for attending to the proper working of the soil. With ground deeply worked, the roots of course can penetrate more deeply than they otherwise would where there is only a few inches of loose surface, with a hard subsoil beneath, and which during a dry season is harder still. To secure an ample depth of good fertile soil capable of supporting the various crops that have to be produced, there need be no necessity to go back to the old system of trenching formerly in vogue, and that of turning over the soil two or three spits deep, placing the bottom to the top irrespective of the condition it was in. Not a few kitchen gardens have been absolutely ruined for the production of good vegetables for at least two or three years, or until the bottom soil was returned again to the surface. Much valuable time may, therefore, be lost by going about this work in a haphazard manner.

For the majority of soils, more especially those which have been only surface worked, what is known as bastard trenching would be much the better system, as by this method the best surface soil is kept at the top, and the bottom soil improved by well working this over and adding any material which may improve it.

Besides manure, road scrapings and trimmings from roads will form an excellent addition, but to be used only in a dry state. Garden refuse of any kind may also be added with advantage. The mode of bastard trenching has been previously explained in *THE GARDEN*, but for the benefit of younger readers it may be necessary to add that this form of trenching is managed by marking out a straight trench from 30 inches to even 3 feet in width, and taking this out to the depth of the spade or fork and also the shovellings. This must be wheeled to the far end of the plot where it is intended to finish. The bottom trench must now be well broken up, going as deeply as possible, afterwards forking in any material it is desired to add, also spreading a layer of manure on the surface. The top portion of the next trench is now placed on this, and the bottom served in the same manner until the whole plot is finished. A depth of well-worked soil will now be secured from 20 inches to 2 feet in depth, and being laid up to the pulverising influence of winter frosts will have settled down by cropping time in the spring into a fair depth of well-worked soil. There are other soils which are undoubtedly improved by working some of the bottom soil to the top, and this in those old gardens which have been cropped and manured for years.

The reason generally given for not attending to deeper cultivation is want of labour, and a good reason it is too, as labour is none too plentiful in the majority of gardens. This season may prove an exception, as on account of the general earliness of the season, time may be found to commence such work at once, and in a month or two, two or three men would get over a good extent of ground. Very light or gravelly soils, and which are not likely to be injured by working during the winter, may certainly be operated upon during the whole of this time. During frosty weather I have been enabled to keep men at work by laying a covering of litter over the surface, and where such can be managed, the labour necessary for the work is hardly felt, as other work at these times is not very pressing. It is quite evident that if we are to have a recurrence of these dry seasons, nothing short of deep cultivation on light soils will produce satisfactory crops and lessen labour in watering.

A. YOUNG.

Vegetables at The Quinta, Chirk.—Early Potatoes are good crops and of splendid quality, the second earlies being good in every way. Field crops look full of vigour and promise well for heavy supplies. Early Peas, Potatoes and Cauliflowers were quite a month earlier than usual. Early Peas lasted a short time owing to the exceptionally hot, dry weather. Onions and Carrots at one time looked like failures, but since the rain came they have improved wonderfully. It has been uphill work getting winter stuff into their quarters, but on the whole since the rain the plants are doing well.—J. LOUDEN.

Blanching Celery.—When looking through the gardens at Inwood House, Blandford, recently, I observed that Mr. Wilkins had a large number of early sown plants unearthed, but were bound up with paper bands and also largely enclosed with round drainpipes. This practice is an old one, and specially so for many years in Lancashire, from whence it seems to have been carried south. That by this method, and it is not at all a troublesome one, the brightest and cleanest stems can be cut there can be no doubt; in fact, no Celery blanched by soil, however carefully, can equal on the exhibition table those stems that have been paper-blanching. As to how far such Celery may have the sweet, nutty flavour that fine dry earth imparts I cannot say, that is a matter for experts to

determine, but Celery on the show table is not tested for flavour. Later only such as have been blanched by earthing is possible, as plants paper-bound would suffer materially in hard weather. There is an advantage about the paper blanching that is not found in earthing. The plants can be fed by liquid manure up to the last moment if it be desirable. On the other hand, air cannot be so thoroughly excluded from the stems as is the case when earthing is done well.—A. D.

Autumn young Carrots.—I was particularly pleased to see at Claremont just recently a large bed of young Carrots from seed sown in July. The roots had been moderately thinned, and were just becoming of the right size for pulling and cooking. Mr. Burrell was in the spring much troubled with Carrot maggot, and the excessive dryness of the soil promoting slow growth and rather hard irregular roots, and therefore the particular necessity to sow again. No doubt there, as should be the case everywhere, a July sowing has become now a regular practice. Such a bed as this will give soft, tender Carrots up to Christmas, indeed pretty well all the winter, if what be left in December is protected from severe frost by a little covering. One of the best Carrots for this purpose is the Long Horn or Early Nantes, also known as the Early Champion, a fine variety for early as for July sowing.—A. D.

Dwarf Perfection Parsley.—I had not seen this in any private garden until the other day Mr. Burrell drew my attention to a bed of it at Claremont, where it exhibited just the same admirable character seen at Reading. It looks as if it were the product of a cross between a good strain of treble curled and the Fern-leaved. It is a distinctly dwarf form, the plants forming compact and very handsome bunches of very green leafage, which is finely cut or lacinated and very pleasing. The fine leafage and rich deep colour form specially good features in the variety, for most of the best double curled strains are too light in colour. This dwarf Perfection Parsley is evidently very constant and hardy.—A. D.

THE FRUIT CROPS.

WALES.

Bodnant, Eglwysbach.—I am pleased to be able to report most favourably upon the fruit crops in this neighbourhood. Apples are abundant, and thinning has been resorted to wherever possible, whilst the quality is excellent. Pears are an average crop of fair quality. Plums a very heavy crop and of fine quality. Apricots a fair crop of fine fruit. Morello Cherries are heavily laden. Strawberries were under average, and the fruit poor through lack of moisture. Currants were plentiful, but of medium quality. Gooseberries a full crop of fair fruit. Raspberries average crop, and the fruit good. Old Walnut trees appear to be well cropped. We only registered about 5 inches of rain between March 1 and the last day of June. Most of the trees rest on a clay subsoil, which may account for present state of crops.—J. SAUNDERSON.

Cardiff Castle.—This has been one of the hottest and driest seasons I ever remember. The rainfall in March was 35 of an inch, which fell on six days, and the fall in April was still less—25 of an inch, which fell on three days. The rainfall in May was 2.49 inches, but owing to the long-continued drought and the prevailing hot weather it soon evaporated, and vegetation was little benefited by it. The fall in June was very low, .60 of an inch, with a high temperature and bright sunshine which dried up the ground to a considerable depth, causing vegetation to suffer severely. The rainfall in July up to the time I write (July 24) has been 4.24 inches. The ground has had a good soaking, and the fruit trees a good washing. The insect pests have mostly disappeared, and the trees are assuming a fresh, healthy appearance. All kinds of fruit trees flowered freely this year from a fort-

night to three weeks earlier than in most seasons. The weather was favourable during the time they were in flower, and the fruits set well and swelled away freely until the trees began to feel the effects of the drought, when the Apple trees got infested with red spider and the fruit began to drop in great quantities, and it continued to fall, more or less, until the rain came. Apples, Pears, and Plums are plentiful in this district, and in many cases the branches have had to be propped up to keep them from being broken by the great weight of fruit, which is swelling rapidly since the trees have had plenty of moisture at the roots. Strawberries, mulched early in the season with rough stable litter, withstood the drought well, and produced a good crop, which began to ripen three weeks earlier than in ordinary seasons. Scarlet Queen ripened first, fully eight days before Noble, both growing side by side on a south border. The fruits are not so large nor so fine looking as those of Noble, but they are firmer and of better quality. Gooseberries, Raspberries, Black, Red, and White Currants have been plentiful and good in this district. The Vines in the vineyards at Castle C. ch., Swanbridge, and St. Quinten's Castle are covered with fruit, and the plants never looked better; the hot dry season seems to have suited them, the foliage is clean and healthy, and the young canes of this year's growth are stronger than ever I remember them before. The bunches of Grapes are large, and the berries are as forward now as they generally are at the end of the season. If the weather proves favourable there will be a full vintage this year of many tons.—A. PETTIGREW.

Gogerddan, Aberystwith.—The fruit crops in this neighbourhood are very good, Apples, Plums, Cherries, and Gooseberries being above the average. Pears are an average crop, also Currants, but Apricots are under, and Strawberries were dried up owing to the hot weather we have had. The crops are about three weeks earlier this year than usual.

Potatoes look well and show no signs of disease. The crops here are better, on the whole, than for many years past.—J. VEAREY.

Pen-y-wern, Aberystwith.—The fruit crops in this district are, on the whole, very good. Apples are a very heavy crop, in many cases the trees being weighed down. Of course, in such cases the fruit is small, but on trees where the crops are not too heavy it is a very good sample, quite up to the average. Pears are also a very good crop, Williams' Bon Chrétien, Marie Louise, Josephine de Malines, and Marie Louise d'Uccle bearing heavy crops, while most other sorts are of a good average size. Plums of all kinds are an enormous crop. We have had to thin the fruit heavily, but it is rather below the average size. Damsons, like the Plums, are a very heavy crop, but the fruit is small. Gooseberries have been a heavy crop, but quantities have been spoiled through caterpillars destroying the leaves on the bushes. Black and Red Currants have not been so good as usual. Black Currants in some cases were shrivelled up, no doubt through the dry weather. The first Strawberries were very good, Noble being very fine, the late crop not being so good, the latter part having failed altogether. I planted strong runners of Noble in November, gathered fine fruit on May 9, and continued to do so for some time; in fact, they were better than two-year-old plants in the same garden. Raspberries have not been quite so good, the dry weather seems to have affected them, and Black Currants have suffered more than any other fruit. Morello Cherries are much above the average. One thing is very noticeable in all fruit trees, the growth is very weak; the shoots of all are very much shorter than usual. On the whole I do not consider that the fruit crop has suffered in the least by the long spell of dry weather that we have just gone through. All crops show signs of early ripening, Damsons being quite three weeks earlier than usual.—GEORGE GRIFFITH.

Park Gardens, Pontypool.—Apple, Pear, and Plum trees have been making a remarkably healthy growth since the rain set in, also Peaches,

but these and small fruits suffered considerably from red spider previous to that time.

Vegetables with some exceptions have been fairly good. Broad Beans a total failure in most gardens in this district owing to blight. Early kinds were remarkably good, and late varieties are very fine in appearance. Early Turnips scarce, owing to the hot weather and fly, whilst Carrots also have suffered.—J. LOCKYER.

Penrhos.—Owing to the continued drought the fruit crops in these gardens and locality are hardly worth taking account of. All kinds of fruits are quite a month in advance of other years. Apples are the most satisfactory, especially the early kinds, which are a very fair crop. Pears very few. Morello Cherries are also a very fair crop. Plums are good on trees of the most free-bearing kinds. Gooseberries and Currants excellent. Strawberries and Raspberries were small; in fact they ripened prematurely.

All kinds of vegetable crops have suffered severely from the drought. Potatoes rather smaller this season, but quite free from disease.—F. W. EVERETT.

SCOTLAND.

Alloa House, Alloa.—Apples, Pears and Plums are a good average crop. Peaches and Nectarines have done very well under glass, but are very little grown outside. Cherries a good average, and bush fruits, such as Black and Red Currants and Gooseberries, have been very abundant and of first rate quality. The same remark applies to Raspberries, which have been exceptionally good. Strawberries, owing, I believe, to the dry, hot season, have been, if anything, under average.

Vegetables have been a splendid crop. Peas abundant, but of course short in the straw. Cabbages, Cauliflowers, and French Beans are excellent. Potatoes are looking very well and no appearance of disease as yet. Upon the whole the splendid season we have had has resulted in a decided improvement, as far as garden produce is concerned.—THOMAS ORMISTON.

Munches, Dalbeattie.—The crops of the present year are the best I have seen in this neighbourhood. I have never seen finer Strawberries, although the crops did not last long owing to the later flowers being rendered abortive by the drought, but the fruits were larger and better flavoured than has been the case for several years. The first dish was gathered this year on June 5, and last year the first dish was sent to table on July 1. President, Sir Joseph Paxton, Ruskin, and Noble all came in at about the same time here; if anything, President and Ruskin were in advance of Noble grown under similar conditions. For pot work I find Noble crop better and ripen earlier than any of the others mentioned. Cherries were a good crop and ripened earlier than usual, a large proportion being devoured by birds and wasps, the latter pest being much in evidence this year, attacking every variety of fruit as it approached ripeness. Gooseberries were very abundant, but the fruit was under the average size, and ripe about a month earlier than last year. The crop finished six weeks earlier than last year, a large percentage being devoured by wasps. Red, Black and White Currants bore a splendid crop. Raspberries were a good crop of nice sized fruit, but the later fruits were devoured by wasps. Apples are a splendid crop on healthy trees. We have examples of Warner's King measuring from 11 inches to 13½ inches in circumference. On very old orchard trees there is a heavy crop of undersized fruit, but totally spoiled by maggots. The above applies to a grass orchard, from which I do not think you could gather a single sound Apple. Pears are not such a good crop, nor are the fruits so fine as I have seen here. Plums very abundant, especially Gages, Victoria and Kirke's. Filberts and Nuts below the average.—A. MURRAY.

Hopetoun Gardens, South Queensferry.—Apricots are a good crop, and the fruit of fine size on young trees. Cherries abundant. Victoria

Plums a failure on walls, but a fair average on standards. Pears on walls a fair average, but will be small; standard Pears a failure. Apples about half a crop, Lord Suffield and Keswick Codlin being the most prolific. The failure in the Apple crop around here I attribute to the cold, sunless summer of last year, the wood being badly ripened, and although the trees bloomed well, there seemed to be a want of vigour to carry on the fruit. Strawberries were plentiful, although the gathering season was shortened by the long spell of dry weather. Red, White, and Black Currants abundant. Raspberries and Gooseberries also plentiful. Filberts almost a failure. Peaches are not grown outside.—JAMES SMITH.

Haddo House.—The fruit crops in this district are variable. Apples on standard trees are in many cases a complete failure. Though the weather was fine when the trees were in blossom the fruit did not set. The dry, hot weather which prevailed at that time may have had something to do with the failure. I am inclined to think the wet autumn of last year was the cause, the fruit buds not being well matured. Young Apple trees on walls have a fair crop. Pears on walls are a fair crop. Plums on walls are a very heavy crop, in many cases two-thirds of the fruit set having to be thinned out. Cherries are also a good crop. Gooseberries and other small fruits would have been a good crop, but in most cases they have suffered severely from the attacks of green and black fly. Strawberries were a fair crop and of good quality. Raspberries rather a poor crop.

Vegetables in general have done fairly well. Cauliflowers, Onions, and Carrots suffered severely from the heat and drought, but since the rain came they have improved very much. Potatoes have done exceedingly well, being also of excellent quality. Peas have also done well, and although the heat and drought were very trying during the months of May and June, crops of all sorts are rather above the average.—JOHN FORREST.

Dumfries House, Greenock.—Strawberries were an average crop. Cherries excellent. Gooseberries average. Red, Black, and White Currants good. Plums excellent, also Apples; whilst Pears are an average.—N. MCKINNON.

Altrey, Forres.—The fruit crops here and in the immediate neighbourhood are about an average. Apricots, Peaches and Plums on walls are a good crop and ripening up well. Early Cherries were good; Morellos almost a failure. Apples very good on young trees, also on walls; old standards almost a failure. Pears here quite a failure, but in the lower-lying district an average crop. Strawberries in general very poor. None of the late varieties set their fruit, owing to the severe drought in May and June. Small fruit, such as Currants, Raspberries and Gooseberries, abundant. Crops of all sorts are fully a fortnight earlier than usual.—A. CHRYSTALL.

Balcarras.—The fruit crop in this district has been very good. Strawberries in the early part of the season were small and soon over. Elton Pine has been very fine. All the small or bush fruits have been very good. Apples are a good crop, but Pears only half a crop. Plums very heavy. Peaches good, also Apricots; whilst Morello Cherries are extra heavy. All fruits are three weeks earlier than usual.—EDWARD TATE.

Coltness, Wishaw, Lanarkshire.—The gardens here are situated in the midst of the Lanarkshire coal-field; altitude 465 feet; soil heavy and retentive, with the inevitable subsoil of stiff clay, overlying mineral. As these conditions demonstrate, the soil and situation of the gardens here are not at all favourable for the successful cultivation of orchard fruit. The past warm summer has, however, been very suitable for most kinds of small fruit. Raspberries and Black and Red Currants have done remarkably well. Gooseberries very good; some varieties much troubled with green-fly. Strawberries good in quality, but season somewhat short. Apples about half a crop. Pears and Plums we do not grow out of doors here but

they are doing well in the orchard house, as also Peaches and most other indoor fruits. The Clyde orchards being in the immediate neighbourhood, I herewith give you a short account of the conditions of the fruit crops there. These orchards are situated at a much lower level than this, and are mostly on the sloping banks of the river Clyde. The soil is also much lighter, and they in consequence have suffered very severely from drought this dry season. Strawberries were a short crop, Vicomtesse Héricart de Thury, Elton Pine and President being the kinds grown. Newer sorts have been tried, but have not proved so profitable as these old kinds. Hundreds of acres of Strawberries are grown. Plums are only half a crop, the trees having suffered much from green-fly. Victoria Plum has been planted in thousands during late years, it being found the most reliable variety for market. A few acres of Orleans and Magnum Bonum are also grown. Pears are a good crop. A great many varieties of these are grown, such as Early Crawford, Hessel, Moorfool's Egg, Auchen, &c. Apples are a fine crop and much superior in size and quality to what they have been for a number of years back. Other small fruits are a fair crop, but very unremunerative to the growers, the prices being very low. These orchards present a beautiful spectacle in the early season when in flower, the whole valley being draped in white with the blossom of the Plum, Pear, and a little later with the pinkish bloom of the Apple.—J. GRAHAM.

Brechin Castle, Forfarshire.—The fruit crop generally may be called a fair one. Apples and Pears are under the average. Plums an average crop. Late Strawberries a good crop, but early sorts rather short. Raspberries, Gooseberries and Currants are abundant.

Vegetables generally have done well. Early planted Cauliflowers inclined to button with the dry weather. Peas a good crop with shorter straw than usual. French Beans much better than they have been for years. Potatoes a heavy crop and of good quality, and as yet no appearance of disease. Although spring and early summer were dry, the drought was not so much felt here as in many other gardens.—W. McDOWALL.

Moy Hall, Inverness-shire.—Fruit crops here and in the surrounding neighbourhood are generally good with the exception of Apples, which are under the average. Gooseberries, Currants, and Raspberries are an abundant crop. Strawberries excellent, but their season was short owing to the hot and dry weather. The caterpillar and fly made great ravages among our bushes.

Potato crops, both early and late, are looking well, the earlier sorts, which we are lifting for present use, being excellent as regards quantity, size, and quality, and we have not yet seen signs of disease. The exceptionally fine season which we are passing through suited this district admirably, owing to the cold subsoil and high altitude.—D. RHIND.

Edmonstone, Midlothian.—Apples promised well when in flower and set satisfactorily, but the fruit has dropped considerably, and only a very small crop will be gathered. The cause of this, I believe, is that last season's wood never properly ripened. Canker is making sad havoc, and during the last few years getting gradually worse. Almost all the trees are affected. Red spider is also very bad. Pears are a very poor crop. Apricots, one of our best sorts—Moorpark—is barren, some of the other kinds bearing a good crop. Peaches (outside) are a very small crop with the exception of Rivers' Early, and this is of no use here, every fruit being split and dropping off. We incorporated lime rubbish in the border, but this does not appear to have done any good. This failing is a great pity, as in a late season and locality it would otherwise have proved a great acquisition. Plums always do well here, and are an average crop. Cherries not many grown, Morello very good. Of Strawberries, we have not had a smaller crop for twenty years. We grow Laxton's Noble, Duke of Edinburgh, President, and the never-failing Garibaldi. Without the latter our crop would have been almost nil.

Of Currants, the Black are of good quality, but rather thin; the Red are very poor here, and mostly grown on walls. In May they were completely smothered with aphides. Gooseberries always do well on the heavy loam here, and have been a very good crop. Whinham's Industry is one that everybody should grow; it has very large red berries of fair quality, and there is always an immense crop. In some gardens where neglected, aphides completely destroyed both bushes and fruit. On a dry gravelly garden close by we advised the bushes to be burned, as there was not a leaf on them.

Vegetables upon the whole are very poor, although at the commencement of the season, due to the very dry weather, we were much troubled with insect pests. Maggots were very destructive on early Cauliflowers and Cabbages, which, however, are doing very well now and making up for lost time. Peas, Broad and Kidney Beans are extra good; the latter came on very early this season. Vegetable Marrows are a great crop.—JOHN GRAY.

Whittinghame, Prestonkirk.—In this district the present season is a very bad one for hardy fruit. There was an abundance of blossom and it seemed to set fairly well, but the long spell of drought we experienced during the months of March, April, and May caused the greater part to drop off. Apricots, Pears, Plums, and Cherries are a very poor crop. Morello Cherries are an average crop, and such kinds of Apples as Keswick Codlin, Stirling Castle, Lane's Prince Albert, Ecklinville, Warner's King, Lord Suffield, Lord Grosvenor, Peasgood's Nonsuch, Northern Dumpling, Professor, Golden Spire, Maltster, and East Lothian Seedling are bearing fair crops. Some of them indeed have good crops, but all other kinds grown here are a failure. Strawberries and Raspberries were a poor crop and soon over. Red and White Currants are an average crop, and Black Currants abundant. Gooseberries a fair crop. No Peaches or Figs are grown outside here. Altogether we cannot but regard this season as one of the worst fruit years we have experienced.—JOHN GARRETT.

Glamis Castle, Glamis, N.B.—The crops of fruit are abundant and of good quality in this district. Apples showed a splendid lot of bloom, and are a heavy crop and promise to be of good quality, such varieties as Lord Suffield, Stirling Castle, and Northern Greening being the best. Pears are a partial crop, a few kinds only bearing a light crop of clean, healthy fruit. Plums generally are over the average, the best being Victoria, Pond's Seedling, and Magnum Bonum. Apricots and Peaches outside are fair. Cherries are a medium crop, the fruits large and fine. Morellos are not so good and the trees here are gumming badly. Small fruits are a heavy crop in most places and of fine quality, though there are complaints regarding red spider on Gooseberries, owing no doubt to the absence of rain in the early part of the summer. Strawberries of the earlier varieties were of fine quality, but their season was short. The late varieties are of fine quality and an abundant crop. The season is fully a fortnight earlier than usual, and noteworthy for the absence of late spring frosts so prevalent in this district.—THOMAS WILSON.

Duff House, Banff.—I have pleasure in stating that the fruit crop in this quarter has been exceptionally good, being the best I have seen here during the last fourteen years. All small fruits are a heavy crop with the exception of Strawberries and Cherries. Apricots, Pears, Plums, and Apples very heavy, especially the following sorts: Large Early Apricot, Jargonelle, Williams' Bon Chrétien, Autumn Bergamot, and Muirfool's Egg Pears; Victoria, Jefferson, Kirke's, Coe's Golden Drop, and Oullin's Golden Gage Plums; whilst of Apples, Lord Suffield, Hawthornden, Oslin, and Melville Pippin are the best sorts here.—J. BRANDER.

Newbattle, Dalkeith.—The show of blossom here this spring was magnificent, and gave promise of a good crop all round, and this would have been the case had the rain come in time. Strawberries set well, but did not swell for want of moisture, the consequence being that we had only half a

crop, and very soon over. All bush fruits were good, especially Red and Black Currants. Gooseberries were a heavy crop, but very much damaged with aphids. Raspberries good both in quantity and quality. Apples set well, but were very much reduced during summer, some kinds failing altogether. Still, a fair crop is left. Cherries good. Plums are an average crop on walls. Standard Victorias very fine; whilst Pears on walls are quite a picture of fruitfulness.—A. McDONALD.

NOTES OF THE WEEK.

Sweet Pea Primrose.—This as sent us by Mr. Smith, of Daisy Hill Nursery, Newry, is a charming kind, and is very distinct and pretty in colour.

Cornus florida has quite a comforting look now so few bits of colour being left us. But I think a few days ago the pearly look of the under leaf was still prettier.—M. R.

Colchicums and autumn Crocuses are flowering well in the nursery of Messrs. Barr and Son, Long Ditton. A large collection of each is grown, comprising many beautiful things too little seen in English gardens.

Cytisus longispicatus.—A bunch of this comes from Daisy Hill Nurseries, Newry, and a very graceful Broom it is, with long slender spikes of soft yellow flowers. It resembles that beautiful kind *C. nigricans*.

Colchicum autumnale album is just at its best here now, and is a very effective plant in a good-sized clump at the edge of a mixed bed. Considering the delicacy of the individual flowers, it is wonderful how long such a clump lasts in bloom.—E. A. B., *Myddelton House, Herts.*

Fuchsia fulgens.—When this grand old Fuchsia does well outdoors it is a plant very hard to beat for beauty as well as for interest. At Inwood House, Blandford, I saw some plants of this Fuchsia growing in the ordinary border outdoors and blooming freely.—D.

Royal Horticultural Society.—The next show of fruits, flowers, and vegetables will take place in the Drill Hall, James' Street, Victoria Street, Westminster, on Tuesday, October 10, when prizes are offered for hardy herbaceous perennials. At 3 o'clock, Mr. W. Crump will lecture on Pears.

Hardy Cyclamens.—These have flowered well on the rockery this season. Some bulbs sent from Cannes three years since have become well established. It may not be generally known that the flowers are very sweetly scented. A fairly strong soil to which is added leaf soil and old lime rubble grows the plants well.—E. M.

The Flame Flower.—This grows and blooms brilliantly on a north wall at Forde Abbey. The soil is fairly deep and retentive and the position cool. These seem to be conditions specially favourable to the growth of this *Tropæolum*. It is a matter for surprise that it is not much more frequently found in gardens, but it may be due to some occasional difficulty in getting it established.—A. D.

Crocus speciosus and its variety *transylvanicus* are flowering together with me this season. The latter, I believe, should be decidedly the earlier. There is but little difference between them. The variety is a rather bluer flower and the veins are not so well marked. *C. zonatus*, I am sorry to say, is already over. A *Belladonna Lily* pushing through a mass of *Plumbago* *Larpetæ* forms a very beautiful combination.—E. A. BOWLES, *Herts.*

Begonia semperflorens Vernon.—This variety is evidently the same, or nearly so, as is the popular bedding kind *atropurpurea*. It has been used with striking effect both at Forde Abbey and at Mr. Davis' Begonia nursery at Yeovil this season for massing. Plants from seed as these were grow some 2 inches or 3 inches taller than if from cuttings. The most pleasing effect is obtained when

thinly planted on a carpet of dwarf blue *Ageratum* or *Campanula* of *Hopetoun* tufted Pansy.—A. D.

Erigeron speciosus.—There are few, if any, plants likely to excel this useful dwarf perennial in hot seasons. It is effective in mixed borders, growing about 15 inches high, and bearing a quantity of small violet flowers with yellow disc from early summer until the winter. The past long spell of drought has had no apparent effect upon it. It is readily increased by division or seed.—C. NEWITT.

Colchicums.—*C. speciosum* has been very fine with me this year, and is still (September 28) a beautiful object, although the cold at the end of last week damaged many of the blooms. I noticed two beautiful new forms of this, the grandest of the *Colchicums*, at Messrs. Backhouse's, York, last week, one named *C. s. roseum*, a most beautiful rosy purple, and with enormous flowers; the other pure white, and quite the most beautiful *Colchicum* I have ever seen.—E. A. BOWLES.

Lady Ardilaun Anemone.—I am sending some blooms and buds of a seedling *Anemone japonica* *alba* var. *Lady Ardilaun*, raised in 1892. It is strong and robust, with large glossy green foliage, and a very free bloomer, as you will observe by the sprays enclosed.—A. CAMPBELL, *Ashford Gardens, Cong, Co. Galway.*

******* A semi-double form, often with little claw-like petals clasping the stamens. Some of the flowers are over 3½ inches across, white, delicate lilac outside, the buds also tinted with lilac.—ED.

Zauschneria californica.—This plant has bloomed continuously with me for the last two months, and is still smothered with its bright drooping flowers. It is one of the best dry weather things we have for the rockery. Here there is no necessity to protect in any way during the winter, as it is perfectly hardy and increases readily, the creeping sucker-like roots throwing up an abundance of stocky growths, which if dug up carefully at almost any time of the year seldom fail to grow.—E. M., *Swanmore Park.*

Calopetalon ringens.—"B. M." sends a specimen of this plant for a name, saying it has been raised from seeds sent him by a relative from Western Australia as a scarlet Honeysuckle. It is upwards of thirty years since I have seen this plant. It is a slender growing greenhouse climber with entire dark green leaves, the slender stems terminated in corymbs of flowers which are not bright enough to deserve the name of scarlet, being of a somewhat dull red, the tube of the flower pale yellow. They are not fragrant. The plant does not belong to the Honeysuckle family. I do not think it will ever make a showy plant for the greenhouse.—W.

Single Cactus Dahlias.—We have received a large gathering of single Cactus Dahlias from Messrs. Dobbie and Co., Rothesay. The flowers are quite single, but preserve a characteristic shape, similar to the Cactus type, the segments pointed, narrow, and distinctly twisted. The colours are very varied and beautiful, varying from deep yellow to rosy purple. A few of the best kinds sent comprise Robert Burns, dark purple magenta, but not a dead slaty tone; Maid of Bute, rose; Meg Merri- lles, yellow; Guy Mannering, rosy pink, petals shading off to yellow towards the base; Isabella Vardon, bright reddish orange; and Lucy Ashton, creamy white.

New Pear Beurte Fouquieray.—I saw this Pear a few weeks ago at Messrs. Veitch's Langley nurseries, and was not surprised to see it certificated recently. It is of large size and an immense bearer, as a number of small bush and pyramid trees were heavily laden. This variety was on the Quince stock, and it is stated to bear our variable spring climate when in bloom much better than other Pears. It is of French origin, and in ordinary seasons fit for use from October to November. Even at this early date the flavour is rich and the fruit very juicy. In shape it is somewhat like *Duchesse d'Angoulême*, and much resembles *Marie Louise d'Uccle* in colour. This will undoubtedly be an acquisition, as its free bearing

properties will make it valuable. It is grown in various forms, the best fruit I saw being on pyramids grafted on the Quince and nearly 1 lb. in weight. I should say from its appearance it would be a good tree for cold districts or for heavy clay soils.—G. WYTHES.

******* This variety was shown by Messrs. Veitch at the Pear conference at Chiswick in 1883, and it seems strange that we have heard nothing of it since.—ED.

Shrubby Veronicas are a feature of interest in the Swanley nursery, and it is a pity that such free-flowering and sturdy-growing plants are not more grown in gardens. At one time they were fairly popular, but during recent years they seem to have fallen quite into the background. In the more southern districts of England they are quite hardy if the position is moderately sheltered and the soil not too cold and heavy; but even if they cannot be grown in the open, they can be enjoyed under glass as pot plants. If planted out in the summer, they may be lifted before frosts occur and will go on blooming in the winter months. There are many varieties at Swanley, but three of the finest are unquestionably *Bolide*, which produces red-coloured flowers, the plant of good habit, and the two new kinds *Eveline* and *Reine des Blanches*. The former has rose-lilac flowers, a distinct and pleasing shade of colour, whilst those of the latter are pure white.

Plumbago Larpetæ.—I often hear people complain, as does Mr. Wood (p. 254), that this lovely *Plumbago* is a shy bloomer, but I fancy it is not only the short summers that are to blame, but that it is not often planted in a warm enough corner. It spreads so rapidly, that one is obliged to think twice before planting it among choice things in a specially favoured nook, but I am sure it is worth a good place. One clump I have has never failed to flower for the last three seasons, although before then, the kind donor thereof tells me, it never bloomed with him. I put it at the foot of a south wall in a border in front of an orchard house; it gets cut right down every winter, but comes up apparently none the worse and very early owing to its warm position. This year it opened flowers the second week in July, and is still covered with bloom, and has been a mass of blue during that time. I should say a hand-light early in March, to help on the first growths of the year, would in most positions cause it to bloom long before the frosts come.—E. A. BOWLES, *Waltham Cross, Herts.*

PUBLIC GARDENS.

THE BOTANIC FROM A KEW POINT OF VIEW.

MR. WATSON, of Kew, has a very unfriendly note in an American paper about the Botanic Gardens in the Regent's Park:—

The Royal Botanic Society of Regent's Park is in a tottering condition, and is like to fall. Its finances are in a hopeless state, and its work during the last few years has been such as is not likely to win much sympathy either from horticulturists or botanists. The general feeling is that there is no need for a botanical collection in Regent's Park, when all that can be desired is to be seen and obtained a few miles away at Kew. On the other side, the assistance the society has tried to render to horticulture by means of exhibitions has been almost superfluous now that the Royal Horticultural Society is in vigorous activity again. It would appear, therefore, that London does not require such a society as that which has for so long held its meetings in the enclosure at Regent's Park. The suggestion that the Botanic Gardens should be recovered by Government and added to the park appears to be the best course. It is scarcely likely that the £18,000 debt of the society will be subscribed by a public unable to see the utility of the work done by the society in recent years.

We cannot see that the failure of the Botanic would do any good to Kew or any other garden. The more we have of such places and the more distinct they are from Kew the better. No doubt the Botanic would be better and more charming under more spirited management and better fortunes, but all societies of the kind have a habit of getting into ruts and staying there.

Financially, the past two years have not been so good as could be wished, but probably these bad times and the destruction of our agriculture, and to a great extent of country gentlemen's fortunes, has not been to the benefit of the country generally.

The following particulars may be of interest:—

The debt is the capital held by Fellows of the society, and only £100 allowed to each Fellow. The large cost of laying out the gardens has not been estimated. The cost paid for buildings alone has been over £23,000, and in prizes to exhibitors £55,000.

Students, three months each, free, year up to end of September	1893	743
Whole year	1855	32
"	1865	175
"	1875	364
"	1885	706
"	1891	808

Cut specimens, year, average 47,000; also rambling clubs, schools, societies occasionally.

We think the Botanic should make much less of its botany and more of its gardening. The wretched "botanical department" should be swept away, the ground turfed over, and the plants really worth it put in groups in bold beds on the turf, and any other changes made to add to the beauty of the garden—much marred by an ugly herbaceous ground. The society is not endowed or fitted for the teaching of botany, and it should leave that to gardens liberally supported by the State.

There are also certain instruments and apparatus for measuring wind and water, we believe, exposed in what might be the prettiest part of the garden, and these are too ugly for a London graveyard. They disfigure the prettily designed little garden, and should be removed.

LONDON TREES.

The following letters in reply to that of Sir Herbert Maxwell which we quoted in THE GARDEN of September 23 (p. 293) appeared in the *Times*:—

Your correspondent Sir Herbert Maxwell does well in calling attention to the *Ailantus glandulosa* in his remarks on London trees. It is one of the very best trees for the soil and climate of London, and will in time grow to the height of 40 feet or 50 feet. So vigorous is the growth in a young state that it will often make a shoot of 6 feet in a single year. The leaves are large and handsome, 3 feet or more in length, with a thick midrib, on each side of which are arranged in pairs some twenty or thirty lance-shaped leaflets. I have a specimen of this tree in my garden nearly 50 feet high, which is the admiration of everyone who sees it. When the late Major M Kenzie was about to plant the trees on the Thames Embankment I remember discussing with him the merits of this tree for that position. It was, however, decided, properly I think, that the beautiful, but massive foliage would be torn and disfigured by the strong currents of wind often prevalent there. In fairly sheltered positions no tree is handsomer or more appropriate for cities and large towns, as it is very hardy and will grow anywhere. Many trees which flourished in London some thirty or more years ago no longer thrive there, owing to the increased volumes of smoke and various noxious gases; but there are still many trees and shrubs which, owing to

believe, principally to the structure of their leaves' seem to set these influences at defiance, and the *Ailantus* is one of the most valuable of them. Planes, Poplars, and Robinias (the latter usually called *Acacias*) are proved London trees, and there are many varieties of each far preferable to the old-fashioned and beautiful but unsuitable English and foreign trees still injudiciously planted.—WILLIAM PAUL, *Waltham Cross, Herts.*

May I add a word of caution to Sir Herbert Maxwell's praise of the *Ailantus* as a London tree? The foliage has all the beauty and endurance he claims; but, to use the words of an American authority, Mr. F. B. Hough, "the male flowers have a nauseating odour that renders this tree undesirable for cultivation near dwellings." I think I am right in adding that not many years since most of the *Ailantus* trees in New York were grubbed up on account of this offensive character. It is a tree also to be handled with care on account of the acrid juice of its bark, which has been known to cause poisoned hands among woodmen and gardeners.—J. L. P., *Marlborough.*

The public park at Dewsbury, known as the Crow Nest Park, which contains 76 acres, and which the corporation purchased for £20,000, has lately been opened.

Open space for Bolton.—The Parks Committee of the Bolton Corporation have decided to lay out a piece of land in Bradford Street, given by the Earl of Bradford, for recreation.

Proposed park for Manchester.—The Manchester Corporation are negotiating with the owners with a view to purchasing 134 acres of the Booth Hall Estate, including the picturesque Beggart Hole Clough, for the purposes of a cemetery and an open space.

Private gardens at Hampton Court.—With the approval of the Queen, about four acres of private gardens at Hampton Court Palace, which have hitherto been maintained out of the privy purse, but to which the public have for many years had free access, are about to be transferred to the management of the Board of Works, and the expense borne by the parliamentary vote. The orangery is to be repaired and redecorated, and, together with the lawn in front, will be set apart specially for the use of the private residents of the palace.

Iron spouting to garden shed (*L. R.*).—You will understand that all iron which is not galvanised requires protection from the weather by painting. Had your guttering been painted about twice since it was fixed, it would be good to-day. It matters not how good the iron is, it will not stand against the weather unless painted or galvanised. Cast-iron guttering will stand much longer than wrought iron, as it is nearer the natural iron ore; even that will not stand long without being painted. We can hardly see that it is the fault of the iron. No doubt the guttering was thin; still the painting would have protected it from rusting away. You will see that there are drawbacks to the use of iron in spouting and roofs. Much of the money now spent in iron roofs is wasted.

The weather in West Herts.—During the past week the temperature has been, on the whole, above the average for the time of year. There, however, occurred one cold night when the exposed thermometer indicated a reading slightly below the freezing-point. At both 1 foot and 2 feet deep the ground is at the present time 2° warmer than at the same period last year. A little water came through the heavy soil percolation gauge on Friday and Saturday in last week, but no measurable quantity has come through the light soil gauge for nearly six weeks. September was the eighth unseasonably warm and the seventh unseasonably wet month that we have had this year in succession. In September rain fell on thirteen days, and to the total depth of little more than 1 inch, which is considerably less than half the average quantity for the month. Since February

only 8 inches of rain have fallen here, the mean amount for the same seven months in the previous thirty-seven years being 16½ inches. In 1879 the total rainfall for these seven months was 26 inches, or more than three times the quantity measured in 1893.—E. M., *Berkhamsted.*

Autumn flowers from Newry.—The autumn flowers must be very beautiful in Ireland now, judging from the varied gathering Mr. Smith has sent us. Sweet Peas of such pure soft colours as *Delicata* and *Connness* of Radnor will always be appreciated. Tall and brilliant *Lobelias*, including the true *cardinalis* and vivid newer forms, are very striking. *Gardoquia betonicoides* is a welcome fragrant plant, and besides there are *Michaelmas Daisies*, *Poppies*, *Colchicums*, and a bunch of *Rudbeckia subtomentosa*, yellow stars with chocolate discs, smelling sweetly like new mown hay, also other things spoken of elsewhere.

Mr. F. L. Ames.—This well-known American amateur gardener died, we regret to hear, suddenly a few days ago. He was a member of various horticultural societies, and possessed a unique collection of Orchids.

Names of plants.—*G. B.*—5, *Juniperus Sabina* variegata.—*C. Johnstone*.—1, *Pavonia Wioti*; 2, *Manettia micans*; 3, *Dipladenia Harrisii*.—*C. M. E.*—1, *Diplazium plantaginaceum*; 2, *Cibotium Barometz*; 3, *Anchistea virginica*; 4, *Doryopteris palmata*; 5, *Goniophlebium loriceum*.—*Thos. Wells*.—1, apparently *Nepenthes intermedia*, a garden hybrid; 2, *Cyrtoceras reflexum*; 3, *Amaryllis reticulata*; 4, *Zygopetalum maxillare*.—*William Kerr*.—The one flower, *Cattleya Harrisonia*, the spike, *Cattleya guttata*; they must not be potted until the spring; now is the time for flowering. —*J. Reynolds*.—1, *Nephrolepis pectinata*; 2, *Lastrea lirta*.—*H. H.*—*Aerides suavisimum* nobile. —*E. Semper*.—*Salvia Horminum*.—*James Finch*.—1, *Plumbago zeylanica*; 2, *Plumbago Lar-penta*.—*F. W. Everett*.—*Araujia albens*.—*T. B. D.*—Varieties of *Calluna vulgaris*: 1, *alba* (white); 2, *carnea* (pink); 3, *floro-pleno* (double-flowered).—*Plant*.—1, *Aspidistra lurida variegata*; 2, please send in flower; 3, *Retinospora plumosa*; 4, *Cupressus Lawsoniana*; 5 and 6, forms of *C. Lawsoniana*; 7, *Retinospora pilifera*.

Names of fruit.—*Mrs. Smithers*.—*Cornish Gilliflower*.—*B. Wells*.—17, *Bess Pool*; 18, *Wadhurst Pippin*; 35, 36, too much out of character; 37, *Tyler's Kernel*; 34, *Queen Caroline*.—*Fruit in shallow box*.—Pear is *Duchesse d'Angoulême*. Apples: 1, *Ribston Pippin*; 2, *Ecklinville Seedling*; 4, *Royal Russet*; 5, *Wellington*; 6, *Hambleton Deux Ans*.—*W. Carr*.—*Cornish Gilliflower*.—*J. P.*—1, *Norfolk Beaufin*; 2, *Bess Pool*.—*W. Newton*.—1, *Souvenir du Congrès*; 2, *Duchesse d'Angoulême*; 3, *Marie Louise d'Uccle*; others rotten. —*Kentley*.—33, *Ribston Pippin*; 34, *Duchesse d'Angoulême*; 37, *Round Winter Nonsuch*; 40, *Winter Peach*; 50, *Fondante d'Automne*; 90, *Marie Louise d'Uccle*. —*Yarb.*—Undoubtedly small fruits of *Ribston Pippin*.—*W. F. R. B.*—Long Pear is *Calebasse Bose*, the other *Suffolk Thorn*; Apple is possibly *Cox's Orange Pippin*, but rather too small to properly identify.

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No. 1143. SATURDAY, October 14, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather, but
THE ART ITSELF IS NATURE."—*Shakespeare.*

KITCHEN GARDEN.

AMERICAN TOMATOES.

THIS season, thanks to the kindness of Prof. Bailey of the Cornell University, New York, I have had a good opportunity of testing the merits of most of the best American-raised Tomatoes as well as older ones again both under glass and in the open. A better or more favourable summer for bringing out their good qualities could not well be had, and it is very doubtful if such excellent crops in the case, more especially of open-air plants, were ever grown in this country before. Most of the sorts tried were recommended for the open, and I was warned not to expect too much of any of them under glass. So far, results have not exceeded or hardly come up to expectations, that is to say, nothing very far superior to the best English-raised varieties have been discovered, though it is very questionable if we have anything placed to our credit that will produce such heavy crops in so short a period as Early Ruby. So freely does this variety set and to such a size does the fruit swell, that the plants cannot well be induced to continue growing and fruiting strongly, and it is not, therefore, one of the best for training up roofs, extra long stakes, or strings. It is very suitable for growing where the house room is limited, and will stand, in fact requires, high culture, that is to say, plenty of feeding after the crops are beginning to swell. Early Ruby is also good for planting against sunny walls, being one of the first to give ripe fruit in the open while the crops are heavy. Curiously enough, it is not affected by the "black spot," a disease which has been very prevalent this year. The fruits of Early Ruby are nearly all of medium size, somewhat flat and slightly ribbed, the colour being a bright red and the flavour fairly good.

Ignotum is newer to this country, and it is doubtful if it will ever be extensively cultivated by us, though in America it has proved to be the very best of all for open air culture. No other variety yielded such heavy crops as this when tried against all comers at the Cornell University and other trials, the shape of the fruit and quality being also satisfactory. I have grown it under glass and in the open, and in each instance it did not surpass several English raised varieties growing alongside. It is a moderately strong grower, but sets none too well under glass. The fruit attains a fairly large size, is smooth, round or ball-shaped, and differs from our Perfection in its paler shade of red colour. The quality is good both in the case of fruit grown under glass and in the open, and I like it well enough to give it yet another trial. This season Tomatoes generally have done well, and it may prove that Ignotum will come more to the front during a less favourable summer.

In Livingstone's Stone I think we have a decided improvement on the best selection of Perfection. The fruits are of the same good form and colour, but of greater depth, this giving it a greater value in the eyes of exhibitors accordingly. It appears to possess a strong constitution, or quite equal to that of Perfection, and

the fruits set with freedom. Even this introduction seems to have been anticipated on this side of the Atlantic, as we hear of selections from Perfection that answer to the description of Livingstone's Stone.

Paragon, Livingstone's Perfection, Mayflower, and Autocrat are all more or less like our Perfection, or at any rate are not sufficiently distinct to be kept apart. Puritan is a slight improvement on all of them in weight, many of the fruits also becoming slightly ribbed. Cardinal, however, is a smaller fruited form, but does not crop sufficiently heavy. The fruits are of perfect form, a rich cardinal-red in colour, and good in quality. Canada Victor, again, is scarcely worthy of being retained, and the Trophy, one of the oldest of American varieties, is now-a-days rightly considered too coarse. Not so another old favourite—Hathaway's Excelsior. The latter is a good type of Tomato for market culture, the fruit being of medium size, perfectly smooth and round or ball-shaped, and of a lively red colour. These then who have good selections of Hathaway's Excelsior will do well to cultivate it extensively.

The foregoing are all of what we consider the right shape, size, and colour, but in America they are less particular as to colour. Several of the most extensively cultivated varieties, and of which I hoped great things, really proved most disappointing, owing to the colour being of pink or pinkish red shade. No matter how richly flavoured or how well formed a fruit may be, it finds but little favour if the colour is other than a rich red. Especially is this the case when the fruit has to be sold, the prices fetched by the pinkish red fruit being invariably much below that realised on the same day by the rich red Tomatoes. After reading an account of what had been obtained from a given number of plants of Ithaca, I was naturally anxious to give this variety a trial. It certainly is a good cropper, though not any better in this respect than Dedham's Favourite and the colour is the same, quality also being good. Potomac again is another of the despised pinkish, or rather in this case purplish red forms, but all the same is a distinct and fairly valuable variety for open air culture especially. With me nearly all the fruits attain a fairly large size, are not particularly ugly, while the quality is extra good. Mikado, and which has been grown in this country for several years, produces larger fruit, and the foliage is broader. This also is of excellent quality, very few varieties equalling it, but it is too big and rough for us. The Americans will likewise do well to discard this and other forms of the same colour, that is if they wish to control the markets with their bottled or canned fruit. Ponderosa or Royal Sovereign, as it has been re-named with us, seems to have pleased the fruit committee of the Royal Horticultural Society, and just suits one at least of our leading exhibitors of vegetables, yet it is a great washed-out-looking thing and not worth either house or garden room. A very different description applies to Dwarf Champion. The latter is of very sturdy habit of growth, the leaves very broad, yet compact, and the fruit produced with moderate freedom, of medium size, perfect in form, of a deep purplish red, and of excellent quality. Potato Leaf greatly resembles Mikado, and will not be grown again.

There is also a prejudice against yellow Tomatoes in this country, but the American introductions ought to have dispelled some of this. As far as the old, large, yellow is concerned, I can quite understand the objection, as this is a poor, flavourless thing, but in Golden

Queen or Golden Sunrise, for they apparently are synonymous, we have a variety little inferior to most red-fruited sorts. What I have grown several seasons in succession has been under the name of Henderson's Golden Sunrise, and it has proved of much the same habit as Perfection, the fruit being nearly as large, of equally good form, of a rich yellow in colour, and of fairly good quality, acidity not being altogether wanting. Golden Trophy is of the same habit of growth as Trophy, the fruit also large, but of no value. W. IGGULDEN.

VEGETABLES AS GROWN.

THE very extensive and interesting collection of vegetables which Messrs. Cannell and Sons set up both at the Drill Hall on the 26th ult. and the following day at Earl's Court deserves more than a passing notice, because vegetables have not hitherto been regarded as a Swanley speciality, and also because there was no pretence to exhibit these products other than as grown under ordinary culture. So far was this idea exemplified, that some of the least valuable kinds were rather indifferently represented, and these naturally enough met with adverse criticism. On the other hand, the Potatoes, Onions, Carrots, Cabbages, Cauliflowers, Tomatoes, &c. were of their kinds excellent, and showed that if but ordinary care be bestowed on these products, very good samples are easily obtained. But it may be pleaded that cultivation is not everything, and that selection of seed stocks is a matter of some importance also. That is a seedsman's view which merits all consideration, and it is one on which not only Messrs. Cannell and Sons, but every other seedsman is entitled to lay full weight. With very few exceptions the Swanley vegetables did not exhibit any attempt to display mere size. Only one lot of Onions were unduly large, but the bulk of the samples served to show what large, firm, enduring bulbs can be got from ordinary culture if the soil be good and the plants well thinned early. Yet, whatsoever may be the keeping or non-keeping properties of the giant show Onions, at least all ordinary grown bulbs should keep remarkably well, for seldom have they ripened off earlier or better than this season. The Wroxtons of the Swanley collection averaging 6 ozs. to 7 ozs. were perfect, and better could hardly be conceived. A very interesting dish in the collection was Pea Autocrat; the pods were not large at this season of the year, but very full of Peas literally as green as grass. I heard this excellent Pea well spoken of when recently at Inwood House, Henstridge, where Mr. Wilkins produces his giant show vegetables. Its colour is a strong point in its favour, and we like Peas to be green when so called, and not white, as they are so frequently. Not the least value of such a collection of vegetables as that referred to is found in its reliability. The constant exhibition of varieties or kinds that have been produced under high class conditions of culture naturally misleads, and the on-looker as naturally observes, "I can never obtain samples like these in my garden;" but when he turns to a collection of ordinarily grown vegetables, he recognises at once their natural characteristics, and is satisfied. I am not at all for assuming that ordinary culture signifies poor or inferior culture. That is not so. By ordinary culture I mean cropping under such conditions as that samples most suitable for domestic use may be obtained in the greatest abundance and with appreciable profit. Nearly the whole of the Messrs. Cannell's collection was grown on the Eynsford farm literally under field culture, and under conditions less favourable, especially during the recent dry season, than are found in ordinary gardens. That fact renders the exhibit all the more meritorious, because if good vegetables can be so produced, it should be easy for anyone else to have good samples. I have been much surprised to find generally how wonderfully good vegetables have been out in the open or field allotments. That is

less due to heavy manuring, for that cannot be, than to deep working of the soil and to the cooler atmosphere which exists in open areas. Those conditions largely exist at Eynsford, and they are worth more consideration than they usually receive in places, for too often vegetables have to be grown in soil that is excessively enriched and super-heated because of the neighbouring trees and walls. As to seed stocks, there is a good deal of rivalry in these days amongst seedsmen and growers to get the best, and immense pains are taken to have them. That is good practice, and the gardening public get the benefit of it. No firm has a monopoly in this respect, and if I find one gardener believes in one seed house, another has implicit faith in a second, so that it is evident all are now putting into commerce high-class stocks. A. D.

NOTES OF THE WEEK.

Caryopteris mastacantha.—This is looking so pretty now, and I send you some. It flowers at an acceptable time.—M. R., *Liphook*.

* * Very charming, the flowers of a pleasing blue colour.—ED.

The American Virgin's Bower (*Clematis virginiana*) is a really desirable and vigorous climber, flowering so freely and so long after our own native kind is past. It will festoon a hedge, go up a tree, or do anything that our own can do.—T. SMITH, *Newry*.

Trachelium Rumelianum of which I send you a specimen, is quite the daintiest alpine plant in flower now; in habit, in colour and profusion of bloom there is nothing like it; besides there is no doubt about its hardiness, it having withstood the rigours of last winter unhurt.—T. SMITH, *Newry*.

Lavatera maritima is a pretty malvaceous plant. The flowers are about the size of a florin, white, faintly tinged with lilac, and having a dark spot at the base of each petal. These petals contract at the bottom, leaving a space between each through which the calyx shows, thus forming a green star in the centre, a rather singular effect. It appears to require warm greenhouse treatment.—J. M., *Charmouth, Dorset*.

Lilium auratum in Ireland.—I send you a photograph I had taken of a group of *Lilium auratum*. The group was more beautiful about a fortnight after this photograph was done, as some of the taller spikes were in bloom too.—H. BOSCAWEN.

* * One of the most beautiful and picturesque photographs we have ever seen, and showing a remarkable example of Lily growth. We hope to engrave it.—ED.

Lobelias from Newry.—The Cardinal Flower is one of the most brilliant things of late summer and autumn, and the varieties are happily becoming more numerous. There are none better than *Firefly*, which Mr. Smith sent out a few years ago, but he sends spikes of three more distinct kinds named *Magenta Queen*, *Vermilion* and *Rosea*, the names descriptive of the colour, but *Rosea* is very soft and charming.

Pear Pitmaston Duchess.—It may interest some of your readers to know that I gathered this week thirty-three *Pitmaston Duchess* Pears off one tree. I weighed six and found them 10 lbs., and twelve weighed 18 lbs. I thinned the tree very slightly, or I am sure the weight of each Pear would have been larger. Twelve fruits of *Pitmaston Duchess* weighing 17 lbs. 5 ozs. took the prize at the Royal Horticultural show last month.—HENRY HOWARD, *St. Asaph, N. Wales*.

Pyrethrum (Chrysanthemum) uliginosum serotinum.—In the gardens at the Belvedere, Vienna, I noticed this growing with bog plants. I am told that in Hungary this *Pyrethrum* is to be found in masses in places which are flooded for some time during the summer.—LOUIS KROPATSCH, *Vienna*.

Chslons barbata is now in fine condition. I send you a spike 3 feet in length to show how

beautiful it is. The plants flowering now are from seeds sown in the spring.—T. SMITH, *Newry*.

Pear Marie Louise in Kildare.—Mr. Bedford sends us from Straffan some beautiful specimens of that most excellent of all autumn Pears grown in England, *Marie Louise*, with the following note: "The fruits are from the tree that was photographed two years ago in THE GARDEN, but it carried double the number of fruits this year. We had not a single failure with any kind of fruit this year; all were good both in quantity and quality." We wonder how anybody can grow Pears like *Beurré Clairgeau*, or any inferior kind, in the presence of such a fruit as *Marie Louise*.

Begonia Martiana gracilis.—I see you have a note of commendation for this pretty plant. I send you sprays of *B. Martiana grandiflora* and *B. M. pulcherrima*, the first growing about 2 feet high, the latter not so tall. Both were outside all summer, and I expect you to admit that the stove-grown plants you referred to lose by comparison.—T. SMITH.

* * All the forms of these *Begonias* sent us by Mr. T. Smith, of Newry, are extremely pretty, and deserve the attention of flower gardeners. We have seen one form used with fine effect by Mr. Dick in the Phoenix Park gardens.—ED.

The Royal Gardeners' Orphan Fund.—Intending subscribers are respectfully reminded that the collecting cards recently issued amongst the gardeners and general nursery trade throughout the country should be returned during the course of the ensuing month. It may be again stated that every 5s. collected will secure a vote for the next election, and every £5 a vote for life. It is earnestly to be hoped that a very liberal response may be made to this appeal in order to meet the requirements of the present year. Collecting cards may still be obtained on application to the hon. secretary or any member of the committee.—A. F. BARRON, *Hon. Sec.*

Gladiolus oppositiflorus.—This species was re-introduced by the Royal Gardens, Kew, in 1892, and in larger quantity by myself in May and June of this year. Apart from its qualities for hybridising, it is one of the most charming of the whole tribe. It is a stately plant of 5 feet to 6 feet high, with spikes often 2 feet long. Many flowers open at once and remain in beauty for several days. On one spike I counted as many as twenty-two flowers open at the same time. They are of medium size, white to deep rose, with a few purple streaks. The delicacy of the various shades cannot be described. It will grow here, and no doubt when better known will become a general favourite.—MAX LEICHTLIN, *Baden-Baden*.

Old Apple trees at Tachbrook.—Ten years have elapsed since the readers of THE GARDEN (Vol. XXIV., p. 191) enjoyed a description of these fine trees from the pen of Canon Kingsley's widow, and although the writer has passed away, the trees bear out her words, and "look as if another hundred Mays might still see their pink and white buds opening to the spring sun." The crop of fruit this year has been large and good, and the new and healthy shoots testify to the vigour of the trees; indeed, the gardener, Mr. Taylor, told me to-day that they are more vigorous now than at any time during the twenty years they have been under his care. If any lover of herbaceous plants makes a pilgrimage to see these trees, let him persuade Mr. Taylor to take him to his cottage garden—it is easily done—where he will see many a good plant, and may marvel, as I did, how such wealth can continue if all visitors are treated with the same liberality that I experienced.—HENRY BUCKLEY, *Leamington*.

* * A very fine fruit was sent which is similar to Warner's King.—ED.

Vitis heterophylla humulifolia.—This creeper is very beautiful this year, the trailing shoots being covered with the sky-blue berries. We have a very fine specimen on a wall facing west, and it rarely fails to fruit. This season it is a mass of berries, and makes a lovely object for covering a bare wall. There are fewer berries at

the top of the wall, owing to the gross growth, the lower portion being loaded, and the fruit is borne on the more slender branches. Some time ago a note appeared in THE GARDEN, complaining that this creeper failed to fruit. I believe it requires restricting at the roots, otherwise it rarely fruits. Our plant is in a very small border, and only allowed to cover a certain space. It receives no shelter, being perfectly hardy, and no special treatment is given.—G. WYTHES.

Begonias at Chiswick.—These plants look remarkably well after the late rains, the beds being a mass of rich colours. At Chiswick may be seen several really good and distinct things. The beds of *B. semperflorens atropurpurea* are of special note. The flowers are of a dark shade, and the leaves quite bronzy in colour. There are several forms of this *Begonia*, varying only slightly in the colour of flowers, some of a rosy shade, others nearly pure white. *Vernon* is a very fine type, rich and attractive. From seed may be had various shades, but the orange colours will predominate. Those who wish to have a distinct break away from the tuberous-rooted section would do well to note this type of *Begonia* for next season, as a stock is readily obtained from seed, and the growth is erect and the foliage thick and leathery. The plants may almost be termed perpetual flowering, as they are always in bloom. *Atropurpurea* stood the severe drought during the summer months better than many others. The plants were mulched after planting, and given a thorough watering twice a week.

Grapes on open wall at Chiswick.—A most interesting collection of Vines is grown on a south-west wall at the R.H.S. Gardens, Chiswick, Mr. Barron having planted a number to test their fruiting qualities in the open, and certainly this is the right season for such experiments. Though the berries are not so large as those of indoor fruits, the flavour is all that can be desired both in the black and white varieties. Of course it is no new thing to have Grapes in the open, but it rarely occurs that one can obtain them so well finished both as regards size and colour. *Royal Muscadine* is in perfection, the berries firm, juicy and very sweet. *Chasselas Rose*, another form of the *Royal Muscadine*, is excellent, and a variety less known perhaps is *Miller's Burgundy*, the black fruits suffused with a beautiful bloom, the berries small and very sweet, whilst the bunches are smaller than those of the above varieties and very compact. There are others of American origin, some of considerable merit. One can still cultivate these fruits in the open, although I fear of late years they have been little grown owing to glass erections being more plentiful, but even for decorations the Vine is very charming. Here may be seen some arches over walks festooned over with various kinds of Vines bearing very freely, and certainly no better method can be adopted.—G. WYTHES.

Notes from Dorset.—There is little doubt but your columns will soon teem with accounts of the effects of the past remarkable summer. The following notes taken at random may not be without interest. *Cleome pungens* on a perfectly open border has flowered well and nearly ripened seed. *Vitis humulifolia* is covered with its turquoise berries. *Colletia cruciata* will in a few days be a sheet of greenish white with its small flowers. *Mandevilla suaveolens*, planted in a conservatory border and allowed to ramble outside through a side ventilator, is maturing its clusters of slender seed-pods, which are a foot in length. *Abutilons* of which I have a large number, have seeded in the greatest profusion. Apples and Pears are nearly double their usual size besides bearing a heavy crop. In the fields the Oaks are swaying beneath the great weight of acorns. Many Ash trees now denuded of foliage appear at a distance in full leaf by reason of the great crop of keys. The ground beneath the Horse Chestnuts is literally covered with the great fallen burrs, and the enclosed seeds are of enormous size. Hollies are already scarlet with the glow of their winter fruit.—J. M., *Charmouth, Dorset*.

TREES AND SHRUBS.

THE WISTARIA IN JERSEY.

THIS Wistaria is growing over a yard wall facing south, but getting but little sun, the house in front almost entirely shading it. It grows perfectly wild, and when in bloom is most effective. I presume its luxuriant growth is owing to the mildness of the climate.

S. BOWEN.

Millbrook, Jersey.

Robinia and the dry weather.—The common False Acacia (*Robinia pseudacacia*) has resisted the excessive drought of the present season better than most trees, and consequently it may be seen in many cases with the foliage in good condition, while most of its associates are almost

the foliage is a good deal lighter, added to which the branches are more slender, thus combining to form a really handsome specimen. Such varieties as this and the golden-leaved form, with their light and elegant appearance, are widely removed from the close, round-headed kind *umbraculifera*, the erect Lombardy Poplar-like *fastigiata*, or the curiously gnarled *tortuosa*. This by no means exhausts the list, for there are among others *crispa*, *pendula*, *latifolia* and *monophylla*, whose distinctive characters are indicated by their respective names. From a floral point of view, *Decaisneana* and *semperflorens* are very noteworthy, the former having pinkish blossoms, while *semperflorens* will continue to bloom for a very long time.—T.

Berberidopsis corallina.—This is a very pretty climbing or rambling shrub, and one that is quite distinct from anything else in our gardens. The leaves, which are 3 inches or 4 inches long, are dark green and of a leathery texture, while the edges are furnished with spines. When growing freely the evergreen foliage is very ornamental,

by many, while it may be pointed out that there is a second, though not a well-known form in gardens under the varietal name of *aureo-variegatum*. This has not the rich golden hue common to some variegated shrubs, but instead of the clear pure white of the older kind, the leaves of this are variegated with yellow, which is more pronounced than in the older ones. The arrangement of the variegation is about the same in both forms.—T.

JAPANESE OAKS.

ALTHOUGH poorer in species and less important in the number, size, and value of individuals than in Eastern America, *Quercus* furnishes one of the principal elements of the forests of Japan. The types are all of the Old World, and there is nothing in Japan which corresponds with our Red, Black, or Scarlet Oaks, or with the Black Jack, the Willow Oak, the Shingle Oak, the Turkey Oak, the Spanish Oak, the Water Oak



Part of fence covered with Wistaria. Engraved for THE GARDEN from a photograph sent by Mr. S. Bowen, Lansdowne, Millbrook, Jersey.

leafless. That small form, the round-headed variety, *umbraculifera*, which is often planted in formally arranged gardens (sometimes in too great a number), shows this peculiarity in a very marked manner, and as late as September 23 I saw a row of this, in a very dry spot, which had not commenced to change colour, though everything else in the neighbourhood was showing the effect of the drought. This habit of resisting a long continued spell of dry weather is shared by many other Leguminosae, most of which have deep descending roots that serve them in good stead during such a season as the present. Another tree, *Sophora japonica*, is particularly noticeable in this respect, and of shrubs, many of the Brooms, *Furze*, *Coluteas* (or Bladder Sennas), *Caraganas*, and other things stand out conspicuously.—T.

Robinia pseudacacia angustifolia elegans.—Though to a certain extent handicapped by such a formidable name, this is a very desirable variety of the False Acacia, and one that should be borne in mind in making a selection from the numerous forms now in cultivation. It is altogether a far more elegant tree than the type, the leaflets being much narrower, and consequently

but it is the flowers which form the most striking feature of the plant. They are globular, and hang on long slender stalks in little clusters from the upper parts of the shoots. The colour of the flower is a bright coral-red, a tint little represented among outdoor plants. It was introduced from Chili in 1862, and, in common with many other subjects from the same region, it is hardy in some parts of this country, and in others needs a certain amount of protection. In the neighbourhood of London the shelter of a wall will as a rule enable it to pass through the winter, but where it cannot be induced to thrive in this way it may be grown as a cool house climber. When so treated, a light airy position must be assigned it, as if drawn in any way it cannot be depended upon to flower freely. An established specimen will often bloom throughout the greater part of the summer and well on into the autumn.—H. P.

Negundo frexinifolium aureo-variegatum.—The ordinary white variegated Negundo, or Acer Negundo as it is sometimes called, is one of the commonest shrubs to be met with in gardens; in fact, it is often overdone by the planter. Still, judiciously placed, it is very effective and admired

or the Pin Oak, the Blue Jack, or with our Chestnut Oaks. In the north and on the high mountains of Hondo there are four White Oaks, and in the south a number of species with evergreen foliage of sections of the genus, which are not represented in the United States. In the south, too, there are a couple of deciduous-leaved species with biennial fructification of the Turkey Oak (*Quercus cerris*) sort.

The best known of the Japanese Oaks to European and American planters is

QUERCUS DENTATA (the *Quercus Daimio* of gardens).—This tree is remarkable for the great size of its leaves, which are often a foot long and 8 inches broad, and for the long, loose, narrow, chestnut-brown scales of the large cup which nearly encloses the small pointed acorn. In Central Hondo this tree is only found on the high mountains, and it is not at all common, but in the extreme northern part of the island it appears in great numbers on dry gravelly slopes, at no great elevation above the sea. Here, apparently, however, it does not reach the size it attains farther north, and the finest trees we saw were on the

gravely plain south of Volcano Bay and in the neighbourhood of Sapparo. Although *Quercus dentata* grows to the height of at least 80 feet and forms a thick trunk more than 3 feet in diameter, it is not an imposing or handsome tree in its maturity and is only beautiful in youth. Old trees lack symmetry and the appearance of strength, and are sprawling in habit, without being picturesque. The bark is rather dark for a White Oak, and not unlike that of our Rock Chestnut Oak (*Quercus Prinus*); it is valued for tanning leather, but the wood is considered worthless. *Quercus dentata* appears to be the only deciduous-leaved Oak cultivated by the Japanese, and small trees are common in the gardens of Tokio and other southern cities, where, however, it seems to languish. A variety (pinnatifida), with deeply divided leaves, is cultivated in the Botanic Garden at Tokio, and has, I believe, been introduced into Europe. In Central Yezo, two noble White Oaks,

QUERCUS CRISPULA AND *QUERCUS GROSSE-SERRATA*, form a considerable part of the forest growth. The Dutch botanist Miquel considered them forms of one species, but Professor Miyabe, who has had the best opportunity for studying these trees under the most favourable conditions, believes them to be distinct in their fruit, although similar in foliage. His view, too, that *Quercus grosseserrata* cannot be specifically distinguished from the Saghalin and Manchurian *Quercus mongolica*, will probably be found to be correct. *Quercus crispula* appears to range farther south than *Quercus grosseserrata*, which extends north to the Kurile Islands, and was not recognised by us in Hondo. In the Nikko Mountains, on the road to Lake Chuzenji, we saw fine forests of *Quercus crispula*. In Central Yezo, where the two species grow side by side on the hills, on low ground, near the banks of streams, *Quercus crispula* appears the more common tree. Both have leaves resembling in colour and texture those of the common Oak of Europe. The bark is pale, or sometimes dark, and scaly, and both species under favourable conditions rise to a height of 80 feet to 100 feet, and produce stems 3 feet to 4 feet in diameter. Both are timber trees of the first class, and both, should they thrive in this country, may be expected to add beauty and interest to our parks and plantations. The smaller, shorter acorn of *Quercus crispula* appears to offer the only character for distinguishing the two trees; in their port, bark and foliage they were indistinguishable to my eyes. The fourth Japanese White Oak,

QUERCUS GLANDULIFERA, ranges in Yezo nearly as far north as Sapparo, although it is only south of Volcano Bay that it is really abundant. This, the common Oak of the high mountains of Central Japan at elevations over 3000 feet, is probably the most widely distributed species of the empire; it is a pretty tree, rarely more than 30 feet or 40 feet high, although on the hills above Fu-kushima, on the Nagasendo, we saw specimens nearly twice that height. The leaves are pale or nearly white on the lower surface, and from 1 inch to 4 inches in length. The acorns are small. Like many American Oaks, this species varies remarkably in the size of individuals, and in some parts of the country traversed by the Nagasendo we found plants only a foot high covered with acorns. This Oak was sent to the Arnold Arboretum many years ago from Segrez by Monsieur Lavallée. It is perfectly hardy here, and has flowered for years, although it remains a bush, and makes no attempt to grow into a tree. Of the other deciduous-leaved Oaks,

QUERCUS SERRATA, one of the most widely distributed of the Asiatic species, ranging, as it does, from Japan to the Indian Himalaya, is common in dry soil near the coast below Yokohama and on the foot-hills of the mountains of Central Hondo. It is a small tree, 20 feet to 40 feet high, with a slender, black-barked trunk and beautiful dark green leaves. In Japan this tree appears to spring up in waste lands in great numbers; it is only valued for the charcoal which is made from it.

QUERCUS VARIABILIS, a nobler tree of the same general character, we only saw in the grounds of a temple near Nakatsu-gawa, on the Nagasendo,

where there were specimens fully 80 feet high, with tall straight trunks 3 feet or 4 feet in diameter, covered with thick, pale, corky bark, which is sometimes used by the Japanese for the same purposes that we use the bark of the Cork Oak. The leaves are less coarsely toothed than those of *Quercus serrata*, dark green and lustrous above and pale, or nearly white, below. From *Quercus serrata*, too, it differs in the smaller cups and in their shorter, thicker scales. A number of plants have been raised in the arboretum from the acorns which we picked up under these trees, and if they are not hardy here in New England, they will certainly thrive in the middle States.

It is impossible to know whether many of the

EVERGREEN OAKS

which we saw in Japan were growing naturally or had been planted. In the gardens and temple grounds of Tokio, Yokohama, Kioto and other southern cities evergreen Oaks are the commonest trees, but we did not see them growing in the forest except near temples. The species most frequently seen in Tokio and Yokohama are

QUERCUS CUSPIDATA AND *QUERCUS GLAUCA*. They are both large and beautiful trees, said to be particularly conspicuous in early spring from the bright red colour of their young shoots and new leaves, which at that season make a charming contrast with the dark and lustrous green of the older foliage. They should be introduced into our Southern States, where, probably, all the Japanese evergreen Oaks will flourish. The wood produced by *Quercus cuspidata* and *Quercus glauca* does not appear to be valued in Japan, but the acorns of the latter are of considerable commercial importance, and are cooked and eaten by the Japanese.

QUERCUS ACUTA, which is also much planted in Tokio, we saw growing to the height of more than 80 feet, with *Quercus variabilis*, in the temple grounds at Nakatsu-gawa, and also near the temple of Higane, near Atami, on the coast. It is a noble tree, with dark green, thick, and lustrous leaves. This noble tree has been introduced into English gardens, with a number of other evergreen Japanese Oaks, through the efforts of the Messrs. Veitch, who obtained it some years ago from their collector, Maries. But the finest Oak tree, and perhaps the finest tree which we saw in Japan, was a specimen of

QUERCUS GILVA in the temple grounds at Nara, where there are a number of remarkable specimens of this beautiful species. The largest of these Nara trees was probably 100 feet high, with a trunk covered with pale scaly bark, which, breast-high from the ground, girthed just over 21 feet; it rose without a branch, and with little diminution of diameter, for something like 50 feet, and then separated into a number of stout horizontal branches, which had not grown to a great length, and formed a narrow, cylindrical, round-topped head.

Of the other Japanese Oaks, *Quercus Thalas-sica*, *Quercus Vibrayana* and *Quercus glabra*, we only saw occasional plants in gardens. The *Quercus lacera* of Blume we did not see at all. —C. S. S., in *Garden and Forest*.

Balbisia verticillata (James Eral).—This is the name of the flower you send, which you say "is from a plant which has been grown in a pot in a cold house." It is a half-hardy shrub from Peru, and was introduced to this country by Messrs. Veitch and Sons, of Chelsea, about twenty years ago. I have not seen it much, but I do not think it was a new plant, for once before in the early part of the century it was introduced to this country from Chili. The flowers resemble those of a *Hypericum* in shape and colour, being nearly 3 inches across and rich golden yellow. This is the time for its flowering, and I advise the sender to increase the plant, and to try it as an outdoor shrub, selecting a dry, well-drained and somewhat sandy situation for it.—W. H. G.

ROSE GARDEN.

THE ROSE SEASON OF 1893.

SELDOM has a year opened with greater promise to rosarians than did the present one, and to some few, more especially those with gardens in the northern parts of England, Scotland and Ireland, the promise has been fulfilled, but the expectations and hopes of those of us who live in the southern counties have been somewhat upset by the extraordinary drought and heat. I wrote to THE GARDEN a letter which appeared in the issue of March 25, in which it was stated that up to that period of this year we had enjoyed typical weather, but the dust of March was not followed by the showers of April, and, in fact, barely 2 inches of rain fell in most parts of England from that time till the month of July, by which time the Rose season for the majority of growers was over.

I shall not trouble you with a discussion on the trials and worries incidental to a season in which insect life naturally became rampant, but some of the drawbacks which the early activity of caterpillars, &c., would have intensified were obviated by the fact that in consequence of Rose trees starting into full growth quite a month in many cases before their usual time, a great deal of this early growth had to be cut away and the trees very hard pruned, the insect life just then becoming rampant in the upper shoots being thus disposed of and relegated to the obscurity of dust-heaps. Theories as to correct dates for pruning were as a matter of course, totally upset by the weather, and there were few Rose gardens where all Rose trees were not pruned by the second week in April. The question which soon became one of urgency was as to whether watering in the early stages of growth was judicious or otherwise. Those who favour the belief that plant life cannot have much vigour without a certain amount of moisture soon took to the pumps or the garden hose, and I know that in most cases others who habitually decry this method finally took to watering vigorously—in some instances too late to benefit their trees or retard the undue rapidity of bud-development of a weakly character. I believe to this neglect or the inability to obtain sufficient artificial watering power we may ascribe in great part the effacement this year of some of our great Tea amateur exhibitors.

What, however, was a source of great damage to the south was of advantage to the cooler region of the north, and the year 1893 will be remembered amongst rosarians as a year of triumph for all the great growers in the northern parts of the United Kingdom. By the liberality of the executive of the Gardening and Forestry Exhibition at Earl's Court, and by the early appreciation of the position and prompt action of the executive of some of the Rose societies in the south of England (notably those of Ryde and Newport, Isle of Wight, Reigate, Hitchin, Sutton, Windsor, and one or two other places) there were early Rose shows fixed, and those with later dates altered their arrangements, thereby enabling many to show their flowers who would have been unable to do so later, their best period of blooming being over by even June 28. I believe I am stating what is strictly accurate when I say that even on June 28 the great Colchester growers and Mr. George Paul were principally exhibiting flowers from maiden plants at the Earl's Court show, and that even then, so early a date in ordinary seasons for many growers, there was great doubt about their being able to show at the N.R.S. Crystal Palace meeting from maiden plants on July 1. In the earlier meetings, notably those of June 14 and 28 at Earl's Court, and June 24 at Reigate and also at Sutton and Windsor, Messrs. Benj. Cant and Frank Cant showed in all classes in their usual splendid form, and Messrs. Prior and Son (another Colchester house coming rapidly to the front) were also able to take the premier place in the Tea class at Earl's Court on June 14; but as the month of June closed, fortune favoured the north, and the name of Hawkness became synonymous with that

of victory on almost every occasion. Moreover, their success was not gained by want of competition, but won by sheer merit. At Reigate, in my opinion (as I have stated elsewhere on other occasions), the best general Rose show of the year was held. Messrs. Harkness were even then (June 24) able to show what their prowess would be later on, as although they were defeated in a splendid competition by Mr. Frank Cant in the class for forty-eight varieties, they won the first prize for trebles in a competition of eleven exhibits of the greatest growers of England. At Hitchin on June 26, at Earl's Court on June 28, at the N.R.S. meeting at the Crystal Palace on July 1, and at Workop on July 13 they were literally invincible, and although at Workop they had to meet such competitors as Messrs. Dickson, of Newtownards, and the northern growers, Messrs. Mack, Croll, and, I think, Cocker, they continued their victorious career unchecked, and I am told their success in 1893 is a "record." A word of praise must also be given to their principal competitors at Workop, Messrs. Dickson, who pressed their Yorkshire opponents very hard. Messrs. Dickson achieved at the National Rose Society's great meeting on July 1 a feat never before recorded, viz., that of taking two gold medals for new Roses, and if they had done nothing else this year or had been unknown, this alone would have made them famous.

The show at the Crystal Palace this year was what your readers can only have anticipated who read the letters of last winter which I wrote you on the probable effect of a season such as we have chanced to go through. There were redeeming points such as the one exemplified by Messrs. Dickson's victory and by the superb exhibits of a few of our great amateurs, notably those of Mr. Foster-Melliar, of Ipswich, who this year has taken the place of late years occupied by Mr. Burnside and Mr. Hill Gray as Tea Rose champion. Mr. Foster-Melliar's exhibits were worthy of his great reputation, and both on June 20 and July 1 he showed flowers which can be truly said to have been quite exceptional in any season. He also took the N.R.S. medals at both of their early meetings for the best individual flower shown in the Tea classes. Mr. Lindsell, of Hitchin, at all the early shows also maintained his position of champion rosarian of England, which he has now held for four years, and although the present season by no means favoured him, he was, as usual, well to the front at all the earlier meetings, as well as at the Crystal Palace—other amateurs who also showed well at the Crystal Palace being Mr. Pemberton, of Havering, and Mr. Machin, of Workop. Later in the season these two gentlemen won many prizes, Mr. Machin's successes in the provinces being quite phenomenal in number and value. He is steadily advancing to the summit of the rosarian's ambition, and should make a bold bid for the championship within the next year or two. The amateur championship of the northern or provincial meeting this year went to a young rosarian of great promise, Mr. A. Whitton, of Bedale, who has learnt his lesson from the great Yorkshire firm of Harkness, who may be congratulated on so apt a pupil.

Amongst professionals, the north naturally has come very prominently to the front, and the exhibits of Messrs. Mack, Cocker and Croll have been numerous and very creditable in every respect. I believe that Messrs. Cocker have the credit of beating Messrs. Harkness for the only cup they lost in the competitions of 1893—a fact of importance in a year that Yorkshire has been the invincible county. While giving its due meed of praise to the north, we must also give credit to others who have shown well on many occasions, and I may instance Mr. George Mount, of Canterbury, Messrs. Burch, of Peterborough, Messrs. Prior and Son, of Colchester, and Mr. Merryweather, of Southwell, as having been very successful at many meetings throughout the season. Messrs. Paul and Son, Mr. Turner and Messrs. Wm. Paul and Son have also shown in splendid form, although the latter never shows for competition. I may specially mention here the exhibits Messrs. Paul and Son had at Croydon when

they took the principal prize, their beautiful exhibits at Sutton and their superb exhibit at Earl's Court of garden Roses on June 28. Mr. Turner's Rose *Crimson Rambler* has been one of the sensations of the year, winning a N.R.S. gold medal at the Crystal Palace, and being shown to admiring crowds at many places; but at no place was it more effectively and artistically staged than at Reigate. Mr. Turner has also shown Roses well in competition, his exhibits at Earl's Court being, with Mr. Wm. Paul's, the mainstays of the beautiful flower shows held there.

The most splendid Roses of the year have been the darker varieties. It has been generally thought that light varieties do well in a season of the character such as we have had in 1893, but this year it has not been so, save with two exceptions which I shall presently instance. The Rose of the year has certainly been *Horace Vernet*. It has been shown superbly by all growers of standing who cultivate H.P.'s—of course, the bulk of rosarians—but I may specially instance amongst its greatest exponents in 1893 Mr. Frank Cant, Messrs. Harkness, Mr. Benj. Cant, Messrs. Dickson, and Messrs. Paul and Son, in whose exhibits there have been many splendid specimens of it, and it has been well shown amongst our amateurs by Mr. Lindsell, Mr. Orpen, Mr. Pemberton, and Mr. Romaine. It is a difficult Rose in most seasons, but there is no Rose superior to it when it comes so good as in 1893. Prince Arthur and Earl of Dufferin (respectively raised by our native rosarians Messrs. Benj. Cant and Messrs. Dickson, of Newtownards) have also been exceptionally good. Earl of Dufferin is, like *Horace Vernet*, a most difficult Rose, but also, like it, superb when it can be staged at the right moment. One light coloured Rose of 1893 I should wish to specially name, the new variety brought out by Messrs. Dickson, and named Mrs. Sharman Crawford. This Rose took a gold medal and the first prize for twelve blooms of one variety at the N.R.S. show on July 1, the exhibits being of very exceptional merit. If this Rose can only be grown in this country with half the vigour and beauty of the examples which took high honours on July 1 it will be one of the Roses of the century. It has every advantage of colour, form, and scent; the colour approaches the tint of the lovely *Mme. Gabriel Luizet*, than which there is nothing more beautiful. Another light Rose which has done well and been frequently well exhibited is Mrs. John Laing. It took the N.R.S. medal for Mr. Pemberton at Workop, for Mr. Romaine at Windsor, and I got two medals for one specimen at Croydon, at other places also, and notably by Mr. Mount, of Canterbury, it has been splendidly shown. Although its colour is unreliable, when this Rose comes true it is unsurpassed amongst the lighter varieties.

Whatever drawbacks the drought may have occasioned, there is one advantage in a dry and hot summer. Those plants which have survived the trying heat of June, July, and August will have splendidly ripened wood. Let us, therefore, hope that the Rose season next year will give a fair chance to all, and that the hopes formed early in 1893, but somewhat upset by the abnormal heat, may be realised in 1894.

Croydon.

CHARLES J. GRAHAME.

Red Tea Roses.—I quite agree with Mr. J. C. Clarke that red or purple Tea Roses are half spoilt. Still, if we are to have such coloured Teas we may as well add as many other good qualities as we can, such, for example, as the fragrance of *W. F. Bennett*. I still, however, think that the latter is one of the best of the coloured Teas, which Mr. Clarke, "A. H.," and others will say is not much after all.—D. T. F.

Rose Aimée Vibert.—It is gratifying to find "A. H.," who eagerly welcomes all good new Roses, sparing a note for this chaste old favourite in a recent issue. I would like to add how very much harder it is than *Lamarque*, and to have "A. H.'s" opinion as to the merits of the climbing and common—it seems a sacrilege to call it the

common—variety of *Aimée Vibert*. The climber in my experience runs further, but can hardly be said to fare better or grow more beautiful. I long to mass and mix thousands of this charming and graceful old white Rose with Turner's new *Crimson Rambler* or other brilliant and free-growing and flowering Roses.—D. T. F.

— I never saw this Rose flowering so freely as this year. In spite of the exceptionally hot and dry summer, a plant of it 20 feet high growing against a south wall has been and is now a mass of bloom, although not watered at all. As an autumn-flowering and hot-weather Rose this deserves more attention than it receives.—E. M.

GARDEN WALKS.

NOT a little of the enjoyment to be got out of a place depends upon the arrangement of the walks and the condition they are kept in. No general rules as to where the walks should be located can possibly be laid down, every place having its own peculiar conformation, needs, and points of interest. A certain number are absolutely indispensable, but in very many instances there are far more than are required either for utility or ornament; in fact not a few pretty little pleasure grounds and gardens are greatly disfigured by the superabundance of gravel walks more especially. Either there are too many or they are too straight and formal, or else gravelled walks are made where a firm turf-covered path would be far more enjoyable in every way. Straight walks may be correct enough in connection with house fronts, terraces, and the borders formed at the base of these, and straight avenues and central walks are a feature in many places, especially where these lead up to a landmark of some kind, but in nearly all other situations a perfectly straight walk is most objectionable. It is the winding walks with ever varying views, or which approach nearer objects of interest, that are the most enjoyable, and it would really seem that it is these that amateur or inexperienced landscape gardeners find it very difficult to lay down. Their idea of a perfect walk would appear to be something as straight and as level as possible. Such may suit invalids very well, and that is the most that can be said in their favour. Instead of imitating a railway cutting on a small scale it is far preferable to let the walks rise and fall much as the surrounding ground undulates, this being both the more artistic and more economical arrangement. A dead level is the most wearisome of road or country to travel over, and the same rule holds good in the case of walks. Cuttings may, however, be necessary in some instances in order to modify very abrupt descents, and if the banks are turned to good account, these may be a feature rather than otherwise in the pleasure grounds, and it is not these that are found fault with. No greater disfigurement than a perfectly straight walk where a winding, undulating path might be substituted could well be planned, while to make matters worse these too often cut up an expanse of turf where no walk of any kind is either necessary or desirable. If gravelled walks there must be, let these fringe the pleasure grounds, the turf, for which English gardens are noted, being kept as nearly intact as possible.

Walks may be laid down in the plans and through the grounds correctly enough, and yet not be enjoyable at all times owing to their faulty construction. If they cannot be used in wet weather or after a frost, of what use are they? They may be properly drained, the gullies on steep walks being sufficient in number—and the gratings connected with these be kept properly cleared—to keep the gravel from being washed away, and yet be imperfect. So-called binding gravels are, as a rule, unreliable. While the weather is favourable they give a good finish to a walk and are also pleasant to the feet, and it is a pity they are not more durable. The way out of the difficulty with many is to face over the walk either with fine gravel, and which in some few cases is not harsh to tread upon, especially that

procured from the seaside. Of late years, however, "chippings" have taken the place of both faulty binding gravel and the pea-like gravel obtained from the coasts, said chippings being in many cases hard stones cracked up finely by tramps, who patronise casual wards, doing this work instead of, as heretofore, picking oakum. This form of surfacing is not particularly expensive unless hauled a considerable distance, always looks clean, can be walked upon in all weathers, and is very durable. All the same, it is far too coarse and harsh to the feet. If loose gravel is used as a surfacing, it ought always to rest on a well-prepared foundation of coarse stones, with a middle layer of similar material of a size that would pass through a 1-inch mesh sieve. Fine waste from stone quarries is preferable to chippings, and if this is passed through a quarter-inch circular-wired sieve, the coarser parts going underneath and that which passes through the sieve being used as a surfacing, there will be no harshness about it, and the walks could be passed over in comfort during wet as well as fine weather, frosts having no prejudicial effect. Where binding gravel is freely used, weeds and Moss most abound, this necessitating, or at all events, leading to the fine gravel being turned every two or three seasons. Now that the application of weed-killers has rightly become so very general, gravel walks of all kinds are very simply and cheaply kept in a clean state, and these do not make them so damp and rotten as used to be the case when salt was largely used as a weed destroyer. As far as kitchen gardens are concerned, the walks ought to be both few in number, straight, and well made, binding gravel being of little service in these places. Much wheeling quickly wears out the best made gravel walks, and when the latter lick up badly, owing to the presence of too much clay in the binding gravel, nothing can be more miserable to deal with. Clinkers and a good surfacing of ashes well rolled in would in many instances be of better service than gravel, while asphalt, and which could either be made on the place or procured ready mixed from the nearest gas works, is preferable to all other forms of kitchen garden walks. Especially is asphalt necessary where the walks are steep, the finer material on steep gravelled paths being liable to be washed to the bottom of a garden whenever heavy storms of rain are experienced. Staffordshire tiles or thin stone are the most suitable for edging asphalt walks, the tar not unfrequently killing much of the Box alongside them. All things considered, imperishable edgings are to be preferred in the kitchen garden, no matter what material may be used in the construction of the walks.

The question yet remains to be answered, Why should gravel walks so often be formed where good turf would answer as well, or, according to some people's ideas, even better? Give a number of visitors to a garden the chance of walking either on a gravelled walk or a strip of turf, and the latter will be selected by a great majority of them. So much is this the case, that when the public are admitted to private places, every precaution is frequently taken to keep them off the turf. The latter will certainly not bear the strain of much traffic in all weathers, but is fully equal to the strain in very many situations where gravel at present reigns supreme. If the ground is well drained, the turf being perfectly level with a good bottom, the Grass also being kept closely shorn, there is nothing more enjoyable to walk upon in hot weather, and in not a few instances it is not so damp to the feet during the winter as a smooth gravel path would be, the disagreeable licking up common to the latter also being avoided. Especially are turf-covered walks desirable in the fronts of or between herbaceous and other flower borders both in the kitchen garden and out of it. I. M. H.

Erythrolæna conspicua.—This very effective giant Thistle from Mexico has been flowering very well on a new piece of the rock garden here, where I placed it to cover an unoccupied portion. The flowering stems have been over 8 feet in height,

and the flowers, as the photograph will show, have been numerous and most graceful. They are brilliant in their colouring of a bright scarlet, shading to crimson as they ripen. The plants have been in flower over two months, and are still quite fresh and bright. The leaves are immense, of a dark glossy green. Altogether the plant is one that arrests attention and elicits great admiration. Two other plants which I placed in good ordinary border soil only succeeded in producing two or three leaves all through the summer.—W. D. R. D.

FLOWER GARDEN.

FLOWER GARDEN NOTES.

THE gradual increase in the number of herbaceous borders and the long-continued supply of flowers obtained therefrom are doubtless partly responsible for the general desire to do something in the way of furnishing beds in the formal garden for the winter, and so obviate the nuisance of looking on nothing but bare earth for some eight months out of the twelve. Spring gardening has, we know, been carried out thoroughly and satisfactorily many years back at such places as Belvoir, Cliveden and Castle Asby, but it is only lately, with possibly the more extensive knowledge of the merits of tufted Pansies, Polyanthuses, and Daffodils, that the majority of gardens both large and small have more or less adopted the system. Small conifers are almost indispensable in this winter gardening, a trifle formal perhaps, but then the foliage always looks bright and healthy; and of how many so-called hardy evergreen shrubs can the same be said if they have to experience winters like that of 1891 and 1892? In the employment of conifers for this purpose it is necessary to guard against over-planting, as too many in any one bed give a heavy appearance. No very formal things, as the Yews, the upright Cupressus and the golden Arbor-vitæ, should be tolerated. There is a wide difference between a light, graceful *Retinospora* and the golden form of *Taxus fastigiata* or the severely formal *T. adpressa*. Into the very many plants suitable for present planting it is hardly necessary to enter. Hardy carpet plants alone are in considerable variety and the enumeration of the same is not advisable. They are easy of culture and can be used to meet individual requirements; so, too, such things as *Silene*, *Myosotis* and *Limnanthes*. The two former may act as a carpet to beds of Tulips and make in this way a very pleasing show if the bulbs are not planted too thickly. Considerable difficulty has been experienced this season in obtaining tufted Pansy cuttings; indeed, on light sandy soils the supply is very short. As good bedding varieties of the true tufted type are forthcoming and a bountiful supply obtained by division, we shall be comparatively independent of cuttings, but at present many really excellent varieties are too much allied to the Pansy in habit to split up freely into countless little plants. Sorts comparatively new to us, and which were planted for the first time last autumn, have furnished the best supply of cuttings, for the reason that the ground was well done for them and they have been less affected by the drought. Four sorts, viz., *Crimson King*, *Mrs. Bellamy*, *William Niel*, and *Duchess of Sutherland*, will occupy the greater part of a large bed round plants of *Retinospora plumosa*, intervening spaces being filled with *Veronica incana*. The centre of another bed will be *Bullion*, shaded off at either end with *Ardwell Gem* and *Sylvia*, or *Duchess of Fife* if sufficient of *Sylvia* is not forthcoming. *Polyanthus* seed did not, I believe, come up any too well this spring, but by soaking shallow drills and shading for a time we were successful in securing an excellent plant of a very good strain. The seedlings were transferred to a good north border as soon as they could be handled.

It is a great mistake, by the way, to leave them too long in the seed bed, and they are now capital stuff, each with some fifteen to twenty leaves. No

single flower is more extensively used for spring gardening than the *Polyanthuses*. They were not seen at their best this year in the majority of gardens, the drought and persistent attacks of sparrows crippling both plant and flower; but in the spring of 1892 they were magnificent, and no finer display of colour was obtained all through the season than large beds of the sulphur and crimson-flowered dotted over sparingly with scarlet *Pottebakker Tulips* and the vigorous *Star Daffodil John Bull*. The breaking up and relieving the flat surface of beds as shown here and above in the case of Tulips with *Forget-me-nots* or *Silene* is, I think, one of the best new departures in spring bedding. If there is an inclination to utilise some of the most suitable of herbaceous plants as permanent subjects in the formal garden, many things named above will associate with them for winter and spring, to be in their turn removed for other things. The pink *Silene*, for instance, is seen to great advantage among clumps of *Mrs. Sinkins*, *Her Majesty*, or the *Pheasant-eyed Pinks*, and these make an admirable carpet through the summer months for bold plants of any dark free-flowering *Fuchsia*, clumps of bronzy-leaved *Cannas* or *Ricinus Gibsoni*. Again, no objection can be raised to occasional clumps of good *Pyrethrums* or some of the *Spireas* among either spring or summer bedding; the foliage is nearly always attractive if they are not in flower. For large beds where a bold mass of colour is required, there are few better things than a good strain of *Wallflower*. I generally sow four varieties, two colours in the dwarf and the same in the taller strains. It was a very dry seed time this year, so they were put in on a north-west border, the shallow drills, as in the case of *Polyanthus* earlier in the year, being well soaked previous to sowing.

TRANSPLANTING HERBACEOUS THINGS.—It is somewhat early in the year to write on this matter, but I should like to note that extra care should be taken in the operation this season, and that all transplanted stuff should have a well-prepared site ready for its reception. It is more than probable after such a season that nearly all growth will come away in a weakly, spindly fashion, and a fillip will be necessary to counteract the imperfect root action consequent on the lack of moisture. Earlier in the season I mentioned the crippling of *Starworts* by rabbits, and with the view to prevent a recurrence of the disaster I have decided to get them to a safer spot, and already started lifting some of the early-flowering section as represented by *Amellus*, *corymbosus*, *paniculatus* *Dot*, and some of the *Novi-Belgii*. The great mass of the ball of each plant except just round the sides is simply as dry as powder, and a lot of roots are practically withered up. No good can come of leaving these longer in the ground, so we shall continue lifting, cut away the bad stuff, soak the clumps well, and replant in a compost that is likely to suit them well. E. BURRELL.

Claremont.

Hardy and tender flowers.—"People are getting tired of choice flowers," a florist remarked lately, and added that if simple hardy things, such as *Pinks*, *Stocks*, *Gaillardias*, *Anemones*, &c., could be had through the winter months, many would rather buy them than the choicer flowers that furnish our markets at that season. However that may be, it is certain that there is at the present time a much greater demand for hardy flowers than was the case a few years ago. I should say that for one acre given up to hardy flowers for cutting twenty years ago there are 100 at the present time. The florist above alluded to said we cannot have too many *Daffodils*; everyone wants *Daffodils* as soon as their season comes round, and it is a fact that they come into the London markets in such quantities that would within my remembrance have been thought incredible. At times *Covent Garden* seems full of them, and yet I doubt if ever a bunch remains on hand. If a similar quantity of *Azaleas* or *Pelargonium* were brought in, I doubt if even at a low price they could be got rid of. I have many times

heard gardeners say that the hardy flower border was held in greater esteem than the contents of the glasshouse. One reason for this may be that flowers that have to be cultivated in glasshouses are much more common than formerly. I remember the time when a bunch of flowers in winter was too great a luxury for people of moderate means, but owing to the wonderful development of Chrysanthemum culture and the large importations of flowers from France at an early period of the year, the florists' shops can be well furnished throughout the duller months. Even Orchid flowers can at certain seasons be bought at very moderate rates. Flowers that some years ago were only to be found in the gardens of the wealthy now find their way into the florists' hands in quantity.—J. C. B.

CHRYSANTHEMUM CORONARIUM.

This is an annual species, native of Southern and Eastern Europe, and well known as a sum-



Flowers of the Crown Daisy (*Chrysanthemum coronarium*).

mer inhabitant of our gardens. There are innumerable forms, both single and double, and they afford a considerable range of colouring varying from white through all shades of yellow and orange, while some exhibit discoid orange markings on the florets that render them still more ornamental. It seems to be a widely distributed plant in nature, and is said to be grown as a pot herb in China and Japan.

C. coronarium and its European ally, *C. carinatum*, are both well known as easily grown hardy annuals in the flower garden, and they are so showy, that one all the more regrets that our own golden Corn Marigold (*C. segetum*) has not been taken in hand and improved as a garden annual, since it possesses a far harder constitution than either of the above exotic kinds, and often goes on flowering most of the winter on warm dry soils. F. W. B.

PANSIES FOR MARKET.

WHEN one sees three or four acres of land with long ranges of frames given up to Pansy culture, one is able to form a pretty fair idea of the popularity of this hardy flower. How many plants are sent to market and disposed of in other ways in the course of the year it would probably puzzle the owner himself to say, but there they are in countless thousands in various stages of growth—frames filled with them just coming into bloom to be succeeded by long beds of sturdy little specimens that have passed the winter without protection. The Pansy grower's season is not a long one, but he manages to lengthen it considerably by advancing a portion of his stock through giving protection during the winter. Artificial warmth is not employed, as it would not do to rob the plants to any extent of their naturally hardy character. With shelter from heavy rains, snow and cold winds, they remain fresh and green, and make a certain amount of growth during the winter months. On mild days the lights are pulled off, and this exposure keeps them dwarf and hardy.

The first blooms that come on them are very large and fine in colour. As soon as one bloom is expanded the plant is ready for sale, and is taken to Covent Garden Market or sold on the place to flower hawkers. The Pansy is a great favourite with these men; it comes at a time when the owners of small gardens are beginning to think of furnishing their flower beds, and being so easily propagated, growers can sell at low rates, and this places them within the reach of flower lovers of limited incomes. The hawker can load his barrow with Pansies at the cost of a few shillings, and, unlike the majority of flowers grown for market, they are not much affected by the changes of weather

to which the contents of the flower hawker's barrow are exposed in the spring months. Pansy growers for profit as a rule save their own seed. Some have very fine strains, the result of many years' careful selection, and it seems strange that whilst great prominence has of late been given to French strains of this flower, that of the London market grower should be so little noticed. Some years are conspicuously bad for seed-saving. In a damp summer there is a difficulty in getting enough good seeds, but as two very bad years do not often follow each other, the good one has to help the bad one. This has been a fine summer for seeding. I have saved several ounces of seed, enough to bring me through the next two years if I do not save any next season. Pansy seed does not, fortunately, quickly lose its vitality. Two-year-old seed comes up almost as well as when sown the first season after gathering. July is the month for sowing, and to get good strong marketable stuff one must not be later than the middle of the month. The young plants ought to be dibbled out by the middle or end of August, so that they get sufficient root-hold to ensure them against the effects of frost-heaving. The ground is fallowed for them, thoroughly worked and made fine before planting, some growers making a practice of working in a dressing of soot, so that the plants get the benefit of it at once. In October a surface-stirring is given. A few of the so-called bedding Pansies are grown, but these are propagated by cuttings or division. The old Cliveden Purple and Blue King are still in favour, the latter, owing to its fine colour and compact, free-flowering character, being largely grown. J. C. B.

China Asters at Eynsford.—Although this has not been a good season for Asters, the plants at Eynsford are very satisfactory, but not quite so

strong as in more favourable years. Annuals generally have not succeeded this year, and the results are curious at Eynsford, some inferior, others evidently enjoying the hot, dry season. The broad masses of China Asters grown here show how splendid the flower is for creating masses of colour, and there is a great variety of kinds in the collection. The mixed colours show many splendid shades, but by far the most effective are the kinds grown in distinct colours, which produce a remarkably rich and striking effect. It would not be easy to find better strains, the seed home-saved and each section represented in perfection. It would require much space to deal separately with each phase of the China Aster, as every class has a great range of colour, varying from white to deepest purple. Amongst the most beautiful are the pompons, which provide delightful colours, such as scarlet and rose-carmine, besides many other tints. The pompons are especially useful for cutting, as the stems are of moderate height, and therefore may be more conveniently cut than those varieties which are of such conspicuously dense and dwarf habit. The Victoria Asters are well known, and very charming also are the Mignon Asters, which are useful to cut for the house, and the flowers appear over a lengthy season, whilst the colours are rich and varied, the white forms being especially beautiful. The Comet variety is now well known, but we may make note of it, as it is a very fine bedding kind, the flowers distinct in colour, pink, striped with white, and effective either in pots or massed together in the garden. The Aster is not grown so much in large places, we think, as in former years, but we hope that such a brilliant flower, diversified in colouring and habit, will always enjoy popularity. Nothing in its season creates richer masses of colour.

NOTES ON HARDY PLANTS.

Lathyrus latifolius Turneri.—By comparison with the type this has less foliage and more flowers; the latter are also bigger both individually and in the clusters. But the two chief points of superiority are their distinctly brighter character and greater duration. The succession, too, is remarkable, for now in the last days of September a plant five years old is simply grand, so that this is not a case of abnormal late flowering either because of the plant being young or recently transplanted.

Platycodon grandiflorum Mariesii.—When good things become duly appreciated, we shall no doubt meet with more of this in gardens where hardy perennials are cultivated. The big balloon-shaped flowers of such a rich light blue colour, sturdily held above handsome glaucous foliage by short-jointed stems from 9 inches to 15 inches high, are both freely produced and lasting, especially if the plants are grown in a little side shade, as I think should be the case. This kind comes pretty true from seed, and it may be profitably propagated by root division, for when the plants get old, say four years or more, the thick fleshy roots are apt to canker in the heart. To split and clean them gives them new life and vigour.

Ourisia coccinea.—Quite one of the brightest things is this at the present time. It certainly is a shy bloomer, but it can be managed, and to get its lovely scarlet tubular flowers on short scapes is worth a little trouble. The plant likes clay, absolute clay, but not clay in a dry baking situation, but in such a place and form as that quality of soil naturally indicates—clay in clayey surroundings and with moisture.

Silene acaulis alba.—I know many fail to make the typical rosy-flowered kind bloom, though, naturally, as a wilding it is exceedingly free. It may therefore be useful to bring to notice the white-flowered variety, which is more amenable to cultivation. It not only blooms well at the usual season, but affords us pleasure in the autumn by a fair sprinkling of its snowy flowers resting on its green cushions.

Ostrowskia magnifica.—This takes a long period of rest. It usually dies down in early

summer, but, as is common with such plants, it pushes growth early. Succulent as the roots are, I believe they can endure a fair degree of frost, but the new growth and late frosts are the puzzle. I find I get better results from newly-divided and newly-planted specimens than from established ones, simply because, as I take it, the later planted roots are later in growth, and so escape much, if not all, the March frost.

Gentiana Andrewsii.—If the flowers of this species are closed so that we cannot see the finer shades of blue of the inner part of the tubes, they are otherwise beautiful. They are of good size, well inflated and of a rich deep blue; they also appear in massive clusters compared with the size of the plant. There are also two other commendable features about this Gentian. It is one that will grow in most gardens, having no requirements of a very special nature, and the flowers appear in the autumn when fresh flowers are prized almost as much as those of the earliest spring. The plant grows from 9 inches to 1 foot high. It may be described as a glorified *G. pneumonanthe* and is one of the American species. J. WOOD.

Woodville, Kirkstall.

HOLLYHOCKS.

It seems to have been amongst the odd products of the season that there should have been in spite of the great heat and drought much less of the Hollyhock fungus than usual. I invariably found in previous years that drought assisted to develop the fungus rapidly, and leaves and stems would under its operation be quickly eaten up. Perhaps the force of this fungus is abating. In any case we have seen Hollyhocks in greater beauty during the past season than for a long time previously. Some of the best I have seen for many years were growing on a long side border at Hampton Court, extra strong plants, blooming at great height, and having some two and three stout main stems. So good were they that they evoked the warm admiration of a leading Scotch grower, pretty conclusive evidence as to their merits. Out of some fifty or so of fine plants only one had indifferent flowers, whilst most of them had blooms that would have satisfied any florist. The colours were varied, and all very effective. I learned that the plants, all from seed, had been raised and planted out during last year, but too late to bloom. The result was very fine growth and a splendid bloom this season. The hint thus given is worth adoption if really striking effects are desired, as with two or three stout stems rising up from a strong plant so much more effect is obtained. It is very interesting to learn that the plants were all from seed, because the result did but serve to show, once quality is obtained, that it may be very easily continued through seedling plants. A peculiarity of the double Hollyhock also is its tendency to reproduce the parent colour of the flowers. This rather leads to the impression that insects have little to do with fertilisation. I have always found good doubles to reproduce their own colour almost exclusively, even when all have been growing somewhat close to each other. That fact may to some extent serve to minimise variation, but after all we do not want many diverse hues; white, yellow, buff, pink, rose, red, crimson, purple and maroon present very good variety, but some will perhaps have edged or tinted flowers. The singles would be regarded as exceedingly pretty had we no fine doubles, as the flowers have a very bright and pleasing appearance, but the taste certainly now is in favour of the fine doubles. It may seem strange that it should be advised to sow Hollyhock seed now, but it is very easy to do so in a pan or shallow box, standing it in a gentle warmth and near the light; that will cause the seed to germinate freely. So soon as rough leaves are shown a cooler temperature will do, and later the plants should be potted up singly into 3-inch pots, and when partially rooted they

may be stood on the shelf of a cold house or in a frame, where they will harden. Such plants will be ready to put out about the end of April, strong and well rooted. They will make rapid growth, and every one will bloom during the ensuing summer or autumn; that is more than can be said for plants raised from a sowing made in heat in the early spring. All the same, it is preferable to sow seed in the open ground in the month of June and thus secure very strong plants to put out in the late autumn. A. D.

Fuchsia gracilis variegata.—A few plants of this pretty variegated Fuchsia planted on the margin of a bed that is otherwise filled with the dwarf Dunrobin Bedder at Chiswick merit attention by those who want a neat and effective silver-edged plant for bedding purposes. The variety makes such moderate growth, that the present plants hardly exceed 9 inches in height. The wood is very wiry and tough, and would bear pegging well, and also pinching. Flowers are hardly produced at all, and they would be somewhat out of character. It ought to make a pretty front row plant for boxes in windows. It would look very pleasing also if used to form a groundwork for strong thinly-planted Begonias. The bedding variety from Dunrobin is now blooming again very freely. It makes so poor growth, however, that plants must be grown on for a year at least in pots before they are strong enough for bedding. It also needs rich soil and plenty of water to keep it in constant bloom.—A. D.

Giant Sunflowers.—A wonderful growth was made by common annual Sunflowers this season, and mention is made of some plants that reached a height of 11 feet, the stems of the plants measuring 7 inches in circumference. That these plants produced enormous flowers there can be no doubt, and it is said the seed disc of one measured 3 feet 5 inches in circumference. These giant Sunflowers are noble objects when in bloom, and to preserve their decorative value as long as possible it is well to cut away the flowers as soon as the florets wither. The double varieties are magnificent. At the late summer exhibition of the Bath Floral Fête committee, Mr. B. R. Cator exhibited some heads of the fine double orange that were simply marvellous from their size and symmetry—masses of fine deep golden thread-like florets. It was astonishing that a common Sunflower could be produced with so much beauty. But to secure these heads, good culture is necessary, for nothing of high quality can be secured without the use of something more than ordinary means.—R. D.

Arum Lilies and drought.—From my experience of this Lily, when planted out during the summer it will stand more drought than many suppose. The practice of some is to plant in trenches like Celery and give the roots an abundance of water; but where the soil is inclined to be heavy, this treatment is quite unnecessary. Our stock of this Calla was planted on a west border last May, most of the roots having been divided. In addition to being watered at that time, they have received but one soaking since, in spite of the drought. The plants never were in better condition than at the present time, being strong, with short, stocky leaf-stalks and promising abundant flower-spikes later on.—E. M.

Calceolaria amplexicaulis.—When planted out during the summer, this species is, at a time that the others are nearly exhausted, just at its best, and for late flowering there are none to equal it. A quarter of a century ago this Calceolaria was far more common than it is now-a-days, being very generally employed for bedding purposes. Being rather a tall grower led, I suppose, to its neglect, but now that the formally arranged flower beds are less popular than formerly, and in many places are to a great extent superseded by a mixed arrangement, it will be found very useful, and in late summer and early autumn the sulphur-yellow blossoms are very bright and cheerful. It is a free, vigorous grower, harder than some of the garden

varieties, and a desirable feature is that it does not die off suddenly when at its best, as some of them are liable to do. This Calceolaria is a native of Peru, from whence it was introduced in 1845. Some of the other species of Calceolaria are well worth a place in gardens, one of them, *C. fuchsifolia*, or *deflexa* as it is sometimes called, being thought a good deal of about a dozen years ago, but it is now seldom seen. It is a shrubby species that produces its pale yellow blossoms throughout the winter months, but is in many places a difficult plant to cultivate. *C. Pavoni* is a distinct, but coarse-growing species, and is chiefly noteworthy as being one of the parents of the hybrid *C. Burbridgei*; *C. fuchsifolia* is the other. This hybrid is a valuable autumn and winter-flowering plant, and in a light warm greenhouse it will maintain a succession of bloom for a long time.—H. P.

Pyrethrum uliginosum.—It seems difficult to name a white-flowered hardy perennial which can compare with this for cutting at this season of the year. It is so accommodating, that it will flourish almost anywhere, but deserves good treatment. A single white Chrysanthemum appears almost out of place in comparison with the usefulness of the Pyrethrum in supplying blooms at this season of the year. Owing to the dry season it has not grown to its usual height, and it has bloomed earlier for the same reason, but it is always successional. If the flowers be cut when about half expanded, they remain fresh in a cut state for a long time, and it is better for indoor decoration than Chrysanthemums and much more lasting than the Japanese Anemone.—R. D.

THE WHITE EVERLASTING PEA.

WITH great pleasure I endorse all that "J. C. B." so well says in praise of this beautiful and useful hardy plant, *Lathyrus platyphyllus* or *L. latifolius*. There are several other species well worth growing, but these have made little headway against this Everlasting Pea in its white and rose-coloured form. The latter may also be met with at times in various shades of colour, as the Everlasting Pea may be raised from seeds as well as by stem cuttings and division of the roots. It is, however, so fully and long occupied with flowering in succession in such profusion throughout the growing season, that the plant seeds but sparingly on an average of seasons, and when it does seed, the rose-coloured variety mostly reproduces itself with tolerable constancy as to colour.

The Everlasting Peas are in fact very stable in their character, and, looking at the endless variations of another species, *L. odoratus*, or Sweet Pea, it is somewhat surprising that so little has been done to alter or improve the Everlasting Peas. Those who know their supreme value for cutting in succession, as "J. C. B." and others, will probably wish that the Everlasting Peas may be left severely alone in their present state of usefulness and glory. The white especially can hardly be made more useful than it is unless it were made more fragrant. A real scarlet Everlasting Pea, to which I have seen some approximation, would also prove an acquisition; but the substance, size and staying powers of the blooms could scarcely be improved, while no plant, unless it were Nettles or Conch Grass, could excel the Everlasting Peas in their facile powers of multiplication. The whole root-runs become converted into nests of root suckers, each of which has a power of running into a fresh plant and forming a new colony. Partly, perhaps, from this marvellous capacity for increase and power of growth, the Everlasting Peas are seldom found under the highest cultivation. These Peas will live and bloom everywhere, anyhow, and yet no plant pays better for liberal culture and deep cultivation, as pointed out by "J. C. B." (page 301). During the summer now closing a deluging of house sewage once a week did not prove excessive for these fast-growing, free-blooming Peas, though in deep soils in ordinary seasons few plants, I had almost written, no plants,

will yield such a full harvest of beauty without any help of any sort from the cultivator. Let the plants have a free head and cut and come again for their blooms in basketfuls, and the more we cut the faster and more freely they come on in succession. Such is the simple law of the supply of Everlasting Peas, one or a dozen of which should be found in every garden. D. T. F.

NOTES ON TUFTED PANSIES.

IN many gardens Pansies and the tufted kinds have had a bad time of it, due to the dry state of the ground and the great heat. I have seen beds that were top-dressed and watered and had every attention that went down before the fierce heat of the summer, the foliage of the plants turning brown and appearing as if burnt by fire. The Pansy and tufted kinds, especially in southern localities, require moisture and coolness, and these two having been only sparingly bestowed in the past summer, the plants suffered. Many plants have died outright, but some have escaped the trial, and it is to these the attention of the grower should be turned. The change in the weather and the grateful coolness which came as a result of the change, caused the plants which remained alive to commence a growth from the stems close to the root. To encourage these growths, all the decayed shoots should be cut away, the soil about the plants stirred, and a good root watering given to make sure the soil about them is thoroughly moist. This done, there should then be given a good surface dressing of fine rich soil, including sand and leaf mould, pressing it down somewhat firmly about the roots. A new growth will be rapidly put forth, and in November the plants may be pulled to pieces if the growth is sufficiently advanced, or they may remain until February and the divided pieces planted out in nursery beds. Cuttings have also had an unsatisfactory time, and those rooted from spring cuttings have failed when transplanted, whilst seedlings from spring-sown seeds have done little better, unless they have had a shady position and been well looked after in the matter of watering and dressing, or else kept in the boxes under the shade of trees until rain came. As one never can determine what the autumn may be like, it is always a matter of precaution to sow some seeds in July to have plants to flower the following spring. Some of these will be certain to bloom in autumn, which is a decided advantage, because it enables the grower to separate the floral wheat from the tares and secure for spring blooming varieties of good quality. R. D.

Sorghum halepense.—"H. H." sends specimens of this fine Grass as packing material for Orchid flowers, but I find that Cattleyas and other large things are best packed without anything to accompany them. This is a magnificent Grass, and it makes a very attractive plant when it does well. Of course it is not such a fine plant as *Arundo conspicua* or the Pampas Grass (*Gynerium argenteum*), but its large panicles of flowers, which are of a purplish hue, render it very effective. The plant grows from 3 feet to 4 feet in height when planted in good rich loam, and makes an abundance of large, broad, flat, dark green leaves and numerous large and dense panicles of bloom, which have a very elegant and graceful effect.—W. H. G.

Funkia grandiflora.—One of the strongest points in favour of growing this as a pot plant is that by this means it can be had in much better condition than when grown in the open ground. It is a beautiful plant in flower, the gem of the family; but as an open-air plant, except for its foliage, it is very uncertain indeed; and usually, unless some expedient is adopted to induce early blooming, the autumn rains or early frosts entirely spoil the flowering prospects. As a pot plant it can be perfectly controlled, and its blooming becomes almost a matter of certainty. When kept entirely under glass its foliage is of a much deeper green than that of open-air plants. Fine plants in

large pots, when in flower, might be stood about in the garden with good results, as the blooming season is fairly prolonged, the flowers opening in slow succession. They are long, tubular, pure white, and sweetly scented.—A. H.

Nicotiana colossea.—This is a most valuable addition to our ornamental plants for open-air decoration during the summer months. It grows to a height of from 5 feet to 6 feet, and puts forth magnificent leaves of a dark olive-green colour with midribs of rosy brown; the leaves are stout and very large when fully grown. Some plants of it grown as single specimens in a border are finely developed, and it is one of the best sub-tropical things introduced in recent years. Being of a stout and erect growth, it appears able to withstand high winds and storms. It can be raised from seeds in the same way as other varieties of this genus.—R. D.

TUBEROUS BEGONIAS AT SWANLEY.

ONE of the chief flowers grown at Swanley is the tuberous Begonia, and the plants in the open at Eynsford, where Mr. Cannell has many acres devoted to Asters, annuals and other things, are very fine. Upwards of 10 acres are planted in the open, the beds of great length, and each filled with distinct kinds. The colours vary from deep crimson to shades of orange. One gets now in the tuberous Begonia a remarkable wealth of colouring, and if the more showy colours are not cared for, there are a host of soft tints which may be obtained, such as delicate shades of rose, pink, yellow, and primrose, whilst the pure white variety is delightful in the open quite as much as in pots. Some kinds have flowers with white centres, but the outer portions touched with soft red and pink. Such popular flowers as the tuberous Begonia are ever changing, so to speak, and the change has been great since the time the plants were not only of a straggling habit, but bore flowers of poor colour, and very different to the broad, well-set-up blooms of more recent times. The difference in habit is most marked, the plants now being very dwarf. We noticed several good varieties of striped Begonias, and although we are much against striped flowers as a rule, these are very distinct and effective. The reason why striped flowers are too often failures in gardens is that they do not tell sufficiently, the striping, so to say, being weak and far less striking than the bold self colours. The striped Begonias are, however, welcome, and in time will become an important section. The visitor to Swanley or Eynsford in search of tuberous Begonias will be well rewarded, as besides the plants in the open, no less than five houses, each 100 feet long, are planted out with seedling Begonias, producing immense flowers of a great variety of colours. Two very striking kinds we noted were Prince of Orange, a splendid type of the single Begonia, the plant of excellent habit, erect in growth, the flowers of fine shape, orange-scarlet in colour, and produced in profusion, and Fa-hion, of distinct and handsome character. As we have had occasion to remark previously, this has not been the most satisfactory season for Begonias in the open, but the plants are behaving well in this nursery, although on the broad slopes at Eynsford the heat has been intense. Their fine aspect, however, under present conditions is due to the excellent culture given; the soil is thoroughly prepared, dug early in the spring, and well, but not too deeply manured.

We hope that, because the tuberous Begonias have not fulfilled expectations in all gardens this year, they will not be in any way grown less in the future. Every flower has its particular season, and in rather wet years, when the zonal Pelargoniums have run to leaf, the Begonias have been magnificent. As so much interest is being taken now in the Begonias of the semperflorens type, it is interesting to note that, although they have not done so well this year as usual, owing to the drought, they are certainly amongst the best of flowering bedding plants. One of the most effective is *B. s. atropurpurea* or Vernon's variety,

which has dark green bronzy leafage and rich crimson flowers, whilst there are also other varieties, as *alba*, *rosea* and *rubra*, each useful for creating variety in the flower garden.

CHRYSANTHEMUMS.

CULTURAL NOTES.

THE manner in which the plants are arranged when placed inside the house must depend upon circumstances, such as the means at command of the cultivator and personal taste. Where practicable an effective way of grouping them is much the best, as considerable pleasure is derived in examining them and comparing varieties. Some growers place them carelessly on the floor, but this is slovenly. Peach houses and vineries, after the fruit has been gathered, suit them admirably. The leaves from the fruit named will be falling by the time the Chrysanthemums are housed, thus admitting sufficient light. No harm is caused by shortening back the shoots of the Vines as well as cutting away all lateral growths to give the Chrysanthemums all the light possible. The plants should be arranged in a long sloping bank, as this is the best position both for observation and convenience of attending to them. If the house is wide enough to admit of their being arranged sloping towards the back of the house, and thus looking northward, much time will be saved in shading the blooms, as the plants naturally shade one another.

If exhibiting is a point to consider, it is wise to place the Japanese varieties in a house by themselves, so that more fire heat can be given them during the time the blooms are developing, as this fine section develops the florets easier and finer also under the influence of a little artificial heat. Nowhere, however, are the Japanese varieties more effective than in a large conservatory where Palms are the chief inmates, but it often happens that these structures are too moist to suit the developing blossoms. In all cases place the plants as near to the glass as possible so that they may have the full benefit of the light. The colours of each are by this means brought out in truer character than they can be where the light is diffused. The flower-stems also do not become drawn up weakly as when the plants are far from the glass. If the peduncles are weak it is an indication that the flowers will not be so good, except of course where the variety is characteristic in this respect.

As much space should be allowed between the plants as possible. When arranged in a solid bank the bottom leaves of the inside examples will quickly turn yellow and fall, but I do not know that so much harm can happen to them in consequence, because by the time that occurs the bottom leaves will have carried out their functions and the flowers will be three parts developed. We have high back walls to the vineries and Peach houses, these being excellent for training the taller specimens to. Many varieties unfortunately run up 10 feet high, and to the exhibitor these, even so tall, cannot be dispensed with. To provide places for these extra tall sorts where high houses are not available many schemes have to be resorted to, even to training them up the wires of the vineries between the Vines, allowing the flowers to hang downwards. In the case of incurved varieties this is a good plan, the petals being more inclined to incurve correctly towards the centre of the bloom than when they are erect, especially in the case of members of the Queen

family, which is an important section to the exhibitor, who cannot afford to be without some kinds of this group. E. MOLYNEUX.

Chrysanthemum Madame Greard.—This variety I am particularly pleased with, it being, I consider, an improvement on the well-known Madame Desgrange—that is when treated as a freely grown bush without any disbudding. It is a remarkably strong grower and very free flowering, the buds pushing well up above the foliage. The fault with Madame Desgrange, except in a favourable climate, is its weakly habit and also its liability to mildew. I can never succeed with it as I used to do when living in a more favourable district.—A. YOUNG.

ORCHIDS.

MILTONIAS.

I AM induced to say a few words about these plants from having received a fine flower from H. Roberts of a very good variety of the old and well-known species, *M. spectabilis*. He complains that although this species flowers well every season, it turns of such an ochreous yellow, that the effect of its flowers is killed, and he asks for advice to prevent this. The finest variety I ever remember to have seen was in the Botanic Gardens of Glasgow many years ago during the time these gardens were under the superintendence of Mr. Clarke. It was a large specimen, with very fine flowers measuring nearly 4 inches across, and these were of an exceptionally bright vinous purple. The effect produced by them was much reduced by the yellow colour of the pseudo-bulbs and leaves, which gave it the appearance of a plant flowering itself to death. Much of this may be greatly obviated by shading lightly from the sun during the hottest part of the day; indeed, I am of opinion that all plants grown under glass structures require a thin shading material put over them for an hour or two during the middle of the day. Another plan which I used to adopt when I had a large quantity of Miltonias under my charge was to water them carefully with clear soot water after the flowers began to show, which had the effect of making both pseudo-bulbs and leaves greener, and I think, too, it heightened the colour of the flowers, for I used to have some splendid dark coloured forms. This soot water, if properly prepared, and not applied too strong, would be found, I think, of great assistance to those Orchids in particular that appear to suffer from the effects of sunlight. Plants so grown succeed better than when constantly shaded, and from which I obtained good growths, but very few blooms. The Brazilian Miltonias require considerable warmth and a large amount of sun and light, accompanied by an abundant supply of water during the growing season. During the winter—that is, the resting time—they should have just sufficient moisture to maintain the bulbs in a plump condition. They require to be well drained, and do not like a great amount of soil about their roots, this consisting of good brown peat fibre mixed with an equal quantity of chopped Sphagnum Moss. The creeping kinds, such as *M. spectabilis* and its varieties, require to have their rhizomes pegged down on the surface, but the tufted kinds require potting in the usual way.

M. spectabilis appears to have been introduced about sixty years ago, and, like so many of the new Orchids of that time, was first flowered by the Messrs. Loddiges in their famous nursery at

Hackney. It is a surface-rooting plant, and its pseudo-bulbs and leaves do not exceed more than 9 inches or 10 inches in length. These are of a bright green colour when grown in the shade, but become more or less of an ochreous-yellow by exposure to the sun. The scape is one-flowered and about 10 inches in length, bearing a large flat flower, which in the one now before me measures nearly 3 inches across. I have seen them 4 inches across, this being an exceptionally fine variety; the sepals and petals ivory white, whilst the lip is large, and of a rich bright vinous purple with a few bold streaks of a darker hue. It is very handsome, and lasts a fair time in perfection.

M. spectabilis Moreliana.—This is a variety of the above-named species, differing from it in colour and in the larger size of its lip, whilst it flowers about the same time, and, therefore, is valuable to grow with it. The sepals and petals are of a rich deep purple, and the lip is of a deep rose with darker shade. It is a very desirable variety, the flowers contrasting well with those of the typical plant. The variety known as *M. atropurpurea* is very fine, being larger and richer in colour, but it is scarce. I saw it a few years ago in fine condition with Mr. Shuttleworth in his nursery in the Clapham Park Road.

M. spectabilis radicans is a beautiful variety, figured in the "Orchid Album," pl. 164, the flowers being of a creamy white throughout, having several radiating streaks of rich purple at the base. Good varieties of *M. spectabilis* are *virginialis*, *rosea*, *lineata*, *bicolor*, and some others, which all have a close resemblance to the typical plant.

M. cuneata.—This species is of tufted growth and is very free flowering. It was always rare until Mr. Gotto, of Highgate, made it more plentiful some years ago by bringing some specimens home from Rio. It grows nearly a foot high, and bears an erect scape with about six or more flowers, which are produced in the early spring months; the sepals and petals are chestnut-brown, the apex of a pale yellow, lip large and pure white.

M. regnelli I brought from M. Schiller's collection to England in 1862, and the next season it flowered with me. I do not know if this Miltonia already existed in English collections. It is a very beautiful species and grows to about the same height as the last-named, producing an erect scape longer than the leaves, and bearing a raceme of five or more flowers, which are waxy-white in the sepals and petals, the lip being pale rose, streaked with a deeper shade, and with a white marginal border. The very finest variety I know is called Rucker's variety, but it was afterwards figured by the name of *M. regnelli purpurea*. It has larger flowers than the typical form, the sepals and petals of a light rosy pink, lip rich purplish-crimson with paler margins. It is a superb form, but somewhat rare.

M. peetersi.—This has the habit of the last-named plant, and its flowers, too, are about the same size and shape; the sepals and petals deep purple, lip large, rich violet-purple, paler towards the margin. I have only seen this once in cultivation in English gardens, and this was with Mr. Shuttleworth at Clapham.

M. candida.—This is not a flat-lipped species but has spreading chestnut-brown sepals and petals, the latter slightly broader and tipped with yellow, having several transverse markings of the same colour running through them. The lip is rolled over the column, white, with some violet blotches towards the base, the variety *grandiflora* being the best, and it is amongst the most beautiful plants that can be grown for autumn flowering.

M. clowesi.—With this species I shall conclude the enumeration of the Brazilian Miltonias, not because there are no others, but the above are amongst the best of the kinds that have been introduced in a living state. Although this species is by no means the least, it is of robust growth, some 18 inches in height, and the leaves are of a deep green colour. The peduncle is about 2 feet in height, erect, and bearing a raceme of from six to nine flowers or more, each flower being from 2 inches to 3 inches across. The sepals and petals are spreading, deep

yellow, transversely banded with chestnut; the lip is pure white, the base part deep violet. Beautiful though this plant is, a variety which I saw some few years ago called *Lamarckiana* is far better. It differs in having broader sepals and petals which are more conspicuously marked with brighter chestnut, and in the wider lip, which is not contracted in the middle. WM. HUGH GOWER.

Dendrobium Leeaenum.—This is a beautiful species of which I received flowers from Mr. Sander, of St. Albans, by whom it was imported with the variety of *D. Phalaenopsis* that bears Baron Schröder's name. It resembles that kind in growth, the blooms, however, being different, the sepals white at the base, where they form into a short obtuse spur, bright rosy purple at their tips. The petals are narrower than the sepals, spirally twisted, and rich rosy crimson throughout. The lip is three-lobed, side lobes large, erect, standing up beside the column, but not covering it. These are of a bright rosy-crimson, front lobe of the same tone, and having on the disc five raised and fringed lamellæ, behind which the throat is white.—W. H. G.

Dendrobium Phalaenopsis Schröderiana.—One of the finest flowers I have seen of this magnificent variety comes to hand from Mr. Kerslake, who has charge of the Rev. Handley's collection at Bath. The flower is of a rich rosy-purple colour, the petals very broad, the lip large, deeply blotched in the throat with blackish maroon, and it measures considerably over 3 inches across.—W. H. G.

GARDEN FLORA.

PLATE 931.

ARUMS.

(WITH A COLOURED PLATE OF *A. sanctum*.)

MANY of the hardy or half-hardy species of Arum must be regarded more in the light of curiosities than of great ornamental value, but an exception may be made in the case of a few, notably that illustrated in the coloured plate.

Of Arums proper besides that here illustrated, *A. sanctum*, we have many others, notably the

DRAGON FLOWER (*Arum Dracunculoides*).—A very striking plant, with a long peculiarly marked brown spathe. This forms a stout growing specimen a yard high, with ornamental divided leaves over-topped by the flowers. The blooms, however, exhale such a disagreeable odour, that they can be scarcely tolerated except in out-of-the-way places.

A. syriacum blooms while still leafless. The spathe reaches a height of about 6 inches, and is inside of a deep blackish red, while the exterior is lighter coloured.

A. triphyllum, a North American species, with the outside of the spathe striped with white, and the apex elongated in such a manner as to fall over the mouth of the flower, is well shown among other North American wild flowers in a coloured plate in *THE GARDEN*, Vol. XXIV.

A. dioscoride, with brownish green spathes spotted with purple, is very singular, and so, in fact, are most of the species. As a fine-foliaged plant,

A. italicum, or at all events some forms of it, is very beautiful, for the hastate leaves are of a deep green and broadly veined with creamy white. In a sheltered spot out of doors the freshly expanded leaves form a pleasing spring feature. The common British Lords and Ladies,

A. maculatum, is also very pleasing, the bright green leaves being spotted with deep purple.

* Drawn for *THE GARDEN* by Gertrude Hamilton from flowers sent by Messrs. R. Veitch and Son, Exeter. Lithographed and printed by Ben George, Hatton Garden, London.



Besides the above there are several other species and various allied plants, which, though by our botanical authorities included in the genera *Richardia*, *Arisema*, *Amorphophallus*, *Helicodiceros*, and *Sauromatum* are by many still regarded as *Arums*.

A. SANCTUM when in flower is a very striking plant. It is in general appearance not unlike the

palestinum. As this plant so much resembles the *Callas* or *Richardias*, which are by some included in the genus *Arum*, it will be but a slight step to that popular class of plants.

RICHARDIA ETHIOPICA is by far the best known and most commonly cultivated of the genus. It is known by several popular names, as, for instance, the *Arum Lily*, *Trumpet Lily*, and *Lily of the Nile*. This last title is, however, a misnomer, for the plant in question is a native of South Africa and has nothing whatever to do with the Nile district. During the Christmas and Easter season especially the flowers of this *Trumpet Lily* are in great demand for church decoration, and where it is largely grown for market, the aim of the cultivator is to have as many as possible in bloom at these seasons. By some they are grown altogether in pots, and by others planted out during the summer, when they make rapid growth. This last-mentioned treatment is more often followed for the supply of cut bloom than for specimen plants, as the foliage is not retained so well as when they are kept altogether in pots. There are two or three, or perhaps more varieties of this *Richardia*, the most noteworthy being *Little Gem*, which was raised and sent out by Mr. F. Elliot, of Springfield Nursery, Jersey. This is quite a miniature form, reaching a height of 9 inches to 1 foot, and is very free blooming. Good flowering examples may be had in pots 4 inches or 5 inches in diameter. A noticeable feature of this variety is the profusion of suckers which spring up around the centre plant, and from this circumstance it can be readily increased. This variety was given an award of merit by the Royal Horticultural Society on October 14, 1890, and just a year later another form was similarly honoured. This is *compacta*, which is about midway

between *Little Gem* and the ordinary kind. There is a variegated leaved variety in cultivation, but it is seldom seen, and still more rarely in a satisfactory condition, for there is a great tendency to revert to the common form. The varietal names of *gigantea* and *candidissima* may be met with in some catalogues, but concerning them I can say nothing.

R. ELLIOTTIANA has attracted a very large amount of attention within the last two or three years, and this is not to be wondered at, as it was the first of the truly golden-flowered *Richardias* to be seen in this country. This distinct form has leaves thicker in texture and of a deeper green than the common kind, while though spotted with white they are not marked in this way to the same extent as in *R. albo-maculata*. The foliage, too, of *R. Elliottiana* is blunter than in any of the others, and the leaf-stalks, especially towards the lower part, are mottled with green, brown and white, after the manner of some of the *Alocasias*. The spathe is as large as those of the common kind and of a beautiful golden yellow. Unlike *R. ethiopica*, this is deciduous during the winter months, and flowers soon after it has started into growth in the spring. It was awarded a first-class certificate May 13, 1890, and has figured at the Temple show each year since then. This *Richardia* was raised by Mr. Knight, gardener to Captain Elliott, at Farnborough Park, Hants, and was named in honour of the last-mentioned gentleman. Mr. Knight, I believe, received the seeds from South Africa, and only one germinated, which turned out to be such a valuable novelty. On June 17, 1892, the entire stock of this plant was offered for sale by Messrs. Protheroe and Morris, and produced a good deal of competition. The first lot, a good flowering plant, sold for 16 guineas, and the five following, each consisting of a single plant, realised 17, 10, 9, 8 and 6 guineas respectively. Altogether the entire stock, which consisted of 213 plants, realised a little over £400. This golden-spotted form was not allowed to remain long in undisputed possession of the field,

for on June 21, 1892, a first-class certificate was awarded to

R. PENTLANDI, which was shown by Mr. R. Whyte, of Pentland House, Lee, Kent. This in general appearance more nearly resembles the common *Trumpet Lily* than the preceding. The leaves, however, are somewhat more pointed and of a deeper green, while the colour of the spathe is if anything richer than in *R. Elliottiana*. Like that species, it is quite deciduous during the winter. As shown, it is a very beautiful form, but one that in all probability will be scarce for years.

R. ALBO-MACULATA is a free growing, free-flowering species, with rather pointed leaves of a rich green plentifully spotted with white. The spathe is of a creamy white tint with a purple blotch at the base in the interior. It is not particularly showy, and though introduced as long ago as 1859, has never been grown to any great extent. These last remarks will also apply to

R. HASTATA, one of the smaller growing kinds, with dark green leaves, while the flowers, which are mostly overtopped by the foliage, are in the form of a deep cup of a dull yellow colour, with a large blotch of crimson at the base inside. From the contracted shape of the spathe this blotch is not particularly noticeable unless closely examined. This species is furnished with large hairs towards the base of the petioles. I am inclined to think that the *Richardia* sold last winter as *Pride of the Congo* is nothing but this, though described by Mr. Brown, of Kew, as a new species under the name of *R. Lutwychei*. That gentleman seemed to attach great importance to the setose petioles of *R. Lutwychei*, but on its being pointed out that growing plants of *R. hastata* at Kew showed the same peculiarity, his opinion would appear to have modified considerably, and the matter is thus left in doubt. Anyhow, if there are slight botanical differences between the two, they are as garden plants about one and the same thing.

R. MELANOLEUCA might be a spotted-leaved form of *R. hastata*, for with the exception of the



Flowers of Arum Lily (*Calla aethiopica*).

Calla or *Lily of the Nile*, but is shorter and more compact in growth. The inflorescence, however, so much resembles that of this last-named, that it is sometimes spoken of as the red *Calla* and the black *Calla*, in allusion to the colour of the blossoms. The leaves are large, hastate, and of a bright shining green, while the flower well overtops the foliage exactly as in the case of the common *Calla* or *Richardia*. Nothing need be said as to the general appearance of the flower, it being so well shown on the accompanying plate; but a very notable feature of the inflorescence is that, unlike many other Aroids, the flowers are pleasantly rather than disagreeably scented. Though distributed to a considerable extent of late as *Arum sanctum*, it was formerly known as *A. palestinum*, which latter name is still, I believe, regarded as the correct one. Its usual season of blooming is during the spring months, after which the growth is perfected and it becomes quite deciduous, and if potted early in the autumn commences to root directly. If treated as a pot plant and kept in a cool greenhouse during winter, it will, provided the crowns are strong enough, flower freely, and in this way I saw some good examples of it last spring with Mr. Ware at Tottenham. As an outdoor plant it needs a sandy, well-drained border in a warm situation, for it cannot be considered hardy unless under especially favourable conditions. This *Arum* is a native of Palestine, hence the specific names of *sanctum* and *palestinum*, and where growing wild and in considerable numbers, it forms, as may readily be understood, a very striking and uncommon feature. According to the "Dictionary of Gardening," it was introduced in 1864, but it was certainly very little known till within the last few years. Now, however, it can be obtained during the dormant season at a moderate price from most of our nurserymen. This *Arum* is one of the few plants to which two first-class certificates have been awarded by our Royal Horticultural Society, the first time on February 9, 1886, and again March 21, 1891. In both instances it was shown under the name of *Arum*



Dragon's Mouth (*Arum crinitum*).

marking of the foliage the two are very much alike. The last of these *Richardias* to mention is a hybrid put into commerce by M. Deleuil, nurseryman, of Marseilles, under the name of

R. AURATA, and announced as a hybrid between *R. albo-maculata* and *R. hastata*, which is probably its origin, as the plant bears a certain amount of resemblance to both of these species. It is of free growth, and bids fair to attain the

dimensions of the Trumpet Lily, while the foliage is spotted, but not to the same extent as in *R. albo-maculata*. The spathe is of a soft yellow tint, blotched inside at the base with blackish purple. We heard a good deal of it last winter as a yellow-flowered kind, but in this respect it cannot compare with *R. Elliottiana* and *R. Pentlandi*. *R. aurata* received an award of merit at a meeting of the Royal Horticultural Society on June 6, but the colour is not sufficiently decided for it ever to become popular. In passing it may be noted that the showy part of the inflorescence of these Aroids, though spoken of as the flower, is really a leafy bract or spathe, the flowers proper being crowded together towards the base of the spadix. This constitutes the different *Richardias* that we have in cultivation, though rumours have been heard of a rose-coloured one, for which at present we seem destined to wait.

H. P.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

STORING ROOT CROPS.—This work must now be proceeded with so as to get an available supply throughout the winter months. Some roots left in the ground are certainly of much better quality when this plan is adopted, digging them as required for use. Many roots are annually spoiled through being stored in warm and arid sheds. They are started into growth and get very tough and flavourless. Cool sheds are the best places, that is if there is not a well-constructed root store, but in the majority of instances any makeshift place has to be adopted, even to the extent of storing in the open air like Potatoes, which is certainly better than storing in warm sheds or rooms. There is no difficulty when storing under cover of easily obtaining the daily supply whatever the state of the weather.

CARROTS.—Unless the roots are under-sized, it is much better to lift the crop at once, as severe frost promotes decay. Not only frosts, but if left in the ground the roots are very apt to split and get eaten with grubs, the latter affecting their quality considerably. A dry day should be chosen for lifting, and do the work carefully with a fork, taking care that the roots are not broken, the tops being cut off about an inch from the crown. To ensure their remaining plump, some sand must be sprinkled amongst the roots as they are stored and place them in layers. Where a quantity has to be stored, small mounds are preferable to a large heap, taking care also that the crowns point outwards. When being stored in the open air, pit them like Potatoes, no sand in this case being required. By laying the roots in carefully, the end of the pit may be opened at weekly intervals, and a supply necessary for the week being taken out, the ends are effectually closed again to keep out frost and wet.

BEETROOT.—Especially care must be taken with Beet, for if in the least injured they will bleed. Beet requires extra attention in lifting as well as storing, as the roots quickly shrink in dry and warm sheds. Growth also takes place, but this must be prevented as much as possible, or until late in the season. Of the various methods recommended for preserving the roots, a perfectly cool shed is the best. Mounding over the crowns in the rows like Potatoes may not injure the roots in light and well-drained soils, and on such staple a few rows so treated will answer for very late, but not general use. Screw off the tops by the hand at a distance of 2 inches from the crown. In storing place the roots in layers, sprinkling sand or leaf soil between each layer, or even fine earth. The crowns must point outwards, and cover over with old mats or straw. The roots may also be pitted as recommended for Carrots, or built up in a mound under trees, a little sand or leaf soil being placed between each layer. The crowns must point outwards, the whole being covered with

straw, which should be combed down to throw off wet.

TURNIPS.—Turnips have generally failed except those on heavy land, mildew having attacked them very severely, so much so that in many instances the bulbs were denuded of a greater part of their foliage. Where this state of things exists the most forward roots should be taken up and stored, the smaller being left to grow unmolested, as these are not likely to get injured by frost. It is always better to leave small or medium-sized roots of Orange Jelly and Chirk Castle Black Stone in the open during the winter, severe frosts even not injuring them. But full-sized roots of Veitch's Red Globe or any other variety are best taken up and stored similarly to Carrots, or placed in a cool shed and covered over with straw, so as to keep the air from them.

SALSIFY AND SCORZONERA.—The quality of these is certainly better when they are left in the ground, digging them up as required for use. Instead of frost injuring them it improves the quality, like Parsnips and Jerusalem Artichokes. Of course, regular supplies must be anticipated in the case of severe frost occurring by taking up the roots and storing in sand in a cool shed, or cover over a portion of the surface with dry litter, this facilitating digging, otherwise the roots would become broken in the course of digging up during severe weather.

WITLOOF.—This forces better when the roots are left in the ground than when lifted and stored, at any rate during the fore part of the winter. When left in the ground they receive a thorough rest. Of course, like as recommended for Salsify and Scorzonera, a supply must be anticipated by taking up a few roots in the case of severe frost occurring and storing in sand, or the surface covered with dry litter. The little Chinese Artichoke is also better left in the ground.

A. YOUNG.

HARDY FRUITS.

ROOT-LIFTING.—When the leaves are fast changing colour and falling from the trees is the time to commence the important work of root-lifting and pruning. Those standing most in need of this attention are all that are growing more strongly than desirable, all the trees' energies being expended on the production of wood growth. In the course of a few years those only lightly pruned will naturally become more prolific, but as we cannot all afford to wait so long, the plan of checking root growth is resorted to, this being quickly followed by a corresponding check to top growth and the formation of abundance of flower-buds. Root-lifting is also desirable in the case of naturally free-bearing trees, the work being done in this instance with a view to keeping the roots active near the surface. Left alone, the tendency is to strike downwards into the cold subsoil, and when the roots are principally so much out of the reach of warmth, air, and good food, the growth is unsatisfactory, and the fruit produced by the trees is generally poor in quality. The most successful hardy fruit growers are those who very frequently, or say every second year, lift and shorten most of the wide spreading roots of the trees, the opportunity also being taken of searching out, shortening, and bringing up those that strike downwards. Fresh soil is also of the greatest assistance to the trees, and this also can be worked in when the root-lifting is done. The latter process ought not to be very severe, the plan of doing one half of the roots one autumn and the other half in the following season being the safest and best in the case of large trees generally. Trenches should be opened about 4 feet away from medium-sized to small trees, and from 5 feet to 6 feet away from the larger specimens, any roots come across being cut through. The surface roots from the stems outwards ought then to be bared, and the undermining of the rest be proceeded with to within 18 inches or rather more of the stem in the case of comparatively young trees, and to within 3 feet or so when they have been planted several years. Shorten the roots

found at different lengths with a view to have the resulting root-fibres equally distributed throughout the border, and make clean upward cuts. Seeing that the trees operated upon have a tendency already to grow too vigorously, the soil that is to be placed about the lifted roots should not be rich in character. Fresh calcareous loam or the best loam, fibrous or otherwise, obtainable—that of a heavy nature being the best for mixing with light soils—should be principally used, an addition of old mortar rubbish and "burn-bake" being also desirable. Distribute the pruned roots evenly in this, taking particular care to bring up those previously too deep much nearer the surface.

This season, owing to the dryness of the ground and soils generally, it will be necessary in most cases to loosen the surface of the ground containing the roots to be operated upon, and to give a thorough soaking of water the day previous to commencing root-lifting. Unless this is done the soil will break up badly, great lumps falling or coming away at one time. Another soaking should also be given directly after the roots are partially re-covered with soil, a surfacing of soil and a mulching of strawy manure being applied during the next day. Thus treated, the pruned roots will soon heal and form fresh fibres before the winter arrives. When this lifting has been done in previous years, it is only necessary to open a trench close up to that last cut, the long, wide-spreading roots being pruned and some good fresh loam placed within easy reach of the root-fibres that will soon be more plentiful. These fresh additions of soil serve to keep the trees in a very healthy state, the crops produced being both heavy and good in quality. Trees on dwarfing stocks, including cordons, pyramids, and bushes, properly attended to form very many more fibres close up to the stems than do those on the natural stocks, and these require to be lifted in order to place fresh soil about them. Starving these trees is a great mistake, especially if extra fine fruit is desired. What few long, naked roots are found ought to be shortened back, and a little manure should be added to the fresh compost placed about the roots. Pyramids that are annually or even only biennially lifted should be given a half turn round, this serving to keep them uniform, that side which gets the most sunshine being naturally the best matured. Most of these trees will be found quite dry at or about the stems, and ought to be well watered prior to and after being replanted, as there is no certainty about enough rain falling this autumn and winter to properly re-moisten the hard and dry soil. In each and every case the precaution should be taken of making the ground under newly-lifted trees very solid, and any with their collars below the ordinary level ought to be raised rather above the surface, those with the collars just bare very frequently making the healthiest and most productive trees.

TRANSPLANTING FRUIT BUSHES.—Now is a good time to commence the rearrangement of fruit bushes. Quite large Gooseberry and Currants would transplant safely and well during this month, and many of them would well repay for the trouble taken with them. For instance, if it is decided to permanently cover a quarter or border with galvanised wire netting, a strong wooden structure being erected to support this, the start ought to be made with fairly large bushes. If against a cool wall this may be covered with Plum trees, and the border in front be planted with Gooseberry and Currant bushes moved from other parts of the garden. Let them have the benefit of a deeply-dug, well-worked root-run, a little manure being also forked into both spits when large bushes are to occupy the ground. Gooseberries and Currants thrive best in a rather retentive soil, and very light ground would be better fitted for their reception by having clayey loam or marl freely mixed with it. Select strong bushes in good health, avoiding if possible those that have been much weakened by either caterpillar or red spider attacks, move with a good ball of soil about the roots, and replant firmly. A distance of 4 feet apart each way is none too much. Gooseberry bushes already under net-covered structures,

and which were badly weakened by insect attacks, will not produce much fruit next season, and, where possible, they may with advantage be shifted out and their places taken by healthier bushes. Some of the best sorts for these places are Early Sulphur, Whitesmith, Whinham's Industry, Green Champagne and Warrington, the latter being by far the most extensively planted owing to its being much the best keeper. A stock of young bushes ought always to be kept in readiness for making good any blanks.

W. IGGULDEN.

PLANT HOUSES.

GREENHOUSE PLANTS.—Although up to the time of writing this week's calendar no frost has occurred (in this locality) to do any material harm to even such tender subjects as Heliotropes, yet it is not safe to defer any longer the final housing of all the plants. Oftentimes when a rather sharp frost does not towards the end of September give us a friendly warning of the approach of real autumnal weather, one is led to defer the completion of indoor arrangements somewhat too long. The last plants to be taken under cover are usually those that are employed for effect in the flower garden or pleasure grounds. These, it is true, are most of them of comparatively hardy constitution, but if they do take any harm it is of a more permanent character. This should be borne in mind, and no risk be run just to save the breaking up of the arrangements for a few days only. These plants, consisting as they do of fine foliage subjects in the main, will in all probability have made good progress during such a favourable summer as the past.

Where, therefore, there is any need of repotting I would advise that it be done at once, otherwise in attempting to carry the plants through the winter as they are there will be the further risk of weakening them materially. Take Palms and Cordylines, for instance, as cases in point. The former if excessively pot-bound will force their way upwards out of the pots, leaving the soil often-times level with the rims; this allows of no room for watering, and the plants consequently suffer from drought. The latter if plunged will have made surface roots into the outer soil; to lose these is a pity if by giving an additional shift this loss can be avoided. Too often these classes of plants are considered as being capable of any endurance, and the postponement of that attention which is given to others taken as a matter of course.

Such succulent plants as Agaves will, it is true, continue to thrive well in the same pots for years, but these long-suffering subjects will in time rebel against such treatment. If any Agaves, Yuccas, or other succulents are seen to be in an unsatisfactory condition at the roots when taken indoors, I would prefer to repot them at once rather than run the risk of their going from bad to worse before the spring, which otherwise will be the better season for potting them. Dwarf succulents used in bedding, but plunged in pots, as the tenderer Echeverias, the Pachyphytums, and Cotyledons, can be safely kept in a pit near the glass, where, by the aid of a little warmth from hot-water pipes, a dry atmosphere with a temperature not less than 5° above freezing can be maintained through the winter. In lifting these plants our plan is to stow them away as they are fairly close together, and repot in the spring where needful. To divide any of these for purposes of propagation thus late in the autumn is not advisable.

Grevillea robusta, Ficus elastica, and other similar plants with fine roots will in most instances be quite safe in the pots they are now in, seeing to it that the drainage is free when they are lifted. Oranges and Lemons in pots or tubs should not be left out any longer. If it is not possible to house them at once, the better way will be to stand them under the friendly shelter of some trees or in out-houses just to save them from the frost. It will be just possible that some scale or other insects will be infesting these plants; if this be so, do not

let it escape notice. Of all permanent pot plants of the greenhouse or conservatory, there are none which will stand outside so long in the late autumn as the Camellias. These may be left out with a little protection until the Chrysanthemums are in a measure over, when more room will be at disposal for them. Meanwhile, if any sharp frosts occur, and that continuously, some protection should be afforded to the roots by wrapping mats or sacking around the larger pots, and by plunging the smaller ones up to the rims. Although outside, do not let the Camellias in any sense suffer for want of water; this they may do even yet before one is almost aware of the fact.

Cinerarias and herbaceous Calceolarias will still be perfectly safe in cold pits or even frames; to bring these comparatively hardy plants into the houses yet is a mistake. They will continue to thrive well for weeks to come on a cool bottom, ventilation being carefully attended to on all occasions, only being kept close in the case of actual frost. Mildew may make a start upon the larger Cineraria leaves, but if this be closely looked after no harm will be done by lightly dusting the plants with sulphur; in both cases it is possible that slugs will give some trouble, but the prevention of injury from this source is only a matter of ordinary everyday attention. Mats should be used to cover the glass when frosts occur, not that a degree or two will injure either the one or the other, but it is just as well not to drop below 32°. Chinese Primulas, both single and double, should, on the other hand, be housed as soon as possible in light airy houses or pits.

JAMES HUDSON.

ORCHIDS.

THERE are some plants which greatly puzzle the best Orchid growers to grow well for many years in succession, amongst them some of the distinct and beautiful Oncidiums, such as *O. Forbesi*, *O. crispum*, *O. varicosum*, and the pretty little *O. concolor*. After they have been imported a year or two the splendid spikes are exceedingly beautiful; but it is not long before it is seen that they have passed the zenith of their beauty, and in time the bulbs are not vigorous enough to bloom. The question arises here whether it would not be better if the plants were not allowed to flower for the first year or two until they became well established, when they might be allowed to produce their spikes after the roots had thoroughly established themselves in the fibrous peat and Sphagnum. Another beautiful Orchid, but one not easy to establish, is the *Cælogyne barbata*. I well remember the first time it was sold in the auction rooms as imported. The plants were as fresh and sound as it was possible for them to be after a long sea voyage. I bought half a dozen specimens, thinking that the plant would be easy to establish, but it was a great disappointment. Only two of them flowered, and that only once. How different from *C. cristata*, the bulbs of which soon lose their plumpness, even when merely separated for increase of stock, but speedily recover and flower well again. *C. barbata* should bloom now, and it requires frequent supplies of water, also to be placed in a light position near the roof glass, but not exposed to bright sunshine. See that all the plants that are usually removed from the cool house to the Cattleya house are now in their winter quarters. I have already advised this, and had given orders to have it done in our own collection, but I found *Masdevallia towarensis* had not been removed. This has now been done, and nearly all the Orchids are in the position in which they will remain for the winter. The operations required in the various departments consist first of all in cleanliness. The shadings have all been taken down, and the next thing to do is to thoroughly clean the wood and glass-work both inside and outside the house, and as the plants have to be removed as the work proceeds, it affords an excellent opportunity to get at them, so that they can be thoroughly cleaned and surface dressed. See also that they are not overcrowded. It is a great mistake to allow Orchids in any

of the divisions to be arranged too closely together, especially in winter. We have not had anything like so much bother with woodlice since green frogs have been introduced to the houses. These active little creatures seem to thrive best in the Cattleya house, and soon get outside both the cool and warm houses. It is vexing to hear them croaking in the bushes hundreds of yards from the houses, and one may spend hours looking for them, although by the noise they make they are within a few yards. I certainly advise establishing them in all the Orchid houses if possible. They are quite at home in our Cattleya house, and some of them have grown quite plump on the good fare they are able to find. Slugs and woodlice must be got rid of in some way, and this seems to be the best plan I have yet tried. Green-fly and thrips may be destroyed by fumigating at this season of the year in the Cattleya house, and I can say from experience that some of the patent fumigating material now sold is safer to use than the tobacco paper or rag of which one does not exactly know the strength. I have tried two or three of them and have pretty well given up the use of tobacco paper, which is not safe to use in Orchid houses, especially in the warmest and cool houses. In the East India house the *Saccolabium* show by the green healthy tips to the roots that they have not yet ceased active growth, and as much may be said of the *Vandas* and some of the *Aerides* in the Cattleya house. Keep the Sphagnum Moss in a growing condition on the surface. It is well not to have too great a depth of this, as it is sure to decay an inch or so underneath the surface, and very damp decayed Sphagnum Moss is the death of most of the roots that come in contact with it, but they revel in the moist, live surface Moss, or thrive well outside of it altogether. As long as the tips of the roots of the above Orchids remain green and in good growing condition, they must have enough water to keep the Moss thriving on the surface. When a film of a greyish tint closes over the tips of the roots this is a sign that they have arrived at the resting period, and will not need much water until it is seen they are ready to start into growth again. When writing of *Vandas* of the *V. suavis* and *V. tricolor* type, mention must be made of a totally different species, *V. Cathcarti*. It is altogether distinct in its growth, and although now more plentiful than it used to be, is still a scarce plant and not often seen in flower. The blossom takes a long time to develop, but this does not matter, as it is very interesting to watch the development of the flowers from the bud state to full development. The fleshy sepals and petals, the singular form of the labellum, and above all the beautiful markings of the sepals and petals cannot fail to please. It will now be in flower or getting into that stage. Each plant may produce two spikes, with from two to four flowers upon each. It requires much the same treatment as the rest of the *Vandas*. The *Dendrobiums* now at rest want looking over occasionally to see that none of them are being too much rested, especially the slender growing species, of which *D. Falconeri* may be considered as the type. This species may remain without water for weeks at a time, and dryness is essential to its flowering next year. I have had good plants of this beautiful *Dendrobium* get into bad condition owing to allowing the roots to shrivel up in the effort to provide a good resting period for it, in order that abundant bloom may be produced the following season. When they are likely to suffer from over-dryness I give them some water at the roots. They may go through the winter without any water, and flower abundantly the following season, but the loss of vigour may be such that the plants would take long to recover from the exhaustion.

J. DOUGLAS.

Old Apple trees.—I quite agree with what your correspondent "A. D." says in regard to the value, in the average of years, of old well-cared-for Apple trees. The season of 1893, so strongly characterised by heat and drought, has with me at any rate very forcibly determined the value of

many of them far less affected by circumstances that caused young trees in cultivated ground to lose much of their fruit. The deep and far-reaching roots of the venerable occupants of some of my orchards have enabled them to carry marvellous crops, which have all the merit of high colour and quality, though not of size, that will compete with recent acquisitions grown on young highly-fed trees. I was curious to have the produce of our tree of that excellent Apple Lincoln Holland Pippin measured, and the result was 20 bushels of good fruit from it. Other old trees, the fruit of which has not yet been gathered, promise to afford equally good results, amongst which may be named Blenheim Orange, Betty Geeson, the Eve Apple, the Belvoir variety of Herefordshire Pearmain, and Normanton Wonder.—W. INGRAM, *Belvoir*.

THE PAST SUMMER.

THE past season will be long remembered, especially by the poor, who have their own method of remembering times and seasons by remarkable events which have taken place in them. This neighbourhood has been particularly unfortunate in not getting the heavy showers which we have seen pass up the Severn Sea, or hanging over the Cotswold Hills, while we have not had a drop of refreshing rain from the "hot and copper sky." Our farmers have been sadly tantalised in this way. Over and over again the glass went down and great massive clouds rose up, and still no rain for them, though their neighbours a few miles off got drenching showers. For one thing, our retentive soil can stand such drought better than many districts. The Somerset fields and hillsides were fearfully burnt up early in the year, while we were still fairly green in this part of the world. Gardeners have, of course, depended on the supply of water from tanks, reservoirs, and pumps. One thing we ought to learn from 1893, to be more careful not to lose or waste water at any time. It is too precious a thing to waste even when it seems over-abundant. Now that petroleum barrels can be had at such a cheap rate there is less excuse for allowing water from the roofs to be lost. A capital tank can be made by joining together, where they touch when placed side by side, five or six barrels. It is easy to make a water-tight connection between them, and then, of course, they fill from one another until, if six petroleum barrels be thus united, the quantity stored away will be about 250 gallons. Such a tank is inexpensive and durable. The only objection to it is the room which the barrels occupy. But very often they can be placed against a wall where they are not in the way, and where the shoot from the roof above can be easily guided into one of them. I must say the present aspect of my kitchen garden is simply astonishing. I never saw it at this time of the year flourishing so well. The various green crops for the winter are looking extremely luxuriant. The heads on Veitch's Autumn Giant Cauliflower, though growing on a dry bank, are a large average. London Coleworts have delicious looking round Cabbage heads. Celery is remarkably fine, and Brussels Sprouts, if anything, too gigantic. Endive promises to be better than ever, and Tomatoes, which have been ripening since June, are still producing a fair crop of their delicious fruits. I might go on and enumerate other vegetables in the same way, and when we raise our eyes from the ground to the walls the size and abundance of Pears still hanging are simply wonderful. Easter Beurré, Thompson's, Beurré Diel, Beurré Hardy, Winter Nelis, and Marie Louise have been pleasant to the eye, and at the present time are delightful for dessert or keeping for a later date. A tall tree of Louise Bonne of Jersey, too tall to be got at by any ladder, has broken down in its topmost branches from the weight of fruit, which was of immense size. Thus from fruits and vegetables which have depended on the season only and have had no artificial assistance in watering we have evidence that a dry, hot summer is after all the best. Of course,

many things have suffered, and others have entailed a large amount of unusual labour with the water-can. Chrysanthemums, though watered twice a day, drooped occasionally on a hot afternoon, which is not good for them, but, nevertheless, they have not lost their leaves, which clothe the stems right down to the ground, and the buds look promising. Violets have shown signs of red spider, but they are recovering now that they are put into their winter quarters and can be more effectively watered. My plants of Ricinus, which sometimes do not produce any seed at all, have this year huge bunches of their round oily-looking fruit covered all over with stout, soft hairs. I have occasionally, but rarely saved my own seed from this plant; this year any quantity of seed could be obtained from it.

What will be the result of this year on the ensuing summer of 1894? Those who live to see another year should carefully note the results. Fruit trees can hardly bear such a heavy crop as this year a second time. I have a beautiful Siberian Crab tree which has been the admiration of visitors to the garden all the year, first in the flowers, latterly in the extraordinary crop of its lovely fruit. One large bough gave way before I could relieve it in any way of its heavy burden, and I shall be very glad if the tree itself survives the great strain which has been put upon it. This tree will undoubtedly suffer. What will other trees do? I see on forward trees the promise of a large quantity of blossom next season. If ripening the wood by summer sun has anything to do with it, next season should be as prolific as this. But could the trees bear it? I shall try to fortify them with an extra quantity of manure. I see a shrub of Chimonanthus fragrans is showing a large quantity of buds this year. It is one of those flowering shrubs which depends largely, I think, on the ripening of the wood. I must say it is pleasant in the last days of December or early in January to gather the sweet-scented flowers from this shrub. Their curious colour and aromatic scent make them very acceptable in the midst of the darkest part of winter. What will bulbs do? My flowers of *Crocus speciosus* are just fading. They were lovely as ever, but had not increased so much as I expected. But *Zephyranthes candida* has given me a nice lot of its beautiful white flowers. I want to see the effect of such a hot dry time on the various Lilies and on such plants as *Iris reticulata* and *I. persica*. I suppose they ought to benefit from having experienced a season more like that to which they are accustomed in their native haunts. The usual soft green grass of the lawn recovered once its usual condition under the influence of a short period of rain, but at the present time it is again brown and hard and slippery.

A GLOUCESTERSHIRE PARSON.

ORCHARD AND FRUIT GARDEN.

APRICOT TREES FRUITING.

IN this and adjoining counties Apricots never were earlier, at least I have no record of their being so, and they were also plentiful. Of course, we lost size, but even medium sized Apricots are appreciated. In penning this note my object is to point out the value of securing a crop yearly by growing those kinds which thrive best. Success is best secured by keeping the roots on the surface, and this can only be done by lifting, and there is no better time than the end of September or beginning of October for this. To get good fruit it is necessary to top-dress liberally. This top-dressing in time buries the large roots, and it is these that go wrong; hence the necessity of lifting. I am aware many object to root-pruning or lifting. I do not advise harsh measures either in lifting or pruning, as severe mutilation of roots is not suggested. Of course, with old fruitless trees it is impossible to lift without sacrificing some of the roots. With these I advise a middle course. As is often the case, one learns a lesson when least expected. I

required an east wall for other fruits occupied by both old and young Apricot trees, as these were very unsatisfactory as regards cropping and cankered badly. The young trees we lifted the first week in October and cut a trench completely round the large old trees with large boles as thick as one's leg. These trenches were cut at a yard from the wall, filled in with lighter compost just where the old roots were cut and carefully lifted the next October just as the leaves began to colour. From these old trees a very heavy crop has been obtained every season. I must admit we did not spare moisture after lifting, the leaves did not shrivel and the roots were kept moist, the trees being syringed several times a day and shaded with thick canvas. The younger trees gave little trouble, though every care was taken to preserve the foliage till the last. In lifting we got a good ball of earth to both old and young trees. I attribute much of our success to early lifting and to raising and keeping the roots on the surface. By lifting before the leaves turn colour, the trees have time to make fresh roots, and Apricots being the earliest fruit trees we have in bloom, there is only a short season of rest, so that early removal is essential to success. Of course, in removal from an east to a west or south-west aspect the position was greatly improved. In many instances it is not necessary to remove, but only to lift and replant, so that the work is much simplified, and I do not hesitate to affirm the trees in a majority of cases would well repay time and cost of renewal. In lifting old trees I advise previous preparation, and to lift early in the autumn. It is also equally necessary to use some fresh rooting material for exhausted trees, and there is no better material than good sound loam with a liberal quantity of old mortar rubble in soils deficient of lime. Manure of any kind I do not advise mixed with the loam, preferring to use it twice or thrice a year as a mulch, and applying copious supplies of liquid during the growing season. The want of moisture enters largely into the cause of failure. I do not mean moisture when at rest so much as when the trees are growing vigorously. Moisture, of course, is more necessary in light soils, as I am inclined to think the trees frequently suffer from this cause. Even now we give our trees a thorough soaking weekly. Good hardy varieties to plant are the Large Red and Large Early. Breda, also Kaisha will often succeed where others fail. Hemskirk will often grow where Moorpark fails, this latter being so subject to canker. Of course, when young trees have to be sent from a distance it is impossible to plant thus early. My note refers to lifting trees at home.

G. WYTHES.

Jaffa Oranges.—The British Consul at Jerusalem has recently sent to the Foreign Office a translation of a report by an engineer of the Turkish Government on a scheme for irrigating the plains and Orange gardens of Jaffa, in which, incidentally, some interesting information is given in regard to the famous Jaffa Oranges. The town, it is said, owes its importance to its climate, which is extremely favourable for Orange growing. In consequence the port is surrounded on the land side by Orange groves, covering an area of about 1780 acres. Jaffa Oranges, on account of their excellent flavour, have of late years acquired a world-wide reputation, and while some eighteen years ago they were known only at Beyrout, Alexandria and Constantinople, enormous quantities are now exported to Europe, America, and even to India, and their cultivation has consequently increased to a very considerable extent. A special feature of Jaffa Oranges is that they will keep from thirty to forty days, and, if properly packed, for two and even three months. New Orange groves are continually being laid out, and the total number is now 400, against 200 fifteen years ago. This, again, has affected the population of Jaffa, which now contains 42,000 inhabitants, against 15,000 inhabitants twelve years ago. The exports for the last few years have averaged 36,000 boxes per annum, and owing chiefly to this trade Jaffa ranks next to Beyrout in importance among Syrian

coast towns. Orange growing in Syria is conducted exclusively by natives. Each Orange garden contains about 2000 square feet of planted area, equal to about 1300 trees to 2½ acres. The trees begin to bear the fourth year after planting, but it is estimated that it takes seven and sometimes eight years before an Orange orchard yields a remunerative crop. During all this time, and even afterwards, the orchards have to be watered continually, and this irrigation is the most difficult and laborious part of the work, inasmuch as the water has to be drawn by means of primitive water-wheels from wells dug in the gardens 90 feet and even 100 feet deep. Pumping by horse-power has been tried and in some rare cases steam, but both have failed to give satisfaction.

BROWN TURKEY FIG.

THERE are one or more very popular varieties of most kinds of fruit cultivated either under glass or in the open, but in only one instance can it be said that these more than hold their own against all comers. The one notable exception to the rule will be found in the Brown Turkey Fig. It may be some of the varieties of recent introduction will prove superior to it, but at present there are none in general cultivation that possess so many good qualities, and, if the truth must be told, I very much question if it will ever be largely superseded. Presumably, the Brown Turkey was brought to us from the country from which it takes its name, but by whom and when it was introduced I have no means of ascertaining. By all accounts White Marseilles was the variety first cultivated in this country, this being introduced from the south of Europe by Cardinal Pole about the year 1525. All that I can further ascertain is the fact of Brown Turkey being grown in this country at the beginning of the present century under the synonyms of Large Blue, Brown Italian, Brown Naples and Murray or Murray's Purple. McIntosh does not speak very highly of it under either of those names, but has nothing but praise for Lee's Perpetual, this proving that there was some confusion in nomenclature even in his days, as it is now very generally recognised that Lee's Perpetual and Brown Turkey are one and the same thing. That there are some who consider them distinct cannot be denied. For instance, I once saw a remarkably good crop of Figs in a forcing house at Beaham Court, near Newbury, the trees being named Lee's Perpetual, but at other places I have since seen trees of Brown Turkey equally good. Seeing also that the individual fruit cannot well be separated, the only conclusion that can be arrived at is that either Lee's Perpetual has completely ousted out the true Brown Turkey, or else that the different degrees of productiveness are more or less the result of varying soils, sites and other conditions.

For open air culture the Brown Turkey is simply invaluable. Naturally it is very much more productive during a hot and dry season than it is during our average summers, and the season of 1893 will long be remembered as being one of the best for Figs within the memory of the present generation of gardeners. It is not often that Figs from open-air trees are both so plentiful and good as they were by the middle of August this year. Not only did the fruit ripen to perfection, but there is every likelihood of good crops forming next season owing to the young wood being shorter-jointed and firmer than usual. As far as inland places generally are concerned, it is useless attempting to cultivate the Brown Turkey or any other variety of Figs other than against the hottest

walls, those facing south-east apparently being the best sites, but along the south coast, and Kent, Sussex, and the Isle of Wight in particular, it is possible to grow Figs very successfully in the form of low standards. There are many fine old trees existing in those favoured localities, and it has been repeatedly my lot to gather some remarkably good fruit from some of them. Doubtless the climate has much to do with this success, but unless the soil also is suitable the growth will not be hard and short-jointed enough to either withstand severe frost or to produce fruit very freely. It is astonishing what grand trees sometimes form in the poorest soil. Evidently the trees derive a considerable amount of food from the salt-laden atmosphere, or how else are we to account for the magnificent specimens one comes across with their roots in a soil largely composed of chalk? I have previously had occasion to allude to some very large old trees of Brown Turkey that were at one time growing against the high wall of a viaduct connecting railway tunnels under or near to the Shakespeare Cliff, Dover. All the soil these trees had to grow in was brought down



Fig Brown Turkey.

from the aforesaid cliff in baskets and consisted largely of chalk. Being unable to find the notes I took of these trees somewhere about eighteen years ago, I am unable to give their dimensions, and can only say their equal I have never met with. The young wood was near the stoutness of a man's second finger, very short-jointed, and extremely productive. So fine were the fruit, that it sold readily in Dover at an average of 4s. per dozen. At times the sea water, or rather the spray, dashed over these trees, this happening more especially in the spring and autumn, till at last one exceptionally high tide, and which did much damage along the sea coast, washed every particle of soil from the roots and killed the trees. Pears tried in the same position were a miserable failure. The stem of another extra fine tree of Brown Turkey growing about two miles from the seashore in Sussex was at one time actually used as a walking-stick. Being left standing on the moist floor of a back kitchen, it budded after the fashion of Aaron's Rod, was duly planted, and, I believe, is still in existence. In less genial positions the trees have to be protected during severe winters, or either the young or fruiting wood is crippled or the trees killed down to the

ground. A gross habit of growth must also be prevented as much as possible. A free admixture of chalk to either poor virgin loam or ordinary garden soil and a firm root-run are the best preventives of grossness. Failing chalk, substitute mortar rubbish, a thick layer of this being placed 18 inches below the tree where the subsoil is of a clayey nature. Curtailling or checking the root-run by means of a hard gravel path answers well in some cases, but after the trees have attained a great size, the wood being somewhat stunted, a surfacing of manure or an occasional soaking of liquid manure may be given with advantage. At least, that is my experience gained, let me add, in a district where Figs are both extensively and well grown.

Allusion has already been made to the great value of the Brown Turkey for house culture, but I shall venture to again return to that part of my subject. The variety under notice succeeds well either in pots, much confined borders or in a fairly extended root-run, the two former conditions being most desirable when the head-room also is limited. Naturally, confining the roots to either pots or narrow walled-in borders is a sure antidote to rank growth, but it is possible to reach the other extreme and starve the trees unduly. Figs are among the most hungry trees in cultivation, and unless the great mass of roots they invariably form are kept well supplied with moisture and liquid manure after once the soil has been robbed of its fertility, light crops of small fruit are inevitable. Partial lifting and relaying the freely-shortened roots in fresh soil, as well as rich top-dressings, are also most beneficial to trees that are in small borders; while large old trees in pots should be allowed to root out into a border of some kind. Unless so treated, it will be scarcely possible to recognise that the fruit is that of Brown Turkey. Bush trees are all very well in their way, but for producing fine fruit in quantity, give me trees trained all over the roof and not far from the glass. Planting against a back wall and training the trees from this down the roof effectually checks grossness, but very good results attend the practice of putting out a tree or trees with clean stems, training the branches in all directions and not too thickly. In this case the root-run should not be much limited, and may, in fact, extend over the greater part of the house. A rich soil ought not to be given at the outset in any case, as being conducive to rank growth. The old formula, this being quite fresh turfy loam chopped up roughly, with mortar rubbish or chalk freely intermixed, answers well. If the trees are to have a rather extended root-run, it is well to form the border piecemeal. Pot trees of Brown Turkey can be made to give three crops in one season, but the wise cultivator is content with two, the same number being taken from trees planted out and forced gently. The second-crop fruits are always the most delicious in flavour, and it is these, I believe, that are principally dried, pressed into boxes and sent to us from the south of Europe. Many of them also find their way into Covent Garden Market in a fresh state. W. I.

Vine Trahurier.—Under this name there is growing on a west wall at Chiswick a Vine that has very deep claret or crimson leafage, and has a very attractive appearance. It seems to indicate that it would prove a most valuable addition to our decorative climbers not only in the autumn, but all the summer. The one shoot made this season hardly exceeds 3 feet in length, but it may be all the same, robust when it once gets a good start. Of course, it is not possible to say how far it may prove suffi-

ciently robust for the purpose indicated, but experience will soon show. If not too strong on its own roots, it may do well worked upon some other free growing variety. In any case its beauty even in its present comparatively small state is undoubted. Some readers may know of it elsewhere, and if so, will perhaps give their experience of the variety, which is so worthy of attention.—D.

Apple Hambledon Deux Ans.—Eight miles from where this Apple originated and from which it takes its name, there are plenty of gardens which, unfortunately, have no other kind growing in but this one, and they are in all cases old trees, and in a district where Apples are much grown I do not know where there is a single tree less than twenty years old. This, I am pleased to find, is because the quality of this fruit is inferior. As a market Apple it fetches less than any other—a good test of its quality. Any amount of picked fruits have been sold at 1s. 3d. per bushel, which cannot be regarded as remunerative. Far better plant Devonshire Quarrenden and obtain 7s. per bushel.—E. M.

Apple Ecklinville.—In this district a market cannot be found for this Apple on account of the soft skin and flesh. No Apple that I know is so quickly "pitted," as it were, by handling. Certainly it has stood the effects of the drought worse than any other sort here this season. The skin suddenly became spotted, and everyone knows that this means early decay. As an Apple for cooking and for early and free cropping quality it is not to be excelled, but for market purpose it is not first-rate. I am not giving my opinion based upon a single tree or two in the garden, but from hundreds in the orchard.—E. M.

PEACHES IN THE OPEN AIR.

As was to have been expected, this semi-tropical summer has given a powerful stimulus to Peach culture in the open air. Not a few growers had begun to despair of them, when this arid summer has turned the tide once more towards Peaches. Not that those who knew the art of their culture in the open best ever despaired of a fair amount of success—and reaped it too—on an average of seasons. Of course there were summers when Peaches, as well as other crops, went to the wall, and never returned from it in luscious form. But on the other hand Peaches have yielded quite as good average as Pears, while as for quality, outdoor varieties have more than held their own against those under glass. And now once more we shall have a fast and furious run on Peaches in the open. It is hardly needful to add here that Peaches in this wide sense include Nectarines, and it may also be added that unless the fever becomes too furious, the more growers of Peaches in the open the better. The race in Peach growing in the open is won by skill rather than climate, and if so, then most who run that race can win. The field is wide, covering all our south and west walls, notwithstanding one of our correspondents' failure on the latter (p. 302). But then he can afford such failures on west walls, as he claims that east walls would be better, as a greater length of sunshine obtains on the east wall than on the west. This will come on most Peach growers as a surprise. But if it be absolutely true without the addition of other points in the cardinals and other sheltering influences, the fact may have an important bearing on the future of Peach culture in the open air. An east wall for Peaches has been looked on as the certain route to failure, less, however, probably from the dearth of sunshine than the freezing force of the east wind in the spring. But the genial west and the warm south furnish a wide area for Peach growing in the open air without encroaching on the east for Plums and Cherries or hardy Pears.

On reading the two excellent letters of your correspondents W. Strugnell and "Y. A. H." one gets a glimpse of the two extremes of pruning, or the lack of it, on which Peach growing in the open has so often been wrecked. The first recommends

cutting away the old bearing wood directly the crop is gathered, and fixing the wood remaining thinly over the wall for the sun and air to act perfectly on them to mature and strengthen the dormant buds.

"Y. A. H." points out that another cause of failure in the cultivation of Peaches in the open air is in not allowing the trees to carry sufficient foliage. Thin training is all very well, but this can be carried too far. As long as each shoot has sufficient space so as to be well exposed to direct light, this is quite sufficient without having them 10 inches or a foot apart, as some people think the better distance. As "Y. A. H." truly observes, the two extremes of overcrowding and over-pruning must be avoided, and the happy mean of wood and leaves established as the bases of durability and fertility in Peach growing in the open air. Were all the secrets of hot walls revealed, probably it might be found that quite as many Peach trees have been burned as frozen to death in our so-called sunless climate. Sunless, indeed! Those of us who have spent many hours on the face of a Peach or Apricot wall this summer will ever after declare that their one fear was that they, as well as the trees, might melt with fervent heat, especially on the bald and bare places that some declare to be essential to successful Peach growing in the open air in England. D. T. F.

APPLES AND PEARS ON HEAVY SOILS.

THE crops of these this season have been exceptionally good. Not only is there an abundance of fruit, but the samples are also better than I have ever seen them in this part of the country. Some of the old trees that have not borne a crop of fruit for years are so thickly laden, that the boughs are weighed down with them, and those on young trees are particularly fine. An old tree of Williams' Bon Chrétien growing in a cottage garden near here had ten bushels of fruit gathered from it; the sample was better than I had ever seen before. In another cottage garden a tree of Warner's King Apple produced some remarkably fine fruit, some of the best samples weighing 22 ozs. Peasgood's Nonsuch from bush trees in some cases weighed 20 ozs. Other large growing kinds were likewise good, as some fruit of Stirling Castle weighed over 16 ozs., Pott's Seedling and Ecklinville Seedling being also very fine. King of the Pippins again is more like Blenheim Orange, and some samples of Cox's Orange Pippin are unusually fine. The late kinds, too, have grown above the average size this season, especially Norfolk Beaufin and Easter Pippin.

Pears, as a rule, especially the more delicate kinds, are apt to crack on this cold, stiff clay, but this season they have grown to an extraordinary size even on old trees, and are free from all the blemishes one is accustomed to see in a wet season. Some fruit of Beurré Diel weighed 23 ozs., each, Glou Morceau 20 ozs., and Van Mons Leon Leclerc 20 ozs. Some of the coarser kinds have grown to an enormous size. What a pity it is that at all the shows size is the chief point taken into consideration by the judges. How is it that such fine flavoured varieties as White Doyenné, Gansel's Bergamot, Seckel, Thompson's, Hacon's Incomparable, Winter Nelis, Passe Colmar, and Jean de Witte are passed over and preference given to such coarse kinds as Beurré Diel, Triomphe de Jodoigne, Pitmaston Duchess, Conseiller de la Cour, Vicar of Winkfield, Beurré de l'Assomption, and the like? Surely it is high time that these monstrosities were discouraged. Flavour should always stand first in all fruits that are shown for dessert; size should be a secondary consideration. The present season should teach those that have to contend with a cold clay soil a good lesson or two. First, then, if the soil can be deprived of the superfluous moisture, there will be no cracking of the fruit; and secondly, that if this be done, the fruit will grow larger by the soil being raised to a higher temperature. It is not difficult to drain land in most places, but soil such as I have to contend with in this neigh-

bourhood holds the water to such an extent if not worked very carefully that there would be much difficulty in getting the water to pass into the drains; however, if plenty of rubble were used round the trees, this would have a tendency to keep the soil porous so that the roots would be able to penetrate it more readily. Sap flows more quickly in hot weather we all know, but if the roots are not able to take up sufficient nourishment to cause it to flow freely, there will be a check to the tree's growth, and the crops will likewise suffer. We see trees that are planted on land having a gravelly subsoil, or those grown on the limestone or chalk, producing the best crops in moist seasons, while those planted in clayey ground do not make satisfactory progress; the reason is, the latter soil is too cold to cause a free circulation of sap, while the former kind is rendered more fertile by the falling showers, and does not get dried up, as has been the case this year. Let those, then, that have stiff soil to contend with try to make it so that the moisture may pass through it more freely. H. C. PRINSEP.

FERNS.

SPEAR-FRONDED FERNS.

(DORYOPTERIS.)

In this family of Ferns we have some exceedingly handsome species. The fronds are all firm in texture and of a deep green colour. One species, *D. nobilis*, has a broad band of white running through the centre of its young frond, and the mature form, which is large and palmate, has all the primary divisions similarly banded. This fine plant was introduced by the Messrs. Veitch, of Chelsea. *Doryopteris* are mostly natives of Tropical America, but *D. ludens*, which was introduced by Mr. W. Bull, is a native of India and the Philippine Islands. It is very interesting and well worth growing.

There are many forms of this genus, and many of the kinds are grouped together under one name, but which as garden plants are very distinct. My correspondent "C. H." appears to be very anxious to fill a stove fernery with new and distinct species. The fronds sent are (1) *D. Alcyonis*, which I have not seen for a very long time, and I think came from M. Linden under this name. I have observed that it very readily breaks into the palmate form, which I have never observed in *D. sagittifolia*. It never attains the size of the last-named, but yet it is a name which I do not find recognised by any authority. Another very elegant little species which I have received upon one or two occasions from the Organ Mountain district of Brazil is (2) *D. lonchophora*, but which has never yet been introduced in a living state. There are several others that have not yet been introduced into Europe in a living state, whilst of those we have there appears to be a great confusion in the names. I suppose this arises from the study of herbarium specimens alone, but the different kinds if obtained true will retain their distinctiveness, and prove well worthy of cultivation. They are nearly related to the genus *Pteris*, but they differ in having the internal veins beautifully reticulated, whilst in *Pteris* they are free. They are easily grown into good specimens. The pots should not be too large, and they require to be well drained, using for soil equal parts of loam and sandy peat. The majority of the kinds will succeed well in a cool stove, but they like a warmer position for the winter months.

The following kinds are worthy of the attention of all Fern growers:—

D. ALCYONIS.—This grows some 6 inches or 8 inches high. It makes simple sagittate fronds, of

which the lower points are lengthened out. It soon begins to make palmate fronds, but yet the simple ones appear to be mature, for they are provided with a bold continuous line of brown sori round the margin; the stem is black, and the frond deep green on the upper side, paler beneath. It comes from Brazil.

D. COLLINA is a small species, having palmate fronds some 6 inches or 8 inches high and 3 inches broad. These are palmate, with from three to five lobes, the bottom pair only being lobed or toothed on the lower edge. The colour is bright green above, paler beneath, the stem and the principal branches being jet black. This plant, if got true, I have never found to develop into any other form, but it maintains its character. It is one of the prettiest Ferns to adorn a lady's fernery and is a native of Brazil.

D. LUDENS.—This species is found in the hills of Chittagong, seldom exceeding 1000 feet elevation, and it also occurs in the Philippine Islands. It appears to differ from all the other kinds in growth, the fronds rising from a creeping rhizome, whilst all the others are tufted. The simple fronds have rounded lobes, the fertile ones being taller, often reaching a foot high and palmate, the lobes not again divided.

D. NOBILIS.—This is a grand species, making fronds which are palmate and much lobed, some 8 inches in height and a foot wide. The colour is bright shining green, having a broad band of white along the principal segments. In the young state, however, they are simple and sagittate, the lobes much developed, some 8 inches or 9 inches long and upwards of 2 inches in breadth, dark shining green, with a broad band of white down the centre. It comes from Brazil.

D. PALMATA is a beautiful type, having fronds 9 inches to 1 foot high and about 5 inches in breadth, palmately divided, the lower segments drooping. It is also proliferous at the base of the frond, colour bright green with jet black stripes. It is a native of Brazil and Venezuela.

D. PEDATA is perhaps the most beautiful of the smaller set of the Doryopteris. Its fronds are about 9 inches high and 5 inches wide when well grown, the frond being more lobed than in *D. palmata*, especially at the base, but it is not proliferous like that species. Colour bright shining green. It is from the West Indies and Brazil.

D. SAGITTIFOLIA is a pretty simple-fronded species, which character it retains. It grows to upwards of 1 foot high, about half of which is usually naked stem. The fronds are bright green in colour and coriaceous in texture.

W. HUGH GOWER.

THE FRUIT CROPS.

SCOTLAND.

Castlemilk, Dumfriesshire.—Fruit crops abundant, Apples being heavy and of good size. Pears good. Plums heavy, especially the usual free-bearing varieties, and Cherries, both sweet and Morello, good. Strawberries good crop, but soon over. All other small fruits most abundant, Gooseberries especially so, and likewise the caterpillars, which have been destructive all round this season.

In the kitchen garden the crops, on the whole, are and have been good. Peas, as might be expected, have not borne the usual crop and their season has been short, later sowings of second early varieties doing well. Broad and French Beans extra good, Golden Waxpod and Mont d'Or specially fine. These two varieties with us require an exceptional season. Potatoes have done well, Sutton's Supreme and Windsor Castle being well worth special mention. The early Cauliflowers and Carrots were badly attacked with grub, and wasps were both numerous and aggressive.—**WILLIAM KING.**

Wemyss Castle, Fifeshire.—This has been the best spring and summer that I can remember,

and in consequence we have had a most excellent crop of all fruits, with the exception of Pears, which are almost *nil*. All trees bloomed profusely, and in the absence of east winds, to which we are much exposed, the fruit set over-abundantly, and with the great heat came rapidly to maturity. We gathered our first fruit twenty-seven days earlier than last year.

All vegetables have done well except late planted Broccoli, which suffered from the severe heat and drought, but which the showers of last month are rapidly making up.—**J. CLARK.**

Drumlanrig.—The spring and summer here have been exceptionally warm, and all flowering plants and crops of fruits and vegetables are quite three weeks earlier than usual. It has been much drier than ordinary, but there have been rains at intervals, and the consequence is that everything looks unusually well. Small fruits were abundant, Apples as large at this date as they usually are a month later.

The Potato crop is healthy and abundant. We are now having frequent and heavy thunder showers, and everything is making rapid progress. Turnips and Potatoes in the fields are remarkably fine.—**D. THOMSON.**

Fyvie Castle, Aberdeen.—All sorts of small fruits in this locality are most prolific, and for wall fruit, Plums in particular are the best crop that I have ever seen. Apricots are only a fair crop, as they do not succeed well in this cold climate. We have a good crop of Apples and Pears, and the Cherries did fairly well. Both fruits and vegetables seem to be quite a month earlier than last year.

Vegetables suffered in June for the want of rain, especially Peas, which are not up to what they were last year. Potatoes are a good crop and of first-class quality. We have suffered more than usual with maggot on Onions, Cauliflower, Cabbage, &c., and many lost their crop. The month of June was exceptionally dry and hot. We registered 92° in the shade on June 18. We are now getting abundance of rain, and things are doing well.—**SIMON CAMPBELL.**

Cullen House, Cullen, N.B.—The fruit crops in this district are a fair average. The small bush fruits are most abundant, with the exception of Strawberries, which lasted for a very short time, owing, no doubt, to the long-continued drought. The crop on walls and standards is not what it at one time promised to be. Peaches and Nectarines are thin outside, but very early. I pulled the first ripe Peach of the Early Alexander variety on July 11. Figs on the open wall are very promising. Plums are an average. Pears fair in some cases; in others very good. Cherries good, but Apples are very scarce, although the blossom was abundant and apparently set. The fruits have dropped of late very much, no doubt owing to the drought.

The vegetable crop has suffered greatly, owing to the excessive drought. Early Potatoes were small, but very early. Later varieties gave promise of a fair crop, yet Onions and Carrots were almost completely destroyed by the canker. Peas and the Cabbages suffered very much by the drought, as also did Cauliflowers, buttoning very badly, more especially the second planting. Crops since the rain have again picked up, and with a good autumn might finish a fair season yet.—**J. FRASER SMITH.**

Broxmouth Park, Dunbar.—With the wood of our fruit trees and bushes being well ripened in autumn and the milder weather than usual in spring, there was an abundant set of all crops. Apples are a heavy crop on such as Keswick Codlin, Lord Suffield, Warner's King, Stirling Castle, Tower of Glamis, Ecklinville, Duchess of Oldenburg, Worcester Pearmain, King of Pippins and Grange's Pearmain. Pears, though, are not so regular, but good crops are being borne on Beurré Diel, Louise Bonne of Jersey, Beurré Gifford, Jargonelle, Beurré Rance and Beurré de l'Assomption. Apricots are a splendid crop, also Plums, and have had to be well thinned. Early Peaches are good. Waterloo and Hale's Early began to ripen at the end of July, and with the warmer weather this

summer they are of finer quality. Strawberries, Gooseberries and Currants have been above the average, which told upon the size and quality, partly caused by the want of rain at the proper time to assist them to swell. Raspberries have seldom been so fine, and I find Superlative for size and quality is a great acquisition.

Potatoes and all sorts of vegetables are doing well this season, and field Potatoes never looked better.—**WM. MCKELVIE.**

Aboyne Castle.—Taking the fruit crops generally, with the exception of Pears, which are very light, we have a fair average crop. Strawberries, which are very largely grown in this district, were generally three weeks earlier, fruit small as a rule, but fine in flavour, the principal sorts grown being Rivers' Eliza, President and Elton Pine, with Myatt's for late work. Captain, Noble, Competitor and several others of the newer Strawberries find no favour owing to want of flavour and colour. Apples are a fine crop, trees very healthy and fruit fine. Plums for our light soils a good crop all round on the walls. Early Prolific was ready to gather on July 13. Gooseberries, Raspberries and Black Currants have been a heavy crop.

As regards vegetables they are generally abundant and of fine quality, excepting Cauliflowers, which have been small due to the check received in the early summer. Owing to the absence of frost, French Beans, Marrows, Celery, &c., are very fine, better than for years.—**W. BACK.**

Dalkeith, Midlothian.—The fruit crop in this district on the whole is exceptionally good, and most kinds are bearing very fine fruit. In early spring the weather was very favourable for the flowering and the setting of the fruit, but the long-continued drought thinned the crop of Apples and Pears, that left, however, swelling to a large size, and will be very much better than the average. Apricots, Plums and Cherries are bearing the finest crops they have carried for many years. Strawberries, after they got the first rain on June 22, did remarkably well. On our light rich soil James Veitch and some others of the large varieties of Strawberries bore very large and fine crops. John Ruskin also proved an early and abundant bearer, and continued bearing longer than any of the other early varieties grown here. Raspberries were a fine crop, Superlative being the best red, and Magnum Bonum the best white. Currants of all kinds were abundant and fine. Gooseberries were also a very large crop where they escaped the ravages of aphides and red spider.

All vegetable crops have done well throughout the season. The early kinds came into use fully three weeks earlier than usual, and were of excellent quality. The showers of rain during the end of June and throughout July have produced great luxuriance of growth in crops of autumn and winter vegetables, and for the latter a dry autumn would be beneficial, or they will suffer if a severe winter sets in. Potatoes are a splendid crop, and scarcely a sign of disease among them. Early Potatoes are lifting well and of the finest quality.—**M. DUNN.**

Auchin Castle, Moffat.—Situated as we are in the extreme north of Upper Annandale among the hills at an altitude of 700 feet above sea level, the finer class of fruit is not much grown. The soil is generally very poor. This season has been most favourable to the growth of most things, and quite a month earlier than last year. Strawberries, more particularly on young plantations, have been heavy and good in quality. Gooseberries very heavy. Black and Red Currants good crops. Raspberries good. Apples thin on some trees, but clean and swelling well. Plums and Cherries a good average crop and better in quality than last year.

Vegetables have been finer than for years. Peas have filled well. Potatoes remarkably good. We have not had French Beans for three years, but this year they are very plentiful. All other crops proportionately good, showing that a dry season suits this locality best.—**W. MCADAM.**

Dalmeny Park, Midlothian.—Fruit here will be a good average crop, the exception being early Strawberries, which were only half a crop.

Late kinds had a heavy crop. Early Apples and Pears are good, but late ones short; also Morello Cherries. All fruit trees when in flower promised an abundant crop, and I hoped to realise the promise, as no frosts occurred to blight the fruit buds, a most unusual thing here in the spring months.

Vegetables of all kinds have done well, but since July 1 Peas have made very little headway. Potatoes look well, and they are of good quality this season, being two weeks earlier than I have ever seen them here before.—J. MOYES.

Tynninghame, East Lothian.—This has been a delightful year. Among the fruit crops there is no out-standing failure, and in the case of Pears alone is there an appearance of a deficient crop, and it is only the very aged trees that have not borne. Young healthy trees are carrying good crops of fine fruit. Our earliest gathering of these was on August 1. Strawberries in some localities had been much damaged by the intense frost during winter, the remaining plants suffering again from the drought; but the crop was fairly good, though quickly past. The Apple crop is a good one, numbers of the trees so heavily laden that they had to be lightened by thinning. The fruit, moreover, is large and clean, the early varieties turning in quickly. Apricots and Plums each set fruit in strings on the branches, and, of course, both had to be severely thinned. Plums especially are large and fine. In July, Rivers' Early Prolific, The Czar and a green unnamed Plum ripened. Apricots also were ripe in July, and a few Peaches (Alexander) August 1. All small fruits were most abundant. The first ripe Fig was gathered on July 15, its weight 6 ozs., and up to August 1 over forty fruits, averaging three to the lb., have been gathered off the one tree. This is, so far as I can gather, quite unprecedented. I have seen ripe fruit about the third week in August and fruit as large, but I have never heard of Figs grown entirely out of doors ripening so early in Scotland.

With regard to vegetables, Onions, Carrots and early Cauliflowers have succumbed to attacks of maggots. In cottage gardens all kinds of Brassica have been destroyed. However, since the break-up of the drought the vegetable quarters have become furnished with crops of all kinds earlier than usual and of superior quality. Early Potatoes were somewhat small, but of excellent quality. Later crops leave nothing to be desired, and all winter crops are making rapid progress. One lesson taught very emphatically by the heat and drought is the benefit of deep cultivation combined with a high state of fertility in the soil. Where these have been wanting, it is noticeable how all crops have suffered. Where present the heat was, almost without exception, decidedly beneficial.—R. P. BROTHERSTON.

Galloway House Gardens, Wigtownshire.—The present season will be long remembered in this district for the general abundance and good quality of the fruit crop, also for the very hot weather and the plague of wasps. Strawberries ripened a month earlier than usual, and the early and midseason kinds produced good crops of fruit; late ones suffered from the drought, which prevented the fruit from swelling as it ought. Raspberries were a small crop and soon over. Currants and Gooseberries were heavy crops; the latter in places were badly attacked by caterpillars. Apricots were an excellent crop, the best we have had for some years. Peaches and Nectarines very good, the fruit somewhat smaller than usual, but richly coloured and of good quality. Plums are abundant, all kinds bearing well, both on walls and standards; Coe's Golden Drop is particularly fine and heavily cropped. Damsons very good, but not much grown in this part except in private gardens. Cherries were a good average crop, May Duke being extra good; Morellos about an average. Apples are a good even crop, young trees generally heavily laden, and older ones carrying a fair crop, which for size, colour, and soundness are superior to former years. Pears must be considered the crop of the season; all the best and most generally grown varieties are bearing heavily, and the fruits are above an average in size and quality, specimens

of Marie Louise and Pitmaston Duchess weighing 12 ozs. and 24 ozs. respectively. The rainfall in this part to the end of August was but 2 inches below the average, a fair proportion of which fell since midsummer; this has proved very beneficial to the fruit crops, also to the fruit buds for next year, as I never saw them more promising.—J. DAY.

SUPPLEMENTARY.

Penrose, Helston, Cornwall.—Apples here are an exceptionally heavy crop, fully a month earlier than usual, fruit clean, of good size and grand colour, particularly such fine sorts as Adams' Pearmain, Blenheim Orange, Cox's Orange, and Ribston Pippin. Lord Suffield, Warner's King, and many other good kinds in orchards are a most profuse crop, tons of which will be converted into cider during the week. Sturmer Pippin, Cornish Gilliflower, and other late kinds are suffering badly from attacks of tomtits, blackbirds, &c., which one can scarcely understand in such a season as this. Plums were a heavy crop and of good quality. Peaches and Nectarines both good. Currants and Gooseberries were fine crops, the latter requiring two good applications of hellebore powder to keep down caterpillar. Strawberries (thanks to a plentiful supply of water running through the garden) were fine indeed, though probably somewhat short-lived.

First and second early Peas did very well; later sorts but indifferent. Potatoes variable; early sorts, such as Sharpe's Victor and Veitch's Ashleaf, did well; Champions quite a failure; Magnums are an immense crop. No disease as yet. Celery very good; also Carrots and Parsnips. Earliest hatches of Cauliflowers were all destroyed by maggot. Tall field Broccoli are looking well. Wasps have been only too plentiful, but by closely following up nests with cyanide of potassium and one or two applications of Scott's wasp destroyer on the walls and in vineries have kept them fairly under.—PHILIP MURTON.

Bardney Manor, Lincoln.—We are not able to give a very good account of the fruit crop in Lincolnshire. In the spring we thought the year would prove a good one, but as we had no rain from February 27 until June 19, all sorts of Apples are very small and are still falling off; the crop will be about average. Plums are under average, and the trees in most gardens are badly blighted. Cherries on walls and bushes are a good crop, as also Apricots. Strawberries were much under the average, especially on light sandy land. Raspberries, Gooseberries, Currants (Black, Red, and White) were fairly good.—J. ROWLANDS.

Coolhurst Gardens, Horsham, Sussex.—Strawberries were a good crop all through, Vicomtesse and Garibaldi being almost equal in productiveness, and it matters little whether either or both are grown, they are so close in all respects. No garden should be without them, as they seem to thrive in any soil or situation. President comes next in productiveness, if not one of the most productive of all Strawberries. Severe winters are hard on its foliage. Sir Joseph Paxton, James Veitch, and Empress Eugénie are specially fine for dessert; these being grown on highly cultivated land with heavy mulchings in autumn and spring will give excellent returns provided they are grown 2 feet between the plants in the rows. To have fine well developed fruit of good flavour that room is needed. We have tried many of the newer varieties, and have given them an equal chance with the older sorts, and although many of them possess good points, yet they fail to equal in all respects those above named, and consequently not grown. Notwithstanding the severe drought of four months length, we had an excellent crop of fine fruit, the plants all being healthy and free from insects. Deeply cultivated land in good heart has shown in a high degree through the past drought that that is the lines on which all land should be cultivated, and then there would be an almost certainty in any season of a crop whether in the garden or in the field. Raspberries have been fairly good, grown on deep land and well mulched. Black Currants

much the same, Red and White plentiful and good. Plums a heavy crop all through, and thinning needed to lighten the trees. Pears plentiful, too, and swelling since the rain. All wall trees had to be washed with the engine to clean the foliage of insects, which were abundant. Apples here are not plentiful, only some trees bearing well, others thin and small; but Apples on Grass will be smaller than usual owing to the dry state of the ground; the rain soaking in more freely where the trees are on open ground will likely promote the best fruit.

Vegetables of all kinds have suffered severely from drought and insects together. Potatoes a good crop with little disease.—A. KEMP.

Hardwick Gardens, Sedgefield, Ferryhill.—Apples, Black Currants and Plums good. Gooseberries enormous crop. Peaches and Pears medium. Raspberries poor. Strawberries a failure, the land being very light. Apricots exceptionally good. Red Currants large crop, but the fruit small.

Vegetables are all good with the exception of Carrots and Onions. Other crops in the neighbourhood on the whole are excellent.—J. W. TURNER.

Bickley Park, Chislehurst.—There is a plentiful crop of Apples about this part, the trees in many cases being too much loaded. With us Blenheim Orange is an exception. Last year we had a good crop. Lane's Prince Albert bears every year. The soil is sand and gravel, very poor for Pears, some sorts scarcely living, but we have some pyramid trees, such as Thompson's, Beurré Clairgeau, Durondeau, Beurré Diel, Gratioli of Jersey, Fondante d'Automne bearing very heavy crops. We have a heavy crop of Plums, the trees on the walls wanting much thinning. Cherries a good crop, both of Morello and dessert kinds, though they have suffered a little from black fly. We have excellent crops of Peaches and Nectarines, also Apricots, though these last run rather small. Currants and Gooseberries a heavy crop and good; we had to water them, also the Raspberries, which would have been very poor without watering; as it was, we had a good quantity, Semper Fidelis being the best. I have only a few canes of Superlative and Norwich Giant, both good bearers. Strawberries were very poor; undoubtedly they would have been better had they been watered, but as many of the plants had failed I did not trouble about them. All the vines were very fruitful. Our Figs outside at one time showed well for a good crop.

Our first two crops of Peas did well, but the later sorts badly; this was also the case with Broad Beans. Potatoes are good in quality, but a light crop, the tubers being small, but so far very free from disease.—JAMES NEIGHBOUR.

Croft Castle, Eardisland.—We have had a very exceptional season, dry, and particularly so up till July 15, but most things have done well, both vegetables and fruit. Strawberries have been plentiful and good, and also Gooseberries. Currants have not been good, getting blighted. Apricots have set well and Peaches. Plums have been rather blighted, but yet in many places were well loaded with fruit. Apples and Pears in most places are a plentiful crop.

Potatoes are plentiful, the early ones not a heavy crop owing to the drought. I have not seen any disease at present, but some black spots have appeared on the foliage in places.—W. BYTHEWAY.

Astley Hall, Stourport.—In reply to your inquiries respecting the fruit and vegetable crops in this district, I am sorry to say we have suffered very much from the exceptionally dry season. With regard to fruit, the small bush fruit has been plentiful, but wanting in flavour. Apples and Pears are a failure except in a few favoured places. The crop of Plums on wall trees is good, but standard trees are very thin. Damsons are a failure. They are largely grown in this neighbourhood, and are readily bought up for making dye. They are looked upon by cottagers as the rent-payers; therefore, it is a great loss to them. These notes only apply to this neighbourhood. I should think by the supply coming into the markets they have been more fortunate in other

districts. We are on the banks of the Severn, and the spring frosts affect the bloom.

It has been hard work to keep up a supply of vegetables, everything having to be watered to keep it alive. Peas growing in gardens have only yielded about half a crop, but those in the fields have yielded in most cases a good crop. Cabbages have suffered very much from the caterpillar. The Onion fly has been very busy; many beds in this neighbourhood are entirely destroyed by them. Potatoes are fairly good, but not a full crop. There is a prospect of a good crop of later kinds, the rain coming just in time to save them. Vegetation has greatly improved since the rain has come, and winter vegetables promise well.—F. BOORER.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

A REMARKABLY fine show was that in the Drill Hall on Tuesday last.

Floral Committee.

The following each received a first class certificate:—

NERINE ELEGANS ALBA.—A somewhat inconspicuous variety, as the entire plant in bloom was hardly 8 inches in height, bearing a small spike of white flowers that resembled those of a very large single white Hyacinth. From T. S. Ware, Tottenham.

HEMANTHUS LINDENI.—A form carrying three heads or trusses of an unusually large size and of a salmon-carmine hue. From M. Linden, Brussels.

ANTHURIUM WEMBECKIANUM.—The spathe of medium size, thick and glossy, and almost pure white. From Messrs. Linden, Brussels.

QUERCUS AMERICANA SPLENDENS.—An intensely deep red-leaved Oak, a bunch of branches of which was shown, the leafage of bold size, deeply cut and splendidly coloured. It must be a glorious thing in the autumn sunlight. Mr. A. Waterer, Knap Hill.

An award of merit went to each of the following Dahlias:—

PURPLE PRINCE.—A true Cactus form, of a deep rich crimson, flushed with violet. From Messrs. Perkins and Son, Coventry. Old Gold.—One of the decorative section, of a rich golden buff colour. From Messrs. Cannell and Sons, Swanley. Miss Arnold.—A decorative kind, the colour soft puce, very free. From Mr. J. Arnold, Devonport. Emily Hopper.—Bright yellow, a pleasing, though hardly novel pompon, and to single Dahlia Ethel Swan, colour old gold, with a ring of rich red round the eye; very novel. Both from Mr. T. S. Ware.

CARNATION Mlle. Theresa Franco.—A dwarf, very free grower, evidently of the perpetual type; flowers large, full, and of a very pleasing rosy carmine colour. From Messrs. Jas. Veitch and Sons. Also to

CARNATIONS REGINALD GODFREY, bright salmon, and Mary Godfrey, pure white, both richly perfumed. From Mr. J. Godfrey, Exmouth.

CHRYSANTHEMUM MRS. P. BLAIR.—A very fine broad, flattish Japanese incurved with very stout petals, upper side white, much flushed and veined with deep red. Shown by Mr. R. Owen, Maidenhead.

A silver-gilt Flora medal was awarded to a very large group of *Adiantums* from Mr. H. B. May, of Edmonton. Probably many who saw this collection had previously little knowledge of the remarkable variety of kinds. A silver medal was deservedly awarded to the large collection of fibrous-rooted *Begonias* sent up in big clumps in broad shallow baskets by Mr. Sanders, gardener to Mr.

Alfred de Rothschild, Halton, Tring. These were all of the *sempervirens* type, and illustrated in a very effective way the great value of these *Begonias* for summer bedding. Bronze Banksian medals were awarded to Mr. T. Mortimer, Swiss Nursery, Farnham, for a very clean, bright lot of show and fancy Dahlias, including many of the best sorts. Also three large boxes full of blooms of *Stephanotis floribunda*, the effect of which was somewhat depreciated by the white paper lining of the boxes. To Mr. G. Bunyard, Maidstone, for a collection of branches of ornamental hardy trees and shrubs, including rich coloured Maples, Oaks, Sumach, Poplars, the Tulip Tree, &c.; and to Messrs. H. Cannell and Sons for a collection of decorative and Cactus Dahlias, Chrysanthemums, Pelargoniums, &c.

There was a small competition in a class for twelve bunches of hardy perennials, the exhibitors being Mr. G. Sage, of Ham House Gardens, and Miss Debenham, St. Albans. The former, placed first, had fine bunches of various things. Messrs. J. Veitch and Sons showed a basket of the blue Sage, *Caryopteris mastacantha*, *Streptocarpus* in variety, many showing deep and rich colouring; hybrid *Rhododendrons* of the *javanicum* type; also *Amasonia punicea* var. *calycina*, carrying long spike-like bracts of red leafage with projecting tube-shaped flowers of pure white colour; with this was the pretty *Pteris Victorice*, forming a pleasing base. Mr. H. J. Jones, of Ryecroft Nursery, Lewisham, had a pompon Dahlia of a bright red colour, the plant some 25 inches in height, and blooming freely. Messrs. Pitcher and Manda, Hextable, Kent, showed some good blooms of new Chrysanthemums, chiefly Japanese. Mr. T. S. Ware had, in addition to things mentioned, a big clump of *Aster grandiflora*, flowers large and of a pleasing lavender-lilac; Cactus Dahlia Mrs. A. Peart, white; Iris alata, mauve-blue, very dwarf; some Cactus and single Dahlias. Mr. W. Wells, Earlswood, had a big collection of cut Chrysanthemums, including Coronet, yellow, broad incurved petals; Elaine, Mons. E. Pynaert van Geert, rich orange-buff; Duchess of York, old gold colour, and various seedlings. Mr. Rickwood, gardener to the Dowager Lady Freae, Fulwell House, Twickenham, set up a group of cut flowers of double and single *Begonias* in very pleasing form and variety (vote of thanks). Mr. De B. Crawshaw, Sevenoaks, had some tipped and shaded single Dahlias rather oddly marked. Mr. Landsett, Leicester, showed Dahlia Beauty of Barkley, semi-Cactus form, the petals fluted, white edged scarlet. Messrs. R. Veitch and Son, Exeter, staged Pink Ernest Ladham, now so well known. Mr. Anthony Waterer again exhibited flowers of his new shrubby *Spiraea* Anthony Waterer as evidence of its late-blooming properties. Mrs. J. Phippen, Reading, had Cactus Dahlia G. Phippen, heavy maroon. Messrs. Perkins and Son Cactus Dahlia Matchless, black-maroon. Mr. G. A. Farini, Forest Hill, showed double *Begonias*. Mr. R. Owen had several new Chrysanthemums. From Mr. Earp, gardener to the Rt. Hon. Joseph Chamberlain, M.P., Highbury, came three spathes of *Anthuriums*, two white and not so good as Mons. Linden's, and one of a salmon-carmine, with very long, erect spadix that is striking. Messrs. Hugh Low and Co., Clapton, had some excellent *Liliums*—*L. nepalense* and *L. Wallichianum*. The Royal Gardens, Kew, sent a group of interesting plants and flowers, five of which were awarded first class certificates. These were *Disa* Premier, described elsewhere; *Bomarea patagoensis*, also known as *B. conferta*, a beautiful greenhouse climber with stems about 20 feet long, each bearing a bunch of about thirty flowers as large as those of *Philisia*, and of a rich scarlet colour; *Solanum Wendlandi*, a noble stove climber, which has been an annual attraction for several years at Kew, where it is now magnificent in the succulent house, and of which a plate was published in *THE GARDEN*, 1890, Vol. XXXVII., p. 104; *Ptychoraphis angusta*, an elegant pinnate-leaved Palm from the Nicobar Islands, which promises to rival, if not surpass, *Cocos Weddelliana*; *Tecoma Smithi*, a hybrid between *T. capensis* and *T. velutina*, the

latter being merely a variety of the well-known *T. stans*. This hybrid is certain to become a popular greenhouse plant, as it grows rapidly, flowers freely, and bears terminal bunches of bright yellow tubular flowers. It first flowered at Kew three years ago, having been raised from seeds sent thither by the director of the Melbourne Botanic Garden. Other plants shown were *Clematis Stanleyi*, the tall white-flowered *Kniphofia modesta*, *Melanthus trimerianus*, and a collection of new seedling *Streptocarpus*. There were also examples of the Inca or yellow Peruvian Potato, which were grown at Kew from seeds presented by the Rev. W. H. Sewell, of Yaxley Vicarage, remarkable for their yellow flesh and for the length of their haulms, which was stated to be 6 feet.

Orchid Committee.

A first-class certificate went to—

DISA PREMIER, a new hybrid obtained by crossing the hybrid *D. Veitchi* with *D. tripetaloides*. It has the leaves and habit of *D. grandiflora*, and a spike 2 feet high bearing six open flowers besides buds; they are 1½ inches across and coloured bright rose red. From the Royal Gardens, Kew.

Sir Trevor Lawrence, Bart., exhibited a basketful of the very beautiful *Habenaria militaris*. There were about two dozen plants, and some of them bore twenty flowers in a head. We congratulate Mr. White on his success in the cultivation of this plant. It was awarded a silver Flora medal. The same exhibitor sent the Burford Lodge hybrid *Cypripedium* named *cooco-Lawre*, bearing a remarkable fasciated inflorescence, two flowers having united and formed a "twin" arrangement of sepals and petals with two distinct pouches. C. Lawrebel and *Dendrobium d'Albertisi* (shown as *D. Mirbellianum*) were also shown in flower. Mr. A. J. Hollington (gardener Mr. Ayling), sent a seedling *Cypripedium* in the way of C. Lawrenceanum, and named C. Richardsoni, and a hybrid *Cattleya* named Davisi, and said to be the result of crossing C. elegans and C. Gaskelliana, but it is so similar to C. Loddigesi in the form and colour of its flowers, that we suspect this species to be one of the parents rather than C. elegans. It is a beautiful plant whatever its parentage. Major-General Berkeley, of Southampton, sent *Odontoglossum Uro-Skinnersi* album, bearing a six-flowered scape and differing from the type in having small greenish sepals and petals and a pure white labellum. It received an award of merit. Mr. J. Forster Alcock, of Northchurch, Berkhamsted, sent a richly coloured variety of *Cattleya labiata*, *Cattleya bicolor* bearing a stout scape with five flowers, and *Odontoglossum grande*. Mr. S. G. Lutwyche sent a small group of popular Orchids, including *Lycaste Skinneri* alba, *Cypripedium Crossianum*, and *Zygopetalum Mackayi* with five flower-spikes.

The trade exhibits were unusually interesting. Messrs. J. Veitch and Sons sent *Cypripedium Arthurianum pulchellum*, which differs from the type (also exhibited) from the fact that one of its parents is the Chantini variety of C. insignis, from which it inherits the reddish spots and larger area of white on the dorsal sepal. Messrs. F. Sander and Co. were awarded a silver Banksian medal for a group of Orchids, which comprised some good and distinct varieties of *Cattleya labiata*, *Phalænopsis Lowi*, *Batemannia Burti*, *Pescatorea Klabochorum*, *Miltonia vexillaria*, *Oncidium incanum* and an unnamed species which we should call a form of *O. Cebolleta*. *Cypripedium Cecilia* (C. tonsum × C. Spicerianum) and C. Coppenianum, in the way of C. Schroederi, were also shown. A new hybrid *Cattleya* named *Kranzlini*, said to be raised from C. elegans prasiata and C. Wageri, looked closely related to C. Davisi shown by Mr. Hollington, but differed in the width of its segments and the markings on the labellum. Messrs. H. Low and Co. had a mixed group of Orchids and *Lilium nepalense*, for which a silver Banksian medal was awarded. *Cattleya Alexandra*, *Stanhopea Amesiana*, the sensitive-lipped *Masdevallia muscosa* some good plants of *Vanda Kimballiana*—a super Orchid when properly grown, producing spikes nearly 2 feet long; *Dendrobium Lowi* and *Cypri-*

pedium radiosum superbum were the most notable plants in this group. Messrs. B. S. Williams and Son were awarded a silver Banksian medal for a group which included *Dendrobium superbiens* and its variety *Goldiei*, *D. Phalenopsis* in variety, *Lycaste lanipes* with six large greenish white flowers, *Miltonia Roezli* alba and some of the rarer hybrid *Cypripediums*, viz., *C. Arthurianum*, *C. oenanthum superbum*, *C. Adonis*, *C. tonsum* and *C. Pitcherianum* *Wellsianum*, a variety with large dark-coloured flowers. A small plant, bearing two flowers, of the rare *Pachystoma Thomsonianum* was also included in this group.

Messrs. Lewis and Co., of Southgate, were awarded a botanical certificate for their little *Habenaria cinnabarina*, shown with four spikes of flowers.

The Horticulture Internationale, Brussels (M. Linden), sent a group of interesting Orchids, to which a silver Flora medal was awarded. It comprised some good varieties of *Cattleya labiata* (*Warocqueana*) to one of which, named *fascinator*, an award of merit was given. It was remarkable for its large flowers, their deep mauve colour and the deep maroon front lobe of the large crisped white marginal labellum. *Cattleya elegans* was also represented by several good-named varieties, and one of them, viz., *Luciani*, received an award of merit. It is not unlike a very good *C. bicolor*, but the labellum is coloured deep rich maroon. A four-flowered spike of *C. Alexandræ*, two varieties of *C. Aclandiae*, two of *C. Eldorado*, one of them named *Oweni* receiving an award of merit on account of the whiteness of its segments and the rich yellow and crimson of its labellum; a very fine variety of *C. gigas* named *giganteum*, and an exceptionally richly marked variety of *C. maxima* named *Leopoldi* were other notable *Cattleyas* shown. *Cochlidia vulcanica* var. *grandiflora* with large flowers on long scapes is the best form we have seen of this plant. There were also a good example of *Cypripedium Rothschildianum* bearing four flowers on one scape, and a hybrid named *Spicero-Lowianum*, which received an award of merit. It has a dorsal sepal somewhat like that of *C. Spicerianum*, and petals 3 inches long, slightly twisted and coloured green, with brown spots, the upper portion tinged with red; the labellum is dark green, with a few indistinct lines of brown. An exceptionally interesting Orchid in this group was *Warszewiczella Lindenii*, first exhibited at the Drill Hall by Messrs. Linden in June, 1892, when it was awarded a certificate. Its flowers are 3 inches across and of the purest snow-white, save only a few purple lines on the disc of the labellum. The lateral sepals are curved and horn-like, giving the flowers a very striking form.

Fruit Committee.

There was a very fine show of fruit, the centre of the hall being filled with large collections. Several certificates were given to both fruit and vegetables; the latter having been given previously at Chiswick were now confirmed. In this matter there is room for considerable improvement, as the committee at Chiswick are enabled to see the things when growing and often in a cooked state, and thus base their awards; whereas at Westminster only a single dish is seen, and in some cases the award of the Chiswick committee is overruled.

The following each received a first-class certificate:—

BEURRE FOUCQUERAY PEAR.—A first-class dessert fruit of large size and splendid flavour, having a firm, brisk flesh. It resembles somewhat in shape *Duchesse d'Angoulême* and *Marie Louise d'Uccle*. It has been previously described in THE GARDEN.

APPLE HAMBLING'S SEEDLING.—A new variety sent by Major Hambling, Dunstable. This is a very large dessert or cooking fruit, being somewhat like *Reinette du Canada* in appearance. The flesh is firm, sweet, and the flavour brisk. This will prove a valuable keeping variety, and one of the best of the numerous additions to this class of fruit.

POTATOES.—These had been before the committee at Chiswick recently. Jeannie Deans.—A white flesh pebble-shaped variety of first-rate quality when cooked. It is a heavy cropper and disease-proof. From Messrs. Carter and Co., Holborn. Early Regent.—A roundish tuber of good shape, yellow flesh and russet skin. It is a heavy cropper and of good quality, much after the old Regent, but earlier. One of the best known for quality, but not so liable to disease as the old form. From Messrs. Veitch, Chelsea. Nellie Langtry.—This is a pebble shaped variety of great merit, and excellent when cooked, being of high quality. It has rather deep eyes and rough skin. Shown by Mr. H. Fletcher, Anerley. Major Neve.—A long pebble-shaped tuber, yellow flesh, shallow eyes, of first-rate quality, a heavy cropper, disease-proof, and good flavour. From Mr. H. Pincham, Cranbrook, Kent. Radcliffe Kidney.—A medium-sized tuber, russet skin, and very few and shallow eyes. It is of excellent flavour and a heavy cropper. Shown by Mr. Selby. Success.—A kidney variety, with white flesh and very few eyes. It is of first-rate flavour when cooked and a heavy cropper. From Mr. Apin, Hasfield Court, Gloucester. Conference.—A round Potato of great merit, having deep pink eyes, and of first-rate quality. When cooked it is very dry and floury. This has been in commerce some time. It was tried at Chiswick and gave great satisfaction. From Mr. R. Dean, Ealing.

Awards of merit went to the following:—

ONION SOUTHPORT YELLOW GLOBE.—A variety with yellow skin and of flattish globe shape, very solid, and an excellent keeper. Southport Red Globe.—This has a bright red skin and of globular shape. It is of a fine strain and an even cropper. Cocoa-nut is a very large type, resembling a Cocoa-nut in shape, the skin pale straw colour, with white flesh. The above came from Mr. Deverill, Banbury. Prizetaker.—A very fine type, somewhat after the Southport. It is a globe-shaped bulb, flattened at base, very firm and first-rate quality. From Messrs. Henderson, New York. Globe Madeira.—A large red-skin Onion of the autumn section, and one of the best out of a large number at Chiswick. Italian Tripoli is another of the autumn section, and of great merit. The bulb is large and solid, not a good keeper, but excellent for early use. Both these were from Messrs. Vilmorin, of Paris.

A very fine collection of fruit was staged by Messrs. Veitch, Chelsea, comprising 180 dishes of Apples, twelve large flat baskets and twenty-five dishes of Pears. Among the Apples there were grand dishes of Cox's Orange, Scarlet Russet, Margil, American Mother, Court Pendu Plat, Rosemary Russet, Melon, Baxter's Pearmain, Northern Spy, Scarlet Nonpareil, St. Edmund's Pippin (a fine dish), Golden Pippin, Royal Russet, Ribston and Adams' Pearmain. The best cooking kinds were Lane's Prince Albert, Seaton House, Bismarck, Hawthornden, Mère de Méoage, Peasgood's Non-such (grand), Alfriston, The Queen, Lord Derby, Cellini, and Northern Greening. There were also fine fruits of Beurré Bachelier, Glou Morceau, the new Beurré Fonqueray, Beurré Clairgeau, Marie Louise, Grosse Calebasse, Ne Plus Meuris, and Winter Nelis Pears. A beautiful dish of Superlative Raspberry, Crabs, and other fruits. A gold medal awarded. Messrs. Bunyard and Co., Maidstone, also staged a grand collection, noteworthy for choice dessert varieties, no less than 120 distinct dessert kinds being staged, and forty dishes of Pears. The Apples were staged in a novel way. The fruits were classed, the Pearmain, Pippins, Nonpareils, Russet and American kinds being kept distinct. Such varieties as Oker, Jefferson, Lady Sudeley, Margil, those of the Calville type, Scarlet Nonpareil, Ashmead's Kernel, Mother and Melon Apple, Washington, Cellini, King of Pippins (very fine), Cox's Orange and Fearn's Pippin; these very fine. There was some fine dishes of Calebasse and other stewing Pears, Doyenné du Comice, Van Mons Leon Leclerc, Marie Louise, Marie Louise d'Uccle, and Princess. A gold medal was awarded. Mr. J. Watkins, Pomona Farm, Hereford, staged eighteen very fine dishes of Pears. There were

splendid fruits of Marie Louise d'Uccle, Beurré d'Aremberg, Beurré Baltet père, Napoleon, Leon Leclerc, Vicar of Winkfield, Beurré Diel and Doyenné du Comice; also over 100 dishes of Apples, a great number being cider fruits of local origin. The fruits were of very fine colour (silver medal). Mr. J. Crump, The Gardens, Madresfield Court, Malvern, staged a very fine collection of Pears, including large fruits of Forelle, Seckel, Josephine de Malines, Hacon's Incomparable, Easter Beurré, Marie Louise, Beurré Diel, Thompson's, Pitmaston Duchess, Knight's Monarch, Doyenné du Comice and Catillac (silver medal). Mr. J. Martin, The Gardens, Buchan Hill, Crawley, had very fine Pears and Apples (silver medal). Messrs. J. Laing and Sons, Forest Hill, had a large collection of Apples and Pears of good colour, comprising many of the best kinds in both classes (silver medal). Mr. Thomas, The Royal Gardens, Windsor, had a large collection of Pears well staged and consisting of familiar kinds—Prince of Wales, Vicar of Winkfield, Marie Louise, Beurré Rance, Triomphe de Jodoigne, Knight's Monarch and Ne Plus Meuris. Messrs. Cheal and Sons, Crawley, staged ten dishes of Pears of recent introduction. The fruits were large and very fine—Princess, Duc de Nemours, Duchesse de Morny, Bon Vicar, Belle William, Magnate, Beurré Lucas and a fine dish of their new Apple Atalanta in particular. Mr. C. C. Tudway, Wells, Somerset, had twelve enormous fruits of Doyenné du Comice Pear, weighing over 13 lbs. (bronze medal). Mr. Mancey, Upper Gattton, Merstham, staged four dishes of very large Pitmaston Duchess and Grosse Calebasse Pears (bronze medal). Messrs. Lane and Son, Berkhamsted, had a splendid lot of their Prince Albert Apple, which was of high colour and the fruits large (cultural commendation). Mr. Sidney Ford, Horsham, sent three dishes of Marie Louise Pears of large size (cultural commendation). Mr. Thomas, Royal Gardens, sent a superb fruit of Smooth Cayenne Pine weighing 9 lbs. and cut from a plant a little over twelve months old (cultural commendation). Mr. J. Masterson, Weston House Gardens, Shipston-on-Stour, sent some fine dishes of Uvedale's St. Germain and Pitmaston Duchess Pears.

Seedling Apples came from Mr. Watkins, of Hereford, also from Messrs. Laxton, Bedford, Mr. C. Tudway, Wells, Messrs. Saltmarsh, Chelmsford, and others. Mr. W. Taylor, Hampton, Middlesex, sent a variety of Grape grown in the open. This variety was also shown from Chiswick. Mr. Molyneux, Swanmore Park, Hants, sent Bramley's Seedling Apple. Mr. P. Veitch, Exeter, examples of Pears grafted on the Jargonelle, to show increase of size and vigour in fruit. From the society's gardens came six Grapes, both of British and American varieties, the last-named having a strong musk flavour. They are referred to in another note. Messrs. Cheal and Sons staged a fine dish of their new Crawley Prizetaker Potato, which has been recently certificated. Mr. Mortimer, Swiss Nursery, Farnham, had a new Tomato, somewhat after the Perfection type. Mr. May, Eden Park, Beckenham, a smooth, round Tomato. Both were too near Perfection to gain a distinct award. Mr. Miller, Ruxley Lodge, Esher, sent a very fine Gourd weighing 154 lbs., for which a cultural commendation was awarded.

Lecture on Pears.

This lecture was given by Mr. Crump, Madresfield Court Gardens, Malvern, before a larger company than usual. It was certainly an appropriate subject, as these fruits are very fine this year. The lecturer referred to his own experience, and chiefly dealt with his own district—the west of England. He said that whatever kind was grown, the soil, stocks and good cultivation had much influence on the flavour. In this country no other fruit is in better demand than the Pear. He placed it under three heads—that grown under glass or on walls and highly cultivated, that on pyramid or bushes in the open, and the district perry Pear, the latter being much grown in some districts. In

these days of agricultural depression fruit was receiving more attention, and he would call attention to the superiority of our best perry to that of cheap foreign wines, the British produce being more wholesome, and when made from the better quality fruit it was excellent. Pears were peculiar. For instance, some kinds in a favourable situation were not equal in flavour to those grown on bush or pyramid in the open, and some under different systems completely changed in character. Walls should not be utilised for early fruits, but for good late kinds to prolong the season. He recommended where practicable a house for late Pears, these to be grown as cordons. The structure need not be elaborate, but heated sufficiently to keep out frost and amply ventilated. Beurré Rance, Easter Beurré, Knight's Monarch, Bergamote d'Esperen, Beurré d'Aremberg and other good late kinds well repay for house room. The ripening of Pears is of great importance, as much depends upon their keeping qualities. To get quality fibrous roots are essential, and gritty Pears are often the result of faulty roots. Pears on the Quince have plenty of fibrous roots, and fruit on this stock is often best, because those on the Pear or free stock are often neglected, hence the advantage of the first named. When lifted or retarded there is no difficulty, but to allow a gross growth for years and then lift and destroy a large portion of the roots is mischievous. The operation should be done frequently, care taken to preserve the tender brittle roots. The free stock is necessary for standard trees and for horizontal or trained examples. Relaying is necessary if on the free stock, always keeping the roots near the surface. This latter work is best done in November. It is astonishing what liberties may be taken with Pear roots in heavy or good loam, as the root-growth soon recovers and is fibrous. Feeding is readily accomplished by top-mulching with farmyard manure. Liquid manure is of great benefit, and guano, fish and other artificial manures are helpful. Grow a small number of kinds, choosing those which suited the soil and locality. Single cordons should be planted 18 inches apart on the Quince stock, well preparing the border for the trees at the start by incorporating such materials as good turfy loam, old mortar rubble freely mixed with the soil, and some half-inch bones. Arrange the trees in the order that the fruits ripen. Such trees will only need moderate attention, a slight protection being given from frost when in bloom. A good return of fine fruit would be got in a short time. Mr. Crump advised growing this fruit in the form of cordons by the side of walks. They were profitable and pleasant to look upon. Some varieties do well in bush form; for instance, Beurré Hardy makes a grand bush.

Pruning was an important matter and not always understood. In pruning it is necessary to understand the growth of the tree, as this varies greatly, some making an erect growth, others spreading. A few kinds only bear at the points of the shoots, thus proving the necessity for careful pruning. To get good Pears fine trees are essential. The pruner must avoid crowding, and at the same time get sufficient to replace exhausted wood. Pruning may be done before the leaves fall, as it is then seen what space is required for further development. Pears grow well as orchard standards if the proper kinds are used. In his county there are a great many varieties, a large number local kinds, some of value for making perry, but even for that purpose it pays better to grow a good kind, as the farmer can easily obtain from 1s. to 1s. 6d. per gallon. The gathering of Pears is an important matter. They should never be wrenched off the trees, but allowed to part freely at the juncture of the stock. There was also a saving by making two or three gatherings from the same trees, as this gave a longer succession than when all were housed together. Storing is important, neither too damp nor too cold a place being chosen. If the latter, flavour is impaired. Fruits from a cold room are better flavoured by placing in a warm house a short time before using. Mr. Crump went into insect pests and the means to combat these pests.

Mr. Bunyard spoke at length as to varieties and treatment, and spoke highly of the value of Mr. Crump's paper.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE early autumn exhibition was quite a success. It opened on Wednesday and closed yesterday, the Royal Aquarium presenting quite a pleasing aspect with the various exhibits, comprising many kinds of flowers, of course principally Chrysanthemums, and much fruit.

The cut blooms of Chrysanthemums were, as a rule, of high merit, promising well for the season now close at hand. The chief class was for twenty-four blooms, and a very good collection came from Mr. H. Shoemith, gardener to Mr. W. Hodgson, Shirley Cottage, Croydon, who was first. As our readers may be interested in knowing the varieties shown thus early we may mention that they were Col. W. B. Smith, John Shrimpton, Avalanche, C. Shrimpton, Wm. Tricker, Sunflower, Mme. Marie Hoste, G. C. Schwabe, Puritan, Kentish Yellow, Mrs. Jamieson, M. Bernard, and Annie Hartzhorn. The second award went to Mr. Chas. Cox, gardener to Mr. J. Trotter, Brickenden Grange, Hertford, and amongst his finest flowers of special merit set were those of Etoile de Lyon, Puritan, Mrs. Chas. Cox (a sport from Mons. Bernard), Stanstead White (very large), Sarah Owen, and Avalanche. The first prize in the following class, which was for twelve distinct, went to Mr. W. Collins, The Gardens, Ponsbourne Park, Hertford. His finest were those of R. C. Kingston, Mme. Marie Hoste, G. C. Schwabe, Puritan, Sunflower, and Bouquet des Dames, whilst a distinctly creditable second was Mr. Thos. Wilkins, gardener to Lady Theodore Guest, Inwood House, near Blandford. We noticed especially the varieties Gloire de Rocher, Miss M. Scott, Eugénie Gait and Sunflower as worthy of note. The incurved section was an important feature of the show, and the flowers, as a rule, of very high finish. It appears to us, judging by this exhibition, that this will be a fine year for Chrysanthemums. The best twelve blooms were from that now well-known grower, Mr. E. Rowbottom, the Priory Gardens, Hornsey, N. It is impossible for want of space to mention many varieties, but especially fine were the blooms of Baron Hirsch, Mrs. Dixon, Refulgens, and M. Bahaunt. The second prize was won by Mr. J. Agate, Havant, Hants, who had excellent flowers of Vice-President, Jules Barigney, Lord Wolsely, Baron Hirsch, and M. Bahaunt. The best six incurved blooms were those from Mr. W. Collins, and comprised such well known kinds in fine character as Jeanne d'Arc, Violet Tomlin, Princess of Wales, Mons. Bahaunt, Miss Haggas, and Refulgens. Mr. Agate, second, showing amongst others Vice-President, Jules Barigney, and Mme. Darrier. The charming little pompons were of much interest, and a very beautiful collection of twelve bunches with foliage was shown by Mr. Norman Davis, Camberwell, who was first, the finest varieties being La Vierge, California, and Golden Shah. There was good competition in the class also for six bunches.

We are pleased to see that amateurs show well at the exhibitions of this society. The chief class was for twelve blooms of Japanese varieties, and the first prize went to Mr. Thos. Osman, gardener to Mr. C. T. Baker, Ottershaw Park, Chertsey, Surrey. The flowers were very fine, especially those of Puritan, Avalanche, La Triomphante, E. Molyneux, and Mons. Freeman. We should have liked to see some competition, and this remark applies also to the next class, which was for six blooms, the first prize going to Mr. D. R. Crane, Archway Road, Highgate, N., who had very beautiful flowers of leading kinds.

Another section was devoted to single-headed gardeners, and many varieties were exhibited well, although it was only in the more important divisions that the incurved were well represented. The winner of the first prize for twelve flowers of Japanese varieties was Mr. E. Ticker, gardener to

Mr. T. Watney, Reigate, Surrey, who had flowers of F. Bouchardat, Bouquet des Dames, E. Molyneux, Marie Hoste, W. H. Lincoln, W. G. Drover, Mons. Freeman, Avalanche, Sunflower, Florence Davis, and Hamlet. The same exhibitor also was first in the following class for six flowers of this section. The premier award in the class for twelve bunches of pompons was made in favour of Miss Debenham, St. Albans, and such kinds as Lyon, Piercy's Seedling, Alice Butcher, Mrs. Cullingford, and Blushing Bride were delightful.

Plants were noteworthy, at least in regard to the groups, in which class there was good competition. The first prize was won by Mr. Norman Davis with a very fine arrangement, who staged his plants well, and they represented a very interesting selection of varieties, whilst the second place was occupied by Mr. H. J. Jones, Kither Green Nursery, Lewisham. Several other classes also were devoted to plants.

A most interesting class was that for six blooms, distinct, of any new varieties sent out in 1892 and 1893. The prize was given by Mr. H. J. Jones, and won by Mr. J. Agate, who had very creditable blooms of Princess May, a beautiful pure white Japanese kind of bold size and great beauty; Miss Watson, Chas. Davis, Duchess of Devonshire, and Beauty of Exmouth. We have not mentioned names, as they have each been described in THE GARDEN, and further reference will be made to them.

Classes were also provided for table and other decorations. For a table of bouquets, &c., Mr. Chard, Stoke Newington, was first, he having a very varied assortment, many of much beauty, providing effective contrasts of colour; whilst in the class for three vases of flowers, the same exhibitor was first.

Special prizes were offered for vegetables by Messrs. Sutton and Sons, Reading, but we can only briefly refer to them. They comprised Beet and numerous other kinds, and the chief prize-winners were Mr. C. J. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher; Mr. Thos. Wilkins, and Mr. C. Osman, South Metropolitan District Schools, Sutton, Surrey.

Miscellaneous contributions as usual formed a very important feature. A splendid exhibit came from Messrs. Cannell and Sons, Swanley. Their vegetables were remarkably fine, and we wish more space was at command to deal with them. Potatoes grown under field cultivation deserve high praise and comprised a large number of varieties. Messrs. J. Laing and Sons, Forest Hill, had a large collection of Apples, and it is noticeable in the various displays of fruit this year that the colour is very brilliant—the result of weeks of sunshine. The same firm also had a splendid bank of tuberous Begonias, arranged with rare taste and comprising both double and single varieties. Mr. T. Ware, Hale Farm Nurseries, Tottenham, had an interesting collection of cut hardy flowers; and Mr. W. J. Godfrey, The Nurseries, Exmouth, had blooms of Beauty of Exmouth Chrysanthemum. Messrs. Perkins and Sons, Coventry, showed Dahlias, also Mr. Mortimer, Swiss Nursery, Farnham. Messrs. Pitcher and Manda, Swanley, had new Chrysanthemums. Messrs. J. Cheal and Sons, Crawley, had Dahlias and fruit very fine, and Mr. J. Watkins, Hereford, fruit. There were many other minor exhibits.

On Monday evening last the general committee of this society held a meeting at Anderton's Hotel, Mr. R. Ballantine occupying the chair. After the usual business preliminaries had been disposed of a letter was read from the son of the late Mr. Edward Sanderson, for many years president, offering his father's showapliances for sale, which the committee decided to buy for the use of the society. Mr. R. Dean stated that the prize money awarded at the September show amounted to £14 17s. 6d., exclusive of special prizes and medals. He then presented the financial statement, showing receipts to an amount exceeding £200, which was far in excess of the amount received up to this time last year. Mr. Cox, J.P., of the Yeovil Society, who was present, gave a short outline of the pro-

spects of the Yeovil show, and attributed much of its success to the fact that it was affiliated with the N.C.S. Eighteen new members were elected, and the secretary reported that the number of new names added to the list of membership since the beginning of the year reached a total of 108.

Mr. C. Pearson, of Chilwell, was then called upon to read his promised paper upon the improvement of Chrysanthemum shows, in which he laid stress on certain defects and indicated improvements that might be made. His paper, which was of considerable interest, although not embodying much that has hitherto escaped the committee's attention, gave rise to an interesting and prolonged discussion, in which a large number of speakers took part. Many objections to the present mode of staging groups of Chrysanthemums were stated besides the desirability of exhibiting cut blooms in some other style than that now adopted.

The paper by Mr. Pearson and the discussion will appear in the new schedule.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE eighth annual meeting of this deserving institution was held in the Cannon Street Hotel on the evening of Tuesday, the 10th inst. Mr. P. C. M. Veitch, of Exeter, who presided, was supported by Mr. H. J. Veitch, of Chelsea, Mr. Clarence Smith, M.P. for East Hull, Mr. Sherwood, of Hurst and Son, and Mr. Moss, of Wrench and Co., London Bridge. The display of fruit and flowers on the tables, thanks to the kindness of gardeners and nurserymen throughout the country, was the best we have seen at this annual reunion, at which quite 150 were present. The chairman, in the course of his remarks, said that there was a sturdy independence about this society, as the members individually put away their money to help themselves, and he believed that this was the right system of old-age pensions. He hoped that all the young gardeners in the country would see their way to at once become members. Another point he laid great stress on was the management fund. The working of this society, he found, was carried on at the lowest figure possible, there being only one paid member—the secretary. The convalescent fund, started last year by Mr. Sherwood, was not quite so satisfactory as it might be and should appeal to every member, as he considered that in a great measure it lessened the amount of sick pay that had to be given, and he hoped that honorary members would aid this fund. Mr. Sherwood, who replied to the toast of the "United Horticultural Benefit and Provident Society," which had been proposed by the chairman, considered that this society is a very important link between the Gardeners' Royal Benevolent and the Gardeners' Orphan Fund, as it taught thrift in that by saving, the members assist each other. He particularly alluded to the convalescent fund, and said that as this was the jubilee year of his firm, he, in order to mark this, would be pleased to add £50 to the fund. He hoped, too, that the fact of the chairman coming from Exeter would tend to bring forward this society in that district, and that many country members would join and thus strengthen it. Mr. Hudson, the treasurer, in proposing the toast of the "Honorary and Life Members" said that a lady had just become an honorary member, and he hoped that many more would be induced to do likewise. In order to stimulate the young men to join he hoped that the list of members would be increased by the addition of head gardeners. He also called attention to the low death-rate, many of the members who first joined it over a quarter of a century ago being still on the books. As regards its stability, he was glad to say that there was now a sum of £8200 invested. He coupled with the toast the names of Mr. Marshall and Mr. Clarence Smith, M.P. Mr. Marshall made a strong appeal for the management fund, and Mr. Smith said that no one need fear joining the society, as the moneys were all securely invested and yielding a good interest.

He was pleased to become an honorary member, and hoped next year he would be able to be present as a member and not as a visitor. Mr. H. J. Veitch in proposing the "Officers of the Society" appealed for assistance to the management and convalescent funds, and said that it would give him great pleasure to contribute £5 5s. to each. With this toast he coupled the names of Mr. Joseph Wheeler, one of the trustees, and Mr. Collins, the secretary. Mr. Moss in a very felicitous speech proposed the health of the chairman. Messrs. Williams and Son, of Holloway, and Messrs. Laing and Sons, of Forest Hill, sent plants for the decoration of the room. The music, which was under the direction of Mr. Schartau, gave the greatest satisfaction to all present.

Gardening and Forestry Exhibition.—On Monday evening Mr. Harry Turner, of Slough, was entertained at dinner by a number of friends at the Gardening and Forestry Exhibition in recognition of his services as president of the horticultural section of the exhibition. Mr. Milner, F.L.S., C.E., presided, and warmly eulogised Mr. Turner's services in organising the numerous floral exhibitions that have been held during the season and in the decoration of the gardens. A handsome epergne was presented to Mr. Turner as a memento of the occasion.

The weather in West Herts.—The temperatures during the past week have been as a rule rather warm for the time of year. There was, however, one rather cold night (Sunday), when the exposed thermometer showed 1° of frost. At the present time the soil at 2 feet deep is 3° warmer, and at 1 foot deep as much as 6° warmer than at the same period last year. The rainfall has been remarkably heavy, amounting since the beginning of the month to over 3 inches, or very nearly the average quantity for the whole month, which by the way is the wettest of the year. Horticulturists will perhaps more easily understand the exceptional character of the recent heavy rainfall when I explain that 3 inches of rain is equivalent to pouring 14 gallons of water on every square yard of surface. A short drenching shower occurred early on Saturday morning, and another shortly before midnight on the same day. During the six hours ending 1 a.m. on Tuesday over 1½ inches of rain fell, making this the heaviest fall recorded here in any one day since July 17, 1890. For twenty minutes during the storm rain was falling at the mean rate of three-quarters of an inch an hour. Until Friday in last week no measurable quantity of rain water had come through the 2½ feet of soil in the light soil percolation gauge for six weeks. Since then, however, the total measurement has amounted to 1½ inches. So that the memorable drought of 1893, which for all practical purposes may be said to have lasted here seven months, is now at an end. Moreover, as the evaporation from the surface of the soil is comparatively slight after the middle of October, a large proportion of the rain which falls after that time is certain to find its way permanently into the ground.—E. M., *Berkhamsted*.

FRUITERERS' COMPANY AT THE MANSION HOUSE.

THE Lord Mayor and Lady Mayoress entertained the Fruiterers' Company to dinner at the Mansion House on Wednesday evening. The Dean of Rochester (Dr. Hole) in proposing the health of the Lord Mayor and Lady Mayoress said that so few words were necessary for it, that he would interpolate a few remarks on fruit. He was proud of being chaplain to the company, because, though not rich, it was very aristocratic, as would be found if all the names of the noblemen and gentlemen who sold fruit were standing on the list. A chief delight of this *annus mirabilis* had been the abundance and excellence of fruit. He had not so largely partaken of fruit since those days of childhood, when their zeal was not tempered by discretion, and in which the gods were just and of their pleasant vices made whips to scourge them. And Nemesis appeared by the side of the little

crib, with a cup in one hand, a dark phial in the other, and the aspect of Eleanor offering to Rosamund the choice between poison and a dagger. This year there had been no risk; fruit had been perfect. They did not eat half enough fruit, the most wholesome of luxuries. At the great oyster feast at Colchester it was said that no nation could be really great with oysters at 3d. apiece. Without holding with that extravagant language he ventured to think that if England were deprived of her Apple tart, for the first time he would contemplate emigration. From long experience he did not hesitate to say that owner, occupier, and labourer were most profoundly ignorant of fruit. Indeed, he thought we had rather retrograded. He missed the Ribston Pippins of his youth. The gardeners told him the Peaches and Nectarines could not be grown upon the wall. It was their own idleness; they would not clean the trees. Leaving out Hereford and Devon, the orchards of England were a disgrace. In his early days he knew he could always get into an orchard through the broken fences, and there were other evidences of neglect. A good many years ago he planted six Apple trees, and they were liberally sustained and tended. In one year they brought in £40. They had a great future for their fruit, properly tended. The farmer stood still while the manufacturer went on. It would pay the landlord to see to it. Every landlord ought to have an orchard on each farm. Personally he believed in beer, but he did not see why we should be deprived of every fluid but beer. Cider and perry were good drinks—better than much of the champagne, which began to make a disturbance when it got 3 inches down the chest.

NOTES FROM CLITHEROE.

REFERRING to a kind notice of my garden here (p. 279) from the pen of Mr. Wood, Kirkstall, I may say that I have written to him to draw his attention to a slip of the pen which he has made, in attributing to our craven climate the possibility of growing *Trichomanes radicans* (the Killarney Fern) in the open air here. Our West Yorkshire climate, although much condemned by you southerners, is equal to growing fronds of *Polystichum acrostichoides* (which I had under the name of *P. mimum*) over a yard long, and quite persistent in verdure until the new fronds appear in spring, and even later, and fronds of *Adiantum pedatum* over 18 inches high. Still, I dare not claim *Trichomanes* as one of our *habitais* here. Our woods and streams are very favourable for birds of all kinds, and our list of native species is a large one. They are encouraged, and it is a great pleasure to all our family to see them quite at home amongst us. No doubt we pay a penalty in the matter of Currants, outdoor Cherries, &c., but this we willingly concede. Still, it is somewhat annoying that we can never enjoy the sight of the brilliant coral-red berries of *Sambucus racemosa*, of which we have many, raised from Tyrolese and Belgian seeds. These are all devoured by the birds before they attain redness. The Mountain Ash berries are cleared off in like manner, but I wish to draw attention to the fact that the brilliantly red berries of *Cotoneaster frigida* are not, up to the present time, at all touched by the birds. This shrub has fruited profusely this year with us. I am thereby reminded of what I saw last April at Col. Tremayne's fine garden at Carlew, Cornwall, where a large tree—with me they are shrubs—was, whilst leafless, covered with its richly coloured berries, a sight which I have never seen elsewhere.

Holden Clough, Clitheroe. R. MILNE-REDHEAD.

WE regret to hear of the death of Mr. G. Brownett, gardener to Mr. A. Howell, Ribblesport. He was a good gardener.

Names of plants.—*Galathea*.—Scarlet-fruited Thorn (*Cratægus coccineus*).—*T. A. B.*—1, *Æschynanthus Lobbianus*; 2, *Adiantum centum*; 3 and 4, send better fronds; 5, *Sedum Sieboldi variegatum*; 6, *Selaginella Kraussiana*.—*J. M. W.*—Variety of Scarlet Thorn (*Cratægus coccineus*).

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"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

ROSE GARDEN.

PLANTED OUT IN POT ROSES.

THE friendly criticism of "D. T. F." in THE GARDEN (p. 309) suggests the following few notes. He states that he does not remember a single planted-out Rose house to have turned out quite satisfactory. To a great extent this has been my own experience, the chief drawback being that some few plants will grow away much more freely than others of the same variety. Many houses that I have seen have also been planted without sufficient thought, and varieties of distinctly different habits of growth have been placed together. A house of planted-out Roses, consisting of several varieties, needs considerable experience and care in planting. "D. T. F." speaks of such diseases as red spider, mildew, &c., being easier to battle against in the case of pot plants than where the Roses are turned out into borders. To a certain extent this is true, but only so far as the more convenient removal of affected subjects is concerned. On page 210 my subject was strictly confined to pot Roses. I have a large house built expressly for Roses. This is divided into two sections, and the plan of combining both pot and border Roses is successful. In the larger section the plants are turned out, but the lower part consists of two side borders and a slightly raised wooden bench in the centre. The two outside borders of the first section have been planted with climbers and ordinary growers. The wall ranges from 2½ feet to 4 feet in height, and I have planted it in the style frequently recommended by me in these pages, i.e., climbers and other growers alternately. Reine Marie Henriette, W. A. Richardson, Mme. Berard, Bouquet d'Or, and Maréchal Niel are planted the most freely, but the following newer kinds have recently been added, viz.: l'Idéal, Climbing Niphetos, Climbing Perle des Jardins, and Kaiserin Friedrich. However well the climbers may be grown they will sometimes develop canker, and in the blanks thus caused I have planted the newer varieties. As yet all are satisfactory. Alternately between these are Catherine Mermet, Edith Gifford, Anna Ollivier, and others. The borders are about 4 feet wide, but Roses are only turned out against the walls. The climbers grow away freely and are trained up the roof, almost the whole of the wall being devoted to the shorter growers. Upon the cross-ties of the house other climbers are planted, and as these are some 12 feet apart and 6 feet to 8 feet above the centre border, the house is by no means dark when the whole of the climbers are in full leaf. In the centre border I have planted a couple of rows of medium growers, these being 4 feet or 5 feet apart each way. The plants are doing well, being quite close enough when in full growth. As the centre border has a margin of 2 feet all round it, and the same space is unoccupied in the case of the side borders, with a walk of 3 feet between, it will be seen that there is a very useful space left for pot Roses. However, I may here say that directly the two rows of centre plants get too coarse or unprofitable, I

shall remove them and use the whole space for pot plants, with the exception of the few climbers upon the cross-ties.

The lower section is used entirely for pot plants, and for quite six months of the year can be clear of Roses if desired. I have used it for Tomatoes and many purposes, yet it has been full of Roses from December until June. The upper half is thus treated. The pot Roses, both climbers and others, have been housed as closely as possible upon the borders and among the turned-out plants. Of course, both have been trimmed out where necessary. This house is, therefore, quite full at present, but will not become too crowded until the days turn. By this time the second section will be cleared out and many of the plants removed to it. Much space and also expense in fumigating, syringing, &c., are thus saved. The pot plants consist of the same sorts of climbers and others as are turned out, and these will be arranged in much the same way as in the upper house.

"D. T. F." advises that no pot Roses be shifted previous to being forced. "Let them bloom first and repot in mid-growth" is what he recommends. I take quite the contrary view, and for these reasons: 1. A plant that has become so root-bound as described must necessarily have exhausted the soil to a great extent, and hence be largely dependent upon artificial supplies to keep up its growth and bloom the following season. 2. Plants in smaller pots are easier to handle. 3. The more naturally we feed the roots and the freer run they have, the better bloom and growth we shall secure, always provided the wood is well ripened. Supposing "D. T. F.'s" theory to be the best, instead of planting Roses in trenched or deeply moved soil, why should we not rather endeavour to confine the roots? For pot Roses, the younger the plants are—within reason—the better; and I seldom grow a plant in a pot more than three seasons. After this it is turned out into the open borders. Old plants with an annual, or even an occasional repotting will soon get too heavy and coarse for the average grower.

The climbers were grafted rather less than twelve months ago, and are now placed into 8-inch and 10-inch pots, having previously been in those of a 6-inch size. The Climbing Perle des Jardins have from two to three shoots some 8 feet and 12 feet long, and are splendidly ripened. Other kinds have only one long shoot in the majority of cases, but these are rather longer. My best dwarf pot Roses consist of Teas grafted one year earlier, or of maiden Hybrid Perpetuals and Teas potted up from the open ground last winter. The reason for growing some climbers in pots and some in the border is to get both houses thoroughly full of flowering Roses without occupying the whole of them for twelve months. The planted-out climbers yield larger and better flowers than those obtainable from the same varieties in pots.

By the time the two chief crops of flowers are obtained there will not be the same demand for Roses under glass, warm walls in the open beginning to afford a good supply. The pot plants in both houses may be looked over, and those which are the least tender, and without plenty of young growth for a third crop, may be placed on a sheltered border out of doors, and the upper house filled with the remainder. Later on these, too, may be thinned out, and thus allow of more room to those remaining, and also those which are planted out. The latter need more air and light than the pot Roses, as they invariably grow a little more freely. In the meantime the other

house may be used for Tomatoes, &c., until the following season and the first thinning out of newly-started plants is with us again.

I am unable to keep the lower section much warmer than the other; consequently the bulk of my pot plants comes into bloom a month earlier than those in the upper section. This is a great advantage in two ways: a better succession of flowers, and being able to use the lower half sooner and to greater advantage than could otherwise be the case. Wherever a house is to be devoted to Roses alone plant out a few climbers, as one thus secures a quantity of well-ripened wood that is certain to flower early and freely. "D. T. F." says that red rust does not affect Roses under glass. I have found it do so in very dry and chilly weather. The varieties it most frequently attacks under glass, however, are generally removed to the open before they could possibly be attacked; in fact very few of these varieties are grown under glass at all. Gloire de Dijon is a great favourite, as it is with "D. T. F.," but much as I like it, I cannot give it room under glass in preference to Bouquet d'Or or Kaiserin Friedrich, two Roses equally as free blooming and with flowers of much better colour under this treatment.

RIDGEWOOD.

FOUR GOOD NEW HYBRID TEAS.

MESSRS. PERNET AND DUCHER have considerably added to the attractions of this new class of Roses. I write new class because up to this spring it was not officially recognised as such, although many varieties were spoken of as Hybrid Teas. The four varieties I would like to say a few words in favour of are Caroline Testout and Gustave Regis, both sent out in 1890, and La Fraicheur and Mme. Pernet-Ducher, sent out in 1891. We can form a fairly accurate opinion of these new Roses, because they have been good during the past two summers.

GUSTAVE REGIS is a beautiful nankeen-yellow getting paler as it expands. It is very free in growth and bloom, and forms a grand coat flower in the bud.

LA FRAICHEUR also has very long and pointed buds, which open into grand blooms. The colour is carmine-rose, taking on lighter shades with age. More than one has already written highly in favour of it.

MME. PERNET-DUCHER is not sufficiently large for exhibition, but, like the others, forms a grand coat flower, and is also a good Rose for garden decoration. It is a deep canary-yellow, with perhaps a shade deeper colour in the centre, especially when it first opens.

CAROLINE TESTOUT.—Young as this Rose is, it is already acknowledged as one of the very best, and is quite likely to be soon declared as the best of all of the Hybrid Teas, being a good grower free bloomer, quite distinct, and equally good throughout the whole summer and autumn. Quite recently I have gathered some splendid blooms. I like it better than La France; the colour and shape of the flowers are much the same, but deeper.

R.

Rose Crimson Rambler.—This Rose, which has attracted more attention than any other during the present year, is the subject of an article in a contemporary in which the following occurs: "Certificated by the Royal Horticultural Society about four years ago under the name of The Engineer, when shown by a nurseryman in Lincolnshire, its value seems to have escaped the notice of some of our Rose nurserymen until it came into the possession of Mr. C. Turner, who will distribute it in the coming autumn." Would any reader of THE GARDEN kindly say if such is the earlier history of the Rose in question, and, if possible, its origin? Concerning this last part of the question, we have been told that it is a direct importation

from Japan. Referring to past records, I see that the Rose Engineer received an award of merit from the Royal Horticultural Society, July 8, 1890.—H. P.

Rose Mrs. Paul.—The past summer has not suited this Rose so well as did 1892. I am alluding to its blooming qualities. As regards growth, that seems particularly clean and vigorous. This is certainly one of the very best Bourbons, but I doubt if it ever will become so popular and generally useful as *Souvenir de la Malmaison*. Mrs. Paul is one of the most distinct Roses grown, having a beautiful soft blush-white shade with rosy peach flushes throughout. It is peculiar in shape, the petals being reflexed in quite a distinct way from those of any other variety. It will doubtless be grand upon pegged down shoots during a favourable season, but the old *Malmaison*, sent out fifty years earlier, is always good late in the autumn let the season be what it may, and the present is no exception.—R.

Rose Ruby Gold.—I have grown this ever since its introduction, and the flowers have been the exact counterpart of those of *Jean Ducher*. In growth and foliage it also resembles *Jean Ducher*. From the first I had very little doubt about its being synonymous with this older variety, but now I am quite positive that the plants I purchased for Ruby Gold are neither more nor less than *Jean Ducher*. I have been in communication with several upon the subject, and all confirm my opinion, and more than one firm has ceased to catalogue it. It was sent out by an American firm as being the result of grafting Catherine Mermet upon *Maréchal Niel*, and was much praised.—R.

ROSE NOTES FROM ESSEX.

AMONGST the more successful exhibitors of Roses this year are Messrs. D. Prior and Sons, whose nursery is within a few minutes' walk of Colchester station. Although many things are grown besides Roses, these are the leading feature, and cover much space on an exposed hilly spot, where the soil is of a good deep loam. The majority of the plants are upon the cutting Brier stock, and throughout they are in the best of health, being lately in full bloom, although early in the season they were in perfection.

For many years this firm has been established here, and we are pleased to see such a healthy collection of the leading types, both of Hybrid Perpetual and Tea-scented. Even now we see much written about the tenderness of Tea Roses, but on this exposed position they thrive remarkably well. The plants are cut hard back, and no protection is afforded except in very severe weather, when a little Bracken is placed amongst them. All classes are grown, standards, dwarfs and pot plants, whilst the stocks also comprise the usual kinds, but the cutting Brier predominates. We do not want to make merely a list of varieties, but may point out a few of those that have been exceptionally fine this year. It is important to know which succeed best in such a year as the present, one of the most trying on record.

Hybrid Perpetuals are largely grown in this nursery, and, as we had occasion to previously remark, the dark-coloured varieties have proved highly satisfactory. Louis van Houtte is certainly one of the best of this class, the flowers exceptionally fragrant and brilliant red, suffused with a crimson tone. Fragrance is not characteristic of many of the newer Roses, and this is a failing that must not be overlooked. We consider a scentless Rose of comparatively little value, however beautiful its form or colour. Beauty of Waltham is a fine kind, and well represented in this nursery. The flowers are bright red, of splendid shape, and sweetly scented. Gustave Piganeau is considered one of the leading kinds amongst Hybrid Perpetuals, and this opinion is held by all the best Rose growers, although it is chiefly as a show Rose that it commands attention. A variety not yet very common is T. W. Girdlestone, a good exhibition kind, the flowers highly fragrant and of a vermillion shade of colour,

deepening to crimson at the base of the petals; and Silver Queen is also thought much of, the flowers of excellent cupped form and silvery blush in colour, deepening more to a rose tint in the centre. Prince Arthur, Victor Hugo and Prince Camille de Rohan amongst the dark coloured Roses have appeared to distinct advantage. We think the last-mentioned kind is one of the most fragrant Roses in cultivation, and is of superb colour, velvety crimson, the form of the blooms very full. We singled these out of the representative collection grown on the hilly slopes as of especial beauty in this year of uninterrupted sunshine.

In the eastern counties, amongst the Tea Roses *Jean Ducher* seems to have succeeded better than other varieties, as from notes we have made it has been good in almost every nursery and garden where Roses are grown. With Messrs. Prior exceptionally fine also have been the leading varieties, such as Anna Ollivier, the beautiful Ernest Metz, one of the best of all for the garden or exhibition; Edith Gifford, Mme. Hoste, Mme. Lambard, Marie van Houtte, Princess of Wales, The Bride, and Viscountess Folkestone, which properly belongs to the much confused Hybrid Tea class.

Much attention is given to the garden Roses, which will be largely grown in the future, as a love is springing up for these charming types. Many are unfortunately very difficult to get, but we hope that they will soon be in the reach of all who require the fine old favourites that made gardens gay in years gone by. Amongst the Noisettes, Caroline Kuster has been remarkably good, and it is a lovely Rose when in full beauty, the flowers large, of globular form, and pale yellow, whilst they are produced very freely. The Polyantha class is of great importance for the garden, and the leading kinds are grown in this nursery. Scarcely sufficient use is made of the many beautiful varieties in cultivation, as they are for the most part of vigorous habit and exceptionally free, making a gay show during the summer and autumn. We recently saw a large bed of them which was as bright as in midsummer. One of the best kinds is Anna Maria de Montravail, producing clusters of good double, sweetly scented white flowers, each like a little rosette. Gloire des Polyanthes is a charming kind, the flowers rich rose, shading off to white at the base of the petals, and another gem is Mignonette, which bears a profusion of neatly shaped flowers of a rosy colour. A good mass of this is full of charm, and to this selection may be added *Perle d'Or*, the flowers of a nankeen-yellow, deepening to orange in the centre.

The China Roses are also, we are pleased to see, becoming popular, and when planted in bold groups they are exceedingly bright, forming neat dwarf plants smothered with bloom throughout the summer, continuing far into the autumn when the weather is favourable. Such a variety as *Fabvier* is most effective in the garden. The flowers are somewhat thin, but the colour is brilliant scarlet, a peculiarly bright and showy shade, and the plant is dwarf. Mme. Laurette Messimy is a beautiful kind, but not so well known as some of the older varieties. It undoubtedly will get popular by reason of the bright rosy coloured flowers. The common China Rose is delightful in the garden, and the plant, like the majority of its class, is exceptionally free. Although we do not say a word against exhibition Roses, it is satisfactory to know that the true garden Roses are becoming more grown each year, and deserve to be planted freely in bold masses.

Those who are ardent exhibitors should read our reports of the earlier shows to know the varieties that have proved most successful this year in particular with this firm, although we have in these brief notes pointed out a few that deserve special attention.

Notes on Roses.—September and October have been splendid months for Roses. During the former I had a good show of bloom, and the splendid rains of October have made it easy and safe to lift such of the Hybrid Perpetuals as were ripe. I have been busy potting up the latter, and also those of the dwarf Teas that had become

well matured owing to the dry autumn. If mild weather should last for any length of time, the recent rains will have a tendency to cause late and somewhat injurious growth upon those plants which are already matured, but the young wood upon Teas and Noisettes will continue to produce a few very good blooms. Plants look remarkably well; they are sufficiently strong without being in any way coarse or sappy, and are likely to pass through the winter well. Those upon walls are ripening satisfactorily, and do not carry so much young growth at the end of strong shoots as is usual during a mild autumn. Climbers in particular are very healthy. Early planting is a great advantage. The sooner after October that one can secure a stock of hedge Briers and get them planted the better. In planting these for stocks the majority of amateurs do not trim off the coarse, knobby roots freely enough. The medium-sized roots should not be removed. When hard trimmed, the root is more healthy and not so apt to split off when lifting the future Rose tree for transplanting to its permanent quarters. These older knobs of sucker-like growth also produce a quantity of suckers year after year, while much of the wood dies as time goes on. If the hedge Briers are collected and planted early, they root more freely, often becoming fairly well rooted before hard weather sets in. This is also the case with other stocks as well as with early-planted Roses. Cuttings of Manetti, De la Grefferaie, Brier, Polyantha, &c., should all be made as soon as possible. Strong growing Roses of the Duke of Edinburgh and Ulrich Brunner class will root almost as freely as the various Rose stocks, and where own-root Roses are in request it is well to propagate a few in this way. The Chinas and Mosses are easily increased from cuttings, wood that is about three parts ripe rooting freely.—R.

Rose Pride of Reigate.—Of all striped Roses this seems to be the best, but, like the majority, it is not constant. One of my plants produced a few true flowers early this year, and a short time afterwards the same plant was carrying a fair example of *Comtesse d'Oxford*. This autumn I had a bloom upon it that was a counterpart of *Pride of Waltham* at the same time that it was carrying striped blossoms. I am not writing of more than one plant, as I have a bed consisting of a specimen of each variety, so that I am quite certain it is the same root which has varied so much. I believe that both *Pride of Reigate* and *Pride of Waltham* sported from *Comtesse d'Oxford*, and it is interesting to note that my plant evidently partakes of all three. Most of the striped Roses are very variable, and I shall watch closely for similar freaks in the case of *Merrie England* and *Mrs. Harkness*, both sports from *Heinrich Schultheis*.—R.

CHRYSANTHEMUMS.

NOTES ON NEW CHRYSANTHEMUMS.

THERE are several novelties in bloom here at this early date, which will, if I mistake not, take a high position in collections for some time to come. I have heard it stated by an eminent Chrysanthemum expert that any noted variety of the Japanese type remains popular only four or five years, and after that time is either superseded or, through the high cultivation which obtains at the present day, degenerates. To support the latter view Mme. C. Audiguier may be cited. This variety exhibited in such splendid form a few years back, although still grown by many, is seldom now seen in anything like perfection. On the other hand, E. Molyneux appears to have come to stay longer indeed than the term mentioned, but whether this kind, *Viviani Morel*, *Sunflower*, and the like will ever be beaten in their respective colours remains to be seen. The first four to be named were raised by M. Calvat,

Grenoble, France, a name of recent prominence in connection with the Chrysanthomum, but, judged by the standard of his first efforts, we may expect from him varieties of surpassing excellence.

MME. THERESE REY is, I think, the handsomest creamy white variety yet seen. It is of graceful form and large size, the florets remarkably rich. It has in addition a remarkably dwarf growth and good constitution.

PRESIDENT BOREL is another loose-flowering Japanese kind of a fine type. The colour is a rich shade of purple-rose and the reverse of the florets yellow. This combination gives a capital contrast and is very showy. The plant grows about 3 feet high.

MME. EDOUARD REY has a pleasing blush-pink tint and is of large dimensions. At first it opens with the tips of the florets turned up, but when fully developed they recurve and give a bloom of not too formal symmetry. It is a strong grower of medium height.

VICE-PRESIDENT CALVAT belongs to the large, wide-petalled class like Mrs. Wheeler, and is the stoutest in wood and leaf I have yet seen. The flowers are not of remarkable diameter, but of great depth. Its colour is a chestnut shade of crimson with old gold reverse. As an exhibition bloom it will be esteemed, but for other purposes it is too stiff and heavy.

KENTISH YELLOW will add to the fame of Messrs. Cannell, who have either raised or introduced such sterling kinds as E. Molyneux, Avalanche, Sunflower, Col. W. B. Smith. The new one may be classed with them, as it is the finest light yellow Japanese variety in cultivation. The bloom is massive and graceful, and colour remarkably clear, while the plant is short in growth. My plants of this are not a yard high.

IDA PRASS is an incurved Japanese that was sent from America a couple of seasons ago, but it does not appear to be much known. The flowers are of large size, flesh-pink in colour. It is a capital grower and should become a popular sort with exhibitors.

MME. MARIE CONSTANS.—This variety was noted last year as of much promise. Another season has confirmed my view of it as an early Chrysanthemum for any purpose. It is a capital grower. The bloom is composed of a mass of long, thin, and narrow florets of lovely hanging form. The colour is creamy white.

BARON HIRSCH.—In this we have the most notable incurved variety of recent years. It resembles in character of growth and flower, as well as earliness, the variety Refulgens. It is, however, freer and the bloom larger and more double. The colour is a bright dark buff. An English seedling.

VICE-PRESIDENT JULES BARIGNEY.—This is a seedling from France, and likely to be useful to those who exhibit incurved Chrysanthemums. Its fault, as a useful kind for other purposes, is a rather tall habit, my plant being 6 feet high. The flower is of large size, somewhat after the variety Lord Wolseley in build and petal. Light buff in colour.

M. MARTIGNAC is a rich yellow incurved of fair size. The florets are well formed. It is of medium habit and a most useful addition. H. S.

Chrysanthemum Charles Davis.—When it was known in the spring of this year that Mr. Norman Davis, of Camberwell, had succeeded in fixing a yellow sport of Vivand Morel, it created much interest. I lately had an opportunity of seeing this novelty in its various stages of development in Mr. Agate's Chrysanthemum nursery at Havant, and I must say that I admire it very much. In habit of growth Charles Davis is the counterpart of its parent, the flowers being produced on plants barely 3 feet high. The blooms vary much in colour according to the "taking" of the buds. The blooms opening from early formed buds are pale primrose, decidedly pleasing. The second buds develop blooms of the colour most

required in the Japanese section. The centre opens deep yellow, which passes to a lighter tint towards the outside of the blooms with age. The petals have here and there a tinge of colour in them. The later blooms correspond with the published description—canary-yellow, beautifully tinted with rosy bronze. They measure fully 8 inches in diameter, and promise to be of proportionate depth and solidity.—E. MOLYNEUX.

Chrysanthemum William Tucker.—This Japanese variety is of American origin. Owing to its carliness it is seldom seen upon the exhibition table, but this year it promises to take a high position. The plants were much later in making the customary natural breaks, so that the formation of the buds was prolonged sufficiently to ensure the blooms expanding later than usual. As a specimen plant this promises to be an acquisition. In colour W. Tucker is described as being delicate rose.

Chrysanthemum Miss Watson.—For grouping or decoration this reflexed Japanese is worth a note. As a front row bloom in a large collection in a cut state it is not to be despised, the colour being charming, one of those warm shades of yellow that at once catch the eye. In formation the flowers closely resemble those of Avalanche, and it would not be amiss to call it a yellow Avalanche. The habit is good, not too tall, and the flowers are freely produced.

EARLY CHRYSANTHEMUMS.

If we have one cause of complaint this year, it must certainly be the very disappointing results that have attended the cultivation of the newly-introduced early-flowering Chrysanthemums, which, so far as I can learn, have scarcely flowered at all. Whether the season is at fault or that growers have not been sufficiently interested in these novelties to do them full justice, I do not know; but the inquiries I have made certainly have not been productive of anything like the favourable responses expected, considering the way in which these new varieties were praised a few seasons since. It seems to be the fact that, with a few exceptions, we are almost in the same position as we were years ago, viz., that the old-established sorts are still the best, and that the new ones stand a very good chance of being discarded almost entirely.

Three weeks ago I paid a visit to Mr. Jones, of Lewisham, and to Mr. Davis, of Camberwell, in the hope of seeing all the best of the new earlies, but with what results the reader will best judge when he peruses the following notes. Dealing with those at the first-mentioned place, Lady Fitzwygram, a pure white Japanese, very dwarf and almost as large as those of the Desgrange family, was good; General Hawkes, a dwarf Japanese, colour amaranth, with a silvery reverse, and Rycroft Glory, a deep golden yellow flower of the same type, with medium-sized flowers, were also attractive, but these were not of Continental origin, as those of which we have heard most are said to be. Nearly all the early sorts recently sent out by M. Délaux and grown in the open at Lewisham were not even showing colour, being about as forward as Lady Selborne and Margot grown under similar conditions. This seems to me to be most unsatisfactory, because earlies are of little service elsewhere than in such a position. The old pompon early-flowered Chrysanthemums like Lyon, Alice Butcher, Flora, La Vierge, White Lady, &c., were much more advanced and appeared to maintain their right to be called earlies far more than the new ones. All I could discover worthy of attention were Mme. B. Yung, a Japanese crimson-coloured flower; Mme. Mario Constans, a light

lemon-yellow Japanese, with long thin florets; Gloire de Mezin, another Japanese, rather globular in form, of a pretty shade of golden bronze; M. le Ministre Léon Bourgeois, a Japanese flower of good size, colour violet-rose, with golden centre; Mme. Jeanne Faillière, another Japanese, colour blush-pink; Georges Devered, something similar to an early Source d'Or; and Louis Lionnet, a pretty flower of the Japanese type, golden salmon and yellow.

The blooms at Camberwell consisted mainly of a different sort, being varieties of what we might term semi-early or October-flowering kinds, and in size more like the later kinds for exhibition. L'Ami Etienne, a light mauve-coloured flower, a Japanese incurved, was in good form; l'Isère, another of similar massive build, colour pure white; Louise, a deep massive incurved Japanese, tinted blush, and Fredk. Hausford, creamy white, tinged chamois in the centre, a good flower; were perhaps the best. Mlle. Thérèse Rey, a large white Japanese, and Charles Davis, the bronze sport from Vivand Morel, were also well out; but perhaps all those mentioned might, with a little less skilful cultivation, be retarded, and consequently come into flower very little, if at all, before the time of the ordinary shows. Here also was a goodly array of the well-known, old-established, early-flowering sorts, for which Mr. Davis has long been noted.

It seems to be more than probable that we are still a long way off securing anything like thoroughly genuine large-flowering early Chrysanthemums. CHRYSANTH.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Mrs. Nisbet.—This Japanese variety is likely to be useful for grouping, being rich in colour and of dwarf habit. The colour is amaranth.

Chrysanthemum Anna Hartshorn.—For October flowering this Japanese variety deserves a foremost place. The petals incurve loosely and are of good substance, the colour being of the faintest of blush-pink on a white ground.

Chrysanthemum Excelsior.—For exhibition this Japanese kind promises to be a decided acquisition, the colour bright rose-cerise, with a silver reverse. The bloom is large, but of a depth quite in proportion to the width; the habit of growth is not too tall.

Chrysanthemum Marquise de Paris.—This Japanese kind is one of the finest of its class yet introduced. The blooms are of large size, quite full in the centre; the colour white, flushed with pink in the centre, which passes to pure white with age. As an October exhibition flower it is decidedly one of the best yet introduced.

Chrysanthemum Puritan.—Whether this kind is pure white, characteristic of those blooms that expand during the month of October, or the pink colour of the broad incurving petals in November, it matters little; both are decidedly attractive. This is one of the finest of the Japanese section of recent introduction, and the habit of growth is excellent.

Chrysanthemum William Seward.—The present condition of the plants of this Japanese kind, bids fair to sustain last season's reputation. In habit of growth it is dwarf, yet robust; the blooms are opening in that free manner so pleasing to cultivators. It is a great improvement on Jeanne Délaux, the deep rich blackish crimson colour being more attractive than in that old variety.

Chrysanthemum Vice-President Jules Barigney is an incurved kind, raised by M. Délaux presumably from seed, and sent out first under

the name of President Carnot, but since altered to the above. In colour it is chestnut, suffused with buff, the petals being of medium size. It is described as rich crimson on the inside of the petals, but a true incurved bloom ought not to exhibit the inner part of its petals.

Chrysanthemum Mrs. C. H. Payne.—This has a very large, but, unfortunately, coarse flower. Evidently it is very vigorous. Strong plants must bear half a dozen blooms instead of the orthodox three to reduce their size, when they are rich in colour and more even in the petal. It is the irregular manner in which the outer florets are arranged in the largest blooms that gives it a coarse appearance. The colour is rosy blush.—E. M.

NOTES OF THE WEEK.

Antirrhinum Hendersoni.—We have a very pretty Snapdragon under this name from Messrs. Dicksons & Co., of Edinburgh, in which the edges of the flower are marked with magenta. It is a very beautiful and striking flower, and we should like to see its effect in the open air.

A mammoth flower.—In the window of Mr. Watkins, of Shindon, is a large Sunflower of extraordinary dimensions. It measures 3 feet 1 inch in circumference, and weighs 3½ lbs., being the largest that has ever been seen in the village. Mr. Watkins is also in the possession of a Laburnum tree, which has bloomed a third time this season.

Chelone barbata, although usually seen dotted here and there in the border, is really a fine plant for massing or to fill a distinct bed. We recently saw it used with excellent effect in this way, the tall slender spikes of brightly coloured flowers making a beautiful show. It is easily grown and blooms late, lasting in beauty over a considerable season.

Chrysanthemum Coral Queen.—This is a welcome addition to the October section of decorative Chrysanthemums. It is of free growth with a good habit, and also free flowering. The colour of the flowers resembles that of Carnation Mrs. Reynolds Hole, with a tint of rose. Altogether it is a very desirable variety for conservatory decoration or for cutting.—A. Y.

Begonia Martiana gracilis.—The note on this beautiful Begonia from Mr. Smith in THE GARDEN (p. 310) is opportune. Mr. Smith's remarks will doubtless induce those who grow the plant in houses to try it out of doors, where its lovely pink flowers and fine leafage would tell. We seem to be getting away from the ordinary tuberous Begonias in the garden, and planting such things as the semperflorens type, which certainly are very showy, whilst creating a change.

Zinnias have been remarkably beautiful this year, evidently enjoying the hot weather. We never remember to have seen them finer, and when planted in bold masses they have a rich effect. The deep crimson colours are the best, and show up well if kept distinct. In visiting gardens and nurseries recently we have been surprised at the freshness of Zinnias even after many other things have been long past. They are rather stiff, but so showy and bright, that in every garden good use should be made of the best colours.

Michaelmas Daisies at Camberwell.—It is worthy of note that the Starworts are excellent town flowers. A large collection of all the best varieties is grown by Mr. Davis, of the Lilford Road Nursery, Camberwell, and they flower with remarkable freedom, although this nursery is in one of the most densely populated districts of the metropolis. An increasing interest is taken in this charming family, and we are pleased to see that the best kinds are more grown than formerly.

The Winter Cherry (Physalis Alkekengi) was very bright recently in the Swanley Nursery. This is a fine hardy plant for late autumn and winter effect, and should be grown in bold clumps

or colonies. We once saw a large bed of it, which supplied many bright shoots for decoration. The large orange-red calyces last well when cut, never losing in any degree their distinctive colouring. A warm position is essential, and the soil must be light. The present year has exactly suited the Physalis, but it is usually very free if the position is not too cold and damp.

Funkia grandiflora has proved a splendid hot weather plant. Certain things, as the Belladonna Lily, have flowered remarkably well this autumn. This Funkia is very uncertain, as it blooms late, and frosts often spoil the lovely white fragrant flowers. The position must be warm and the soil light, otherwise failure results. It is hopeless to expect good flowers unless these conditions are given. In ordinary years the only good results are got from pot specimens, and it is well worth growing largely thus for greenhouses and conservatories. It is synonymous with *F. japonica*.

Plumbago Larpentæ.—This is a bright and attractive plant when one can induce it to flower freely, but according to my experience of it, unless in hot, dry summers like the past, it is rather shy in this respect. I do not think there is the slightest doubt as to its being a thoroughly hardy plant but it evidently likes hot weather, and then it appears to flower freely enough. But, like its, greenhouse relatives, the flowers only last a couple of days. It enjoys a rather poor, but warm, dry soil at the foot of a south wall if this can be afforded, although the plants under my care are out in the open border.—T. A.

Camellias in fruit outdoors.—I send you a seed-pod cut from a plant put out in April, 1885, and fully exposed to east and north winds. It has flowered freely every season since planted. This season it flowered in the latter half of March and throughout April. It is a dark crimson semi-double variety. I have forty-six of the best varieties planted out. They all flourish and flower equally well and in all situations, and I have never had a plant hurt with frost. The two first were planted out in 1881 on a sandy clay subsoil. There are about a dozen pods on the plant.—F. T. BARRY, *St. Leonard's Hill, Windsor*.

Michaelmas Daisies from Ireland.—I send you a box of new Michaelmas Daisies, all self-sown seedlings; some of them are fine. Magnifique is by far the best blue Aster yet known. Grandis is also good, but different in habit, being very erect, while Magnifique is semi-prostrate. Delicatus is one of the prettiest, a beautiful lilac-blush. This weather is most satisfactory for the white flowering kinds, of which Purity, Madonna, and Niveus are all excellent in their way, but the prettiest of all is White Queen, one of this year's seedlings, and only 18 inches high. As it is upon a rather poor bank it may grow taller under better conditions.—T. S.

Zauschneria californica.—Until the past hot summer the above plant has been more or less disappointing. The difficulty has been to establish it, and even when fortunate enough to get it to grow a little, the flowers were very few; but during the past summer it has flowered continuously and has been one of the brightest hardy plants in the garden. It evidently succeeds best in a hot, dry summer, for it must have been as dry at the roots as a bone for months together, yet it grew rampantly and flowered profusely. I have to-day divided it into a number of goodly sized pieces and made a mass of it a yard or more across. Perhaps I have done wrong by interfering with it, but I like good bold masses of everything in the hardy plant borders, and detest puny dot plants.—T. A.

Seedling Disaa.—At Kew several new kinds have been raised of recent years, and a good hybrid is Premier, which was given a first-class certificate at the meeting of the Royal Horticultural Society on October 10. It is a cross between *D. Veitchi*, itself a hybrid, and *D. tripetaloides*, which is a remarkably robust and free blooming species, exactly the type to use as a parent. Curiously, the hybrid named Premier has got comparatively little of the *D. tripetaloides* character, the flowers showing few traces of the spotting, characteristic of that species.

It is more like *D. grandiflora* as regards the habit and foliage, the spike rising about 2 feet in height and bearing a number of flowers, each of a bright rosy colour and about 1½ inches across. Such Orchids as these are likely to get really popular, as they are bright and easily grown, simply because vigorous.

Iris alata.—This is one of the most interesting hardy things that bloom in late autumn and winter. It was recently in bloom with Mr. T. S. Ware at Tottenham, and is pleasing either in pots or at the base of a warm, sheltered wall. Like the Colchicums and autumn Crocuses, the flowers get splashed by heavy rains if on a border. The bulbs should be planted amongst Stonecrop or similar creeping plants to prevent the delicately coloured blooms being sullied. There are many sheltered spots in gardens where they are seen in perfect beauty. The flowers differ considerably in colour, but the prevailing tone is a kind of mauve-blue, the veins of a deeper shade, whilst the fragrance is like that of the Lilac. The growth is sheathing, and may be compared to that of the Leek. A few potfuls of this Iris in the greenhouse in late October or November are very pleasing.

A large Holly tree.—A Holly tree within ten paces of my house, which is 1040 feet above the sea, is, I venture to think, the largest in Great Britain. I have in my possession a report which was made on it in January, 1836, and at that time the tree "measured in circumference above the roots thereof 27 feet 6 inches, and estimated to be 60 feet in height and is very branchy, and the general opinion is that it is 400 years old." The circumference of the tree now is 30 feet and its height 43 feet. It has sixteen main branches, measuring in circumference 11 feet 7 inches, 8 feet 2 inches, &c. It covers a circle the diameter of which is 54 feet, and its branches have numerous initials and dates cut on them, those which can be still deciphered ranging from 1700 to 1864. The most legible is that of J. Broughton, Aug. 22, 1756, which is almost as clear as the day on which it was cut. Many of the branches are half eaten through with rot, and I have had all the sixteen supported by iron rods. The tree still shows great vitality, each year numerous young shoots being produced. It is rather curious that on the opposite side of the valley is another large Holly tree which measures 17 feet 6 inches in circumference.—GEO. H. LLOYD-VERNEY, *Clochfaen, Llanidloes, N. Wales*.

The leaves of October.—After such a marvellous summer it is reasonable to expect that the autumn glory would be rich beyond that of ordinary years. The glowing tints of scarlet, purple and gold defy description. The Chestnuts, Birches and Poplars never were of purer tone in their rich golden drapery. The Maples are conspicuous in every patch in which they stand. The scarlet Oaks are superb. Willows, Thorns and the Mountain Ash shine and sparkle in the denser masses of yet green clumps. On the houses the Virginian Creeper is beautiful. A walk through the nurseries at this season of the year could not fail to offer valuable suggestions to planters and those contemplating garden extension and improvement, and who would, in their prospective plans and arrangements, make provision for autumn effects and surprises. We send you a box of leaves of the following:—

Amelanchier canadensis	Hamamelis virginica
canadensis ovalis	Liquidambar styraciflua
Ampelopsis Engelmanni	Quercus coccinea
Hoggi	nigra
Veitchi purpurea	palustris
Acer rufinerve	robur laurifolia
tataricum ginnale	Rhus Cotinus
Azalea pontica	glabra
Berberis Thunbergi	radicans
Cornus mascula	Spiraea prunifolia flore-pleno
sibirica	Vaccinium pennsylvanicum
Crataegus crus-galli	Layi
Oxyacantha multiplex	Vitis vinifera purpurea

The marks of drought are now nowhere to be seen, but everything is splendidly matured, and trees and plants are in rude health and the wood is so well ripened up as to mark the season all the way through as exceptional.—DICKSONS, *Chester*.

FLOWER GARDEN.

THE WINTER DAFFODIL.

(STERNBERGIA LUTEA.)

For nearly three hundred years at least this old plant has occupied a place in books and gardens, but it is far from abundant even to-day. I have seen it in the Cambridge Botanic Gardens in the form of spreading tufts or masses, each bearing a hundred or more of its golden yellow flowers, and nowhere else have I seen it quite so beautiful and free. It is hardly enough in most gardens, but seems to require a warm stony or sandy soil and plenty of sun heat in order to make it bloom in a satisfactory manner. Here for years I had large clumps of it that threw up rich green leaves every autumn, but never a flower, until I removed the bulbs to a dry and sunny border where *Belladonna Lilies* do well, and now they are very pretty as seen side by side. This is a by no means had combination, since the naked flower stalks of the *Amaryllis* look all the better for the dark green herbage afforded by the *Sternbergia*. This plant is very variable, being distributed over a wide area in Eastern Europe and the Mediterranean basin, and it is also found in Northern Africa. *S. exigua*, *S. Fischeriana*, *S. sicula*, *S. ætensis*, *S. græca*, and one or two others are merely forms of *S. lutea*, varying but little in size and hue. There are two well-marked forms of *S. lutea*, the one having much larger foliage than the other, and my own experience is that the narrower and smaller leaved form is far more free-flowering than the other. Boissier, in his "*Flora Orientalis*," mentions several fine kinds of *Sternbergia* not as yet in cultivation. Flowering as does this plant along with autumnal *Crocus*, *Zephyranthes*, *Cyclamens*, and *Colchicums*, it adds the one note of warm yellow that they all lack to the rock garden or the bulb garden.

F. W. B.

GLADIOLI IN 1893.

THIS season, which has been so full of disappointments to nearly every one connected with horticulture, has not spared the growers of this beautiful autumn flower. Especially has it been hard upon amateurs, of whom, to tell the truth, there are but very few in the southern part of the kingdom. Never during the twenty years that I exhibited were there more than three, or at the most four competitors, and now that I have practically retired from exhibiting the number is reduced to two—Mr. E. B. Lindsell, of Hitchin, and Mr. W. H. Fowler, of Taunton. It is not remarkable then that so little scope is given for their exhibition either in the metropolis or its neighbourhood, and that the managers of shows prefer offering prizes for a collection which induce the trade to send up stands of 100 or 120 blooms, which, of course, add to the size and beauty of the exhibition, although not in themselves so interesting to the amateur. The manner in which the season has affected the few amateurs whom I have the pleasure of knowing may be exemplified by the case of Mr. Fowler. He has been in the habit of exhibiting in the last few years not only at Taunton, but at Bristol, Chester, Exeter, and other places in the west. This season he could only exhibit at the exhibition in his own town, Taunton, his flowers—for I saw his garden at the time of the show—being all past. So far as the metropolis was concerned, there was no autumn show at the Crystal Palace, and at that at Earl's Court, which to some extent

took its place, I was not able to be present, but I believe no amateur entered into competition. The Aquarium had, I believe, to tell the same tale, but at the exhibition of the Royal Horticultural Society held at the Agricultural Hall, Islington, there was on August 24 a field day for the growers for sale. But here again the character of the season showed itself. Three collections were shown by Messrs. Burrell, Harkness and Sons, and Kelway and Sons, who obtained prizes in the order I have named them. Anyone looking at the stands could not have a moment's hesitation as to the correctness of the adjudication. From what I have already said, it will be assumed that the celebrated Somerset growers were considerably handicapped by the earliness of the season, and making all allowance for this, the superior character of the flowers which obtained first prize was manifest to all. I have for some time maintained that Mr. Burrell's flowers are the finest shown by any exhibitor. He has for some years grown them on the splendid loam of Cambridgeshire, and has got into a strain of seedlings which I believe are likely to surpass even the best of the French

a delicacy of constitution which detracts from their commercial value. Thus *Mme. Desportes*, which was sent out some thirty years ago, is now as clear as some of these of last year, while *Albatross*, a flower of three years ago, does not seem to fall in price, probably owing to the same cause. It is not until a sufficient number of roots has been procured from spawn that a variety can be sent out.

But to return to the flowers exhibited at the Agricultural Hall, the following are some of the most striking in Mr. Burrell's stand: *Auntie*, pale creamy rose, shaded with straw; *Archiduchesse Marie Christine*, white, tinted and flaked carmine; *Atlas*, pale porcelain, lightly tinted and striped violet; *Baroness Burdett Coutts*, lilac, tinted rose and purple; *Caméléon*, slaty lilac, striped white, pale orange blotch; *Carnation*, pale flesh, suffused and tinted carmine; *Conquerant*, dark purplish carmine, with clear white blotch and bands; *Crépuscule*, pale porcelain, tinted lilac; *Cygné* (Burrell), pale lemon-white, very much like *Albatross*; *Dalila*, bright rose, blotched and striped white; *Daubenton*, lilac, suffused violet; *Dr. Bailly*, bright scarlet, blotched carmine on white ground; *Enchanteresse*, pale rosy white, lightly striped violet; *Eugène Souchet*, bright rose, large white blotch and stripes; *Flambeau* (Burrell), orange-red, white lines and white blotch; *Fermosa*, pale satin rose, striped carmine, with creamy white blotch; *Grand Rouge*, a scarlet-crimson, with small violet blotch; *Horace Vernet*, purple-red stripes and white blotches; *Iolanthe* (Burrell), reddish pink, with the lower petals banded white and feathered crimson; *Le Phayre*, bright red; *Le Vésuve*, fiery red; *Mascarille*, salmon-rose, with large sulphur-yellow blotches running through the petals; *Matador*, bright cherry-red, striped and blotched white; *Néréide*, pale lilac-rose, with small violet blotches; *Ondine*, white, tinted lilac and bluish violet stripes; *Ovide*, purplish carmine, stripes and blotches

Winter Daffodil (*Sternbergia lutea*).

flowers. He has not saved seed at random, but has been careful to hybridise for the purpose of obtaining good form and substance, and anyone who sees the new kinds which he has brought forward will, I think, agree with me in this statement. As to colour, it seems to be almost impossible to say in what direction this will be found.

There are so many tints in those already in cultivation, that any one of them may assume the predominance in the seedlings, and they may run into the most unlooked-for variations. Nothing seems certain in this respect, and the same is conspicuous in other things; thus two white *Grapes* crossed with one another have produced a black *Grape*, and I have a seedling *Gladiolus* which I have no doubt was saved from flowers at which the bees had been at work amongst flowers of most diverse colours, and yet it has not a spot or stain of any colour, being pure white. It obtained a first-class certificate three years ago, and has fully maintained its character. Probably, however, the finest white which has ever been raised is one called *Snowdon*, a seedling of Mr. Burrell's, but, unfortunately, it produces hardly any spawn, and therefore will be of very little use; indeed, in many white flowers there seems to be

white; *Pasquin*, bright scarlet-crimson, edge of petals slate, and white stripes; *Pasteur*, rose, slightly tinted with orange and white blotches; *Pollux*, carmine, with white blotches; *Pyramide*, clear delicate orange-rose, shading to amber in the centre; *Rayon d'Or*, yellow, with red stripes and purple blotch; *Stanley*, salmon-rose, with deeper shading, and small rosy yellow blotch; *Sultane*, bright carmine-rose, with purple blotch on white ground; *Teresita*, pale pink, suffused rose with violet blotches; *Tour du Monde*, dark cherry, shaded violet, with white blotches; *Vicar of Westwell* (Burrell), cerise, lightly feathered and suffused crimson. But I think the chief interest in the stand was centred in the four seedlings exhibited by him. There was a novelty of colouring and grandeur of spike which fairly earned for them the rewards of merit which they obtained. As in most of Mr. Burrell's seedlings, the flowers were well formed and produced close together on the spike. They were *Bernice*, a fine large spike with flowers of soft creamy shade tinted pink; *Cassandra*, a very fine flower, dull white or heavily shaded yellow and pink; *Gertrude*, a grand variety with delicate flowers, creamy white, tinted pale pink; and *Orlande*,

a fine variety with very large deep salmon-pink flowers.

With regard to the so-called hardy varieties of the Lemoinei and Nanceianus types of which Mr. Burrell exhibited a good stand, I have seen no reason to alter the opinion I have already expressed, viz., that they are not a bit more hardy than the hybrids of *gandavensis*. Two years ago I lost my whole collection (through believing that they were hardy), with the exception of one variety, *Duguesclin*. Why this should have survived I know not, but I have had the same thing happen with those of the *gandavensis* section, and I find from his catalogue that Lemoine recommends a slight protection during winter; but this same protection would preserve the hybrids of *gandavensis* from frost. Still, they may be recommended, especially as there are some novel shades of colour amongst them. They do not, in my estimation, as yet rival those of the other section.

I regret to find that the amateur exhibitors do not increase in number. In the west of England, around Mr. Kelway's celebrated *Gladiolus* farm, I never see more than two stands. In the neighbourhood of the metropolis I know of but one, and consequently in this early season, when the R.H.S. offered prizes for them on September 26, I was not surprised to find that the only exhibit came from Northumberland. It is a pity, but I fear that we shall never see them much grown as an exhibition flower. I have given my reasons for this, and shall only be too glad to find that I am mistaken.

DELTA.

LATE SUMMER IN THE PINES.

DESPITE the unusual dry summer in the Pines, I see little, if any, appreciable difference in the abundance and beauty of the flowers. While our cultivated plants droop and suffer, the wild ones show no lack of life or lustre, and the varied hues of leaf and blossom seem as clear and fresh as ever. The *Gentian* family is now well represented among the plants in flower. The lovely fringed *Gentian*, the Closed *Gentian* (*Gentiana Andrewsii*), and the Scapwort *Gentian* (*G. saponaria*) are flowering on every side, and here, too, is the more exclusive *G. angustifolia*, with its narrow leaves thickly set along the stem and an open corolla of a deep rich blue. Always excepting the fringed *Gentian*, this is our most handsome species. The *Sabatias*, too, are still beautiful among the Sedges and Grasses in the wet Pines. Both *S. stellaris* and *S. gracilis* are delicate and slender, and while they have a unique charm here on account of their appropriate setting amid their wild surroundings, one who studies them here can get many a hint for their effective use in decorating house grounds. The white-flowered *S. lanceolata* is also here, but with its flat-topped cyme it is stiff and unattractive compared with its more graceful relatives. The Mist Flower (*Eupatorium* (*Conoclinium*) *coelestinum*) has also a flat-topped inflorescence, but no one would charge its *Ageratum* like flowers with being stiff. Our tall Swamp Lily, which well deserves its name *superbum*, is now at its best, and its showy flowers tower above their humble companions in a grand pyramid of orange and scarlet. It is certainly one of the stateliest of Lilies. The Rose Mallow (the large-flowering *Hibiscus moscheutos*) also makes an impressive display of its great pink and white blossoms, which are larger and quite as showy as the cultivated *Hollyhock*, and many of them opening high above our heads. But the plant is rather coarse, or at least less graceful and delicate than the lower plants and Grasses around and below it; still, it attracts the attention of the most careless observer, and it is an important feature in many of our swamps and woodland landscapes. Both species of *Trichostema*, or Blue-curls, are here, with blue flowers and long exerted slender stamens prettily curled, from which peculiarity is derived the botanical as well

as the common name of these plants. The foliage has a pleasant odour, like most of the other plants of the Mint family. Several of its relatives are now in flower. Among them is the strong-scented Horse Mint (*Monarda punctata*), gay with the highly coloured bracts about its heads of flowers. The brilliant scarlet of the Cardinal Flower glowing in the distance always indicates that we are approaching a pond, for it is by water margins that these plants flourish in the greatest abundance and brightness. None of our wild flowers are more vivid, and they never appear to better advantage than when they stand with an expanse of water dotted with white Pond Lilies on one side, and on the other a border of Sedges and Grasses and the delicate plants which they shelter. A slender little relative of the Cardinal is *Lobelia spicata*, with small blue flowers and weak slender stems upheld by the Grasses. Another is *L. puberula*, with a stouter stem and a spike of large handsome blue flowers. And here, too, is the marsh Bellflower (*Campanula aparinoides*), with dainty white bells scattered over the weak straggling plant, and holding on to the tall Grasses with the rough edges of its stems. Along the border of the pond is *Coreopsis rosea*, with rose-coloured rays and yellow disc. Some of the flowers are almost as handsome as the rose-coloured *Sabatias*. In the shallow water several forms of *Sagittaria* mingle with the Pickerel weed. The pure white blossoms of the one and the blue of the other always group with good effect. The curious Eel Grass (*Vallisneria spiralis*) is now in flower. The water is so clear, that we can see the staminate buds at the base of the long grass-like leaves 2 feet or 3 feet below the surface. Slightly agitating the plants we see the buds break from the short flower-scape and quickly come to the surface, where they soon expand to shed their pollen on the pistillate flowers, which are now raised to the surface on long spirally coiled stems to meet the loosened staminate flowers which are floating around them. After fertilisation the thread-like stems become more closely coiled, so that the seed may ripen under water. Still more curious is the Bladder-wort or *Utricularia*, of which there are several species here in the pond. Thickly scattered over the submerged stems are little bladders or utricles. We can see with the unaided eye untold numbers of small mosquito larvæ, and also of the *Chironomus* caught in these utricles, never to be released, but to be slowly macerated and apparently absorbed by the plant. But we need the microscope to reveal the wonderful mechanism and structure of the utricles and to see how the various victims are caught and held.—MARY TREAT, Vineland, N.J., in *Garden and Forest*.

Plumbago Larpentæ.—This plant flowers freely here in the open border with no special shelter or extra sunlight; indeed, the position is somewhat shady. The border, however, in which it grows is light and sandy, into which peat has been freely worked, and it is badly infested with the roots of the Portugal Laurels to which it forms a fringe. The soil is shallow and dry, so the plants get ripened quickly. The foliage is now turning to a brilliant red, and as the group is fairly large, it forms a warm patch of colour.—J. C. TALLACK, Livermere Park, Bury St. Edmunds.

Zinnias.—Zinnias have been exceptionally fine this year, and again have proved themselves to be among the very best of annuals for a dry season. Though the plants showed signs of distress at times, they got bravely through, and have been, and are still finely in flower. The range of colour is varied, and if a collection of seed in assorted colours is procured, the seedlings will come nearly true, and can be used with great effect in masses of each shade. The so-called white, however, should not be used too freely, as it is a dirty white at the best, and some flowers are very badly stained. I find Zinnias most useful for planting between dwarf Hybrid Perpetual Roses, especially of those kinds which do not flower freely in autumn, as the Zinnias enjoy the rich soil and branch out freely, fill-

ing beds that would without them look bare and unsightly in autumn, with masses of colour, and doing the Roses no harm except when planted too thickly. Zinnias are often spoiled in their early stages by being sown too early, when they have either to be planted out too soon, and probably become crippled by frost, or stand in the seed boxes till they become weak and drawn. I find that sowing in the middle of April is quite soon enough for giving a good display of flowers during the autumn.—J. C. T.

HERBACEOUS LOBELIAS.

THESE are certainly amongst the brightest ornaments of the autumn garden. Their requirements are not many or rigid. Here in a deep and fairly damp granitic, very gritty soil they succeed, but I have seen them grow even better in a stiff lime soil. They do splendidly in peat, and will grow in wet land. I generally cover them up during winter with a few inches of dead leaves.

L. CARDINALIS.—This is the true plant, and is very distinct, having narrow light green leaves and a tapering scape, often 4 feet in height, of light scarlet flowers, with very narrow divisions. It is a common practice with writers to call every scarlet *Lobelia* "*cardinalis*."

L. FULGENS also has green leaves, but deeper green than the above, which are slightly hairy, and tall spikes, 4 feet to 5 feet high, of bright scarlet flowers. It is a good plant, and has given rise to the following very much improved varieties:—

L. F. FIREFLY.—This brilliant broad-petalled kind has been often referred to in THE GARDEN, and always in flattering terms. No amount of flattery could, however, overpraise it.

L. F. HUNTSMAN.—In this the brilliant scarlet of the last is deepened and intensified in a manner difficult to describe.

L. F. VERMILION, perhaps the nearest approach to vermilion to be found in any flower, is a tall growing robust kind. The individual flowers are borne on rather weak peduncles, with the result that they are held in various positions, and in this the plant is distinct.

L. IGNEA QUEEN VICTORIA has dark coloured leaves. It is a good plant with bright scarlet flowers, never, however, growing so tall as the varieties of *fulgens*.

L. I. MAGENTA QUEEN is a most taking kind, the colour of the flowers true magenta. It captivates everyone.

L. SYPHILITICA is a very hardy kind with green leaves, somewhat rough, and scapes of blue flowers. It usually grows about 3 feet high, and is good enough for a wet ditch, but scarcely so for the choice border.

L. S. ALBA COMPACTA grows about 2 feet high, many-branched, forming quite a sheaf of white, very pure in colour. It is a good thing.

L. S. CHALLENGER grows about 3 feet high, with purplish flowers; a free growing kind.

L. S. MILLERI is rich purple, and usually produces a number of scapes from a crown; good in colour, free in growth. One of the best.

L. S. MIRABILIS is from 3 feet to 4 feet high, with distinct red flowers.

L. S. ROSEA, one of the most charming of all, has bright clear rose-coloured flowers. It grows 3 feet in height.

L. KERNERI is a new introduction with light green leaves, and spikes 2 feet high, of very narrow-petalled, intense crimson flowers.

L. TUPA is here a fine plant, growing luxuriantly. The leaves are broad and handsome, the flowers crimson, and produced in a somewhat conical head.

L. SESSILIFOLIA is from 2 feet to 3 feet high, leaves green, flowers blue, and crowded amongst the leaves at top.

The following two species have only recently been re-introduced. They are not autumn flowering kinds, but are desirable garden plants. Several other species are being grown, about

which something will be heard by and by, as well as probably of sundry hybrids.

L. KALMI is quite a gem. It forms a low tuft of crowded leaves, nearly purple in colour, out of which the slender 9-inch spikes of clear blue flowers spring. They are usually produced in June and July. For the select hog this is an indispensable plant.

L. SPICATA has nearly orbicular bright green leaves which form a close rosette on the ground. The spikes are about 18 inches high. The flowers are pale blue and produced in June. T. SMITH.

Nerry.

CARNATION GLOIRE DE NANCY AND CLOVE CARNATIONS.

I WAS surprised to read some weeks ago (p. 188) a note by "A. D." asserting that the fine white Carnation Gloire de Nancy is a sport from the old crimson Clove. Will he very kindly state what historical proof there is of this origin? In asking for this I do not by any means wish to cast doubt upon the truth of his statement, which may be quite correct for all that I know, but am simply desirous of information. In habit of growth and time of flowering Gloire de Nancy shows features of difference from the old Clove, but a sport may, of course, often diverge from the parent plant in some of its characters. Beyond this, however, I should like to know whether there are any well-established instances of white sports from red Carnations, or, indeed, of any Carnation sports in the proper sense of the expression, except the well-known phenomenon of "run" flowers.

To my mind, Gloire de Nancy is altogether unrivalled among white Carnations. In my own garden the great drought of the past summer suited it admirably, while other sorts were literally burnt up, and the plants, never watered and almost entirely undisturbed, were sheaves of immense pure white blossoms, absolutely perfect, without a single split calyx. The flower is so redundantly full of its great satiny petals, crumpled like Rose leaves, and foaming up to a crested centre, that in some years it too readily bursts; but in this summer of wonderful sunshine not a pod was marred; and as for fragrance, my garden was brimming with its perfume for weeks. Surely a scentless Carnation is scarcely worthy of the name, just as a scentless Rose is unfit to bear the name of Rose. In this respect the old Clove and its white companion Gloire de Nancy are peerless. No variety known to me approaches them in sweetness with one exception, a dwarf crimson Clove, probably a very ancient plant, which some years ago I chanced upon in a Worcestershire cottage garden, and which now bears my name. Here it is excellent in habit, forming dense, free-flowering tufts almost like the white Pink, but it does not everywhere succeed so well. It is most powerfully scented, and I hoped to perpetuate its perfume in some seedlings which I raised from it. The best of these was a very brilliant vermilion-scarlet, ultimately sent out by Messrs. Dickson, of Chester, but neither this nor any of the seedlings were fragrant. I mention this in order to induce other contributors to THE GARDEN to touch upon the important question of the possibility of securing the Clove scent in Carnation seedlings. Its absence is a most disappointing character in the yellows and scarlets, the former being altogether scentless, and the latter nearly so. Some pink Carnations smell sweet, but many of the finest exhibited and even prize-winning roses, whites and dark crimsons too (in which one always expects the Clove perfume) altogether lack fragrance. It

is possible that this appears only fitfully and without rule or law. In the Jubilee summer many Carnations ripened seed in my garden, the old Clove among others, and from it I raised a batch of rather remarkable plants, large of leaf and with flowers as large as Malmaisons, of several shades of crimson, some almost black. Not one of them, however, was fully double, and as the scent was almost entirely wanting I destroyed them.

It would be interesting to learn from some of our foremost raisers whether anyone has made a systematic attempt to secure this most valuable element of rich Clove fragrance in their seedling Carnations, and with what amount of success or failure. And I should like to have some scientific explanation—if there be any—of the curious fact that this sweetness is associated most strongly with dark crimson and white Carnations (though even in these it is often entirely absent), less strongly with pink and rose colour, seldom with scarlet, and never with yellow. G. H. ENGLEHEART.

AUTUMN CROCUSES.

THERE are a number of lovely species of Crocus that are rarely seen in gardens. Though they are seldom thought of except as spring flowers, their season of bloom embraces quite six months of the year. One or two species and the varieties that have sprang from them alone are popular, and these are the spring-flowering kinds. There are others equally as pretty, as easy to grow, and as profuse in bloom flowering in the autumn when the season is drawing to a close, and, therefore, attracting notice through the lovely effect they make. A few kinds flower during mid-winter, but these are of little use except in the most favoured localities. The autumn kinds, however, which bloom in September and October, merit much more attention than is at present given them. Recently when in Mr. Barr's nursery at Long Ditton we saw nothing so refined and beautiful in colour as beds and little groups of the autumn Crocuses. To see them coming day after day in freshness and plenty is a revelation of beauty that many should see and enjoy in their own gardens. The kinds are not scarce nor very expensive, and yet there is very little demand for them. One of the very best is *C. speciosus*. It has flowers of a deep purple-blue shade, veined with a darker hue, and in quantity it makes a great display of rich colour. *C. pulchellus* is a charming kind of a pale lavender-blue colour with soft yellow throat and white anthers. *C. zonatus* is another most distinct kind with flowers of a lilac or mauve tint. *C. asturicus* has flowers of a more purple tint, and *C. medius* is especially attractive. It is of a purplish blue colour with darker veinings, and the branched stigma, almost scarlet, is very brilliant. *C. adriaticus* with white flowers is worthy of mention. The old *Crocus nudiflorus* must not be omitted, although it is fairly well known and abundantly naturalised in some parts of England. In varied delicate shades of blue the autumn Crocuses surpass those that come in spring, and their effect is very cheerful when the ground is strewn with fallen leaves and winter is approaching. A. H.

Petunias and white Snapdragon.—The value of Petunias in a dry season and their strong liking for a chalky soil is well shown in the Connaught Park at Dover. As lately as September 24 I saw a remarkably fine display of these flowers bordering one of the lawns there. It consisted of a broad band about a yard in width, and I should say at least 100 yards in length, completely covered with flowers, and, as may be imagined, the effect was gay in the extreme. They were planted along the top of a bank or Grass wall, which brought the flowers up near the level of the eye, and this dry position they seemed to thoroughly enjoy. They

were mostly of the mixed single strain and in great variety of colour. In a very long band such as this the mixing of colours and shades did not look out of place; certainly nothing else in the garden was so strikingly effective. Amongst other things I noticed here was a large number of plants of a pure white Snapdragon. It looked larger and more robust than any other white variety I have ever seen, and the plants must have been effective when in full bloom, for though the flowers were nearly over, there was plenty of evidence of a good display earlier in the year.—J. C. TALLACK.

Gunnera manicata.—I can quite bear out Mr. Sangwin's remarks that the illustration of *Gunnera manicata* on p. 297 in the last issue of THE GARDEN gives but a very faint idea of the gigantic proportions of the plant growing at Trelissick (Cornwall). It was my good fortune to see this same plant about two weeks ago and to witness the actual measurement. The plant spreads over 30 feet, and the largest leaf measured 9 feet 3 inches across. The pink crowns, looking like huge buds, are about 18 inches long and 12 inches in diameter. It is when one sits down beneath the shade of the huge leaves that the enormous size of the plant is fully realised. The plant at Trelissick has its roots immersed in a large sheet of water going by the name of the "Lily pond" on account of the large number of Arum Lilies luxuriating there without protection, and furnishing an abundance of flowers from March to May. Mr. Sangwin tells me that although last winter there have been 17° and 18° of frost at Trelissick and the ice on the very same pond was strong enough for skating, he was able in April, nevertheless, to cut over 1000 blooms of Arum Lilies within three days. I believe this *Gunnera* to be the largest in the British Isles, though there is one at St. Austell (Cornwall) which runs it very close. The latter plant is in the gardens of Mr. Lakes, Trevarrick; it has leaves measuring about 8 feet across, and grows near a stream of running water.—F. W. MEYER, Exeter.

GENTIANA VERNA.

ANYONE who has not succeeded in growing this plant to his satisfaction may find the following account of a method, which has been most successful with me, of some interest, especially as my garden is within a mile and a half of a large manufacturing town. This makes it by no means the best place for such pure air lovers as alpine plants. The plants were put in last October on a flat border devoted to alpine plants and bulbous Irises. They are fully exposed to the sun from 8 a.m. to 6 p.m. in summer. The soil, a strong loam well drained, was prepared for them by burying pieces of limestone and sandstone at a depth of 10 inches to a foot to form cool, damp runs for the roots. Above these the soil was mixed with smaller pieces of limestone, and finished off with a mixture of limestone grit and soil, about two parts of stone to one of soil. The limestone grit consisted of the washings carried by the rain off limestone walks into the water gulleys. All this was done with the object of making the surface soil as dry and poor as possible to force the plants to root deeply into the soil that would always be cool and moist. My soil is on clay. On a gravelly sub-soil it might be necessary to prepare a deeper stony bed, and perhaps deepen the soil below. In this gritty soil the plants were placed and surrounded by small pieces of limestone and limestone grit, with a few tufts of Sphagnum Moss to hold the dew and create a moist atmosphere, but this proved unnecessary. During the hottest weather the Moss never got damp, being under the top layer of stones. No protection was afforded them during the winter, but they did not suffer from damp owing to the

surfacing of small stones, and during the summer they flowered well, did not require watering, and now are in perfect health without a yellow leaf to be seen anywhere, and have increased considerably in size. H. L.

Stockport.

LILIES AT HEATHERBANK

My annual note on our Lilies might have been sent sooner, as the unusual heat and drought made them bloom early, and with most species made the flowers short-lived. The first Lily which showed its appreciation of the fine weather was *L. Humboldtii*. In most seasons when the weather is cold and rough this is apt to have spots both on flowers and leaves. This year there was no trace of these and all the varieties were very fine. The effect of the weather on *L. auratum* depended on situation. Where the subsoil was damp both growth and flowers were first-rate. In one bed in our wood at Oakwood, about 60 yards long, with different widths, there were about 2000 plants of all heights, the tallest ranging from 7 feet to 9 feet high; a large number of these were cut at the same time, and the effect was finer than we have ever had before. Happily, Mrs. Duffield was staying at the cottage and painted a large group of them so as to preserve an admirable remembrance. In drier situations it was a very different story. In our small hill field of Lilies, which in wet seasons gives the finest show, both growth and flowers were stunted, and what proved that it was the drought that caused this was that, having moved some fruit trees from this field, we had filled up the vacant spaces with *L. auratum* bulb-taken from the wood bed, so that exactly similar bulbs were in one place very fine, and in the other very poor. In another part in the wood where *Rhododendrons* and Oak trees had exhausted the moisture there was such little growth, that I took up some bulbs to examine them. They were sound and healthy, and I expect that they will tell a different tale next year (perhaps I should say that we have no artificial watering). *L. Kramerii* and *L. auratum rubro-vittatum* in some places were good, but in most were much below par. The Lilies which rejoiced most in the hot weather and early season were *L. speciosum* vars. These, with the exception of some which had been moved into newly-prepared ground, and so more susceptible to drought, were in all sorts of situations finer than we have ever had them before; no rough cold weather injured the late blooms, which is often the case in later seasons. *L. pardalinum* and *L. superbum*, being always planted in more or less damp places, were as usual, but the flowers were short-lived. Most of the other Lilies were the worse for the drought. G. F. WILSON.

Michaelmas Daisies.—In the south these lovely flowers are not more forward than they usually are at this date, and Michaelmas Daisies are not touched by recent heavy rains. As soon as the water leaves them they open again as fresh and fine as ever. It did really seem once as though, like all other flowers this year, they would come out of season when such kinds as *elegans* and the purple New England variety were flowering in July, but even of these the great display is in its proper season. Now that we have got as far as calling seedling forms by popular names, it is sincerely to be hoped that the thing will not be overdone. The old way of trying to classify all under some specific type was very unsatisfactory and resulted in confusion. Since the conference, however, there has been a more general agreement as to the names, and if one only goes to good sources for stock, the best kinds can be obtained true to name. In the near future, however, I fear we are likely to get confused with a long list of popular names given to varieties of certain types that increase freely from seed. I would make special allusion to *A. Novi-Belgii*, of which the varieties are more numerous than of any other. Of these there can be little or no doubt as to the value and

distinctness of such a kind as Robert Parker and the newer, at least more recently known, *Arcturus*, or the white one named *Purity*. To these, however, I could add about a dozen other names, all belonging to kinds of the *Novi-Belgii* type, and if this is the beginning, where are we to end? I have no doubt in garden-raised seedlings among thousands there will be very few meriting special attention. If it means the trial of thousands and long waiting for new things, provided they are of undoubted distinctness, we shall prize them all the more when they come. There is no doubt that Michaelmas Daisies will reproduce themselves readily, inferior forms predominating. I have noticed them lately springing up freely in places situated at some distance from the garden, seed having no doubt been carried there by the wind or in some other way.—A. H.

Lantana Drap d'Or.—This is a dwarf *Lantana* which, when not more than 6 inches high, will flower freely. Of late years a dwarfer class of *Lantanas* has come into cultivation, and very useful they are for the greenhouse during the summer and autumn months. For this purpose some good showy kinds have been long employed in No. 4 greenhouse at Kew. They are all of very easy culture, but where required to flower for a lengthened period, the best results are obtained by growing the plants on in two or three batches, as good free specimens are more effective than partially exhausted ones. A batch of plants just commencing to flower about the middle of August will, under favourable conditions, keep up a display till winter. Cuttings formed of the young growing shoots of these *Lantanas* strike root readily.—H. P.

FLOWER GARDEN NOTES.

THERE has been a great demand ever since the middle of August for cuttings of *Pelargoniums*, and now all old stuff that in past years has been consigned to the rubbish heap readily finds a customer, partly due, no doubt, to the little growth made and the consequent difficulty in obtaining cuttings, and also from the fact that the best of the *Pelargoniums* have been much appreciated in a season when their great rivals in summer bedding arrangements, viz., tuberous *Begonias*, have made a somewhat indifferent display. There is not the slightest doubt that where a glowing mass of colour is required, *Pelargoniums* are bad to beat; indeed, there is nothing likely to touch them until we get a race of perfectly erect, very free-flowering *Begonias*, and, given judgment in planting, they are likely to hold their own for some time, not to monopolise the whole of the flower garden, but just enough of them to give some fine bits of colour. Whether for large or small beds, I like to use only the one colour, relieving it with a few taller plants; thus, for King of Bedders, Jacoby and Beckwith's Pink—three good things in their respective colours—there is nothing better than a few plants of *Francoa ramosa*, or, better still, from an endurance standpoint (if seed-pods are promptly removed), the white form of *Campanula pyramidalis*. If two varieties of *Pelargoniums* are used in the same bed, one may act as dot plants to the other in a similar way that the Chimney *Campanula* or the Bridal Wreath are employed with the shades of scarlet and pink above mentioned. Loosely grown pyramids of *Beauty of Jersey* and *Jeanne d'Arc* (ivy-leaved varieties), for instance, are seen to great advantage on a carpet of *Manglei* and *West Brighton Gem*. Mention of the latter reminds one that it is still about the best dwarf in its particular colour. Other good things are *Surprise*, *Little Trot*, *Robert Fish*, and *Golden Harry Hieover*. I do not know a dwarf zonal in the pink shades to correspond in height with the above-named varieties, and so use *Rubens*, pink ivy leaf. About the best dot plants I know for the variegated section, such sorts, for instance, as *Blushing Bride* and *Flower of Spring*, are *Cannas Bihorelli* and *Warszewiczii*. I can recommend a couple of beds arranged in this way another year, they will be pronounced very satisfactory.

HERBACEOUS BORDERS.—A resting place for the clumps of *Aster bessarabicus* mentioned last week as on the point of removal has been found towards the front of a deep border filled in the background with standard *Roses* and large clumps of tall herbaceous plants. A charming combination in this background, by the way just at present well worth a note, is to be found in the close companionship of the old *Fuchsias coccinea* and *Robert Parker Starwort*. Some 6 feet in width from the edge of this border has been ribbon-bordered, and with a view to alter this arrangement I have decided to put bold clumps of the *Bessarabian Starwort* at intervals, the intervening spaces to be filled in in early spring with a good strain of white *East Lothian Stocks*. Three breaks in this planting some 12 feet long will be reserved for bold clumps of *Murillo Carnation*, and will, I think, help to make a brave show for another summer. Long borders that consist of a mixture of tender and herbaceous things, the latter greatly predominating, are now claiming attention. We have in two cases a good broad edging of *Crocus* and *Chamomile* planted together, so that the bulbs push up through the green foliage, and any gaps in the old herb are now made good before the *Crocuses* get on the move. A good many clumps of *Viola* in the purple and lilac shades to afford a pleasing contrast to the *Chamomile* flowers occupy positions immediately behind the edging, and these as they go out of flower will be overhauled, lifted, split up, and replanted where necessary. An old favourite that in one or two places backs up the *Violas*, the double Peach-leaved *Campanula*, has apparently suffered a good deal this summer; it must be lifted, cleaned, and replanted in a bit of good stuff. The mention of the relative positions of *Campanula* and *Viola* in this particular case reminds one that in all rearranging old or planting new herbaceous borders points worth studying are the nice contrasts that can be made. Thus *Campanula glomerata* may back up *Violas Ardwell Gem* and *Duchess of Fife*. *Zauschneria californica* is seen to advantage with clumps of *Pinks*, white *Snappdragons* or herbaceous *Phloxes* with *Veronica spicata*, white *Spiraea* with *Campanula carpatia*, and many such like effective contrasts that will be suggested to the planter. A very pleasing contrast just at present is presented by a mixture of flower and foliage, bold clumps of *R. Parker Starwort* among hardy *Azaleas*. This is an arrangement flanking a broad belt of deciduous shrubs, and is very effective viewed from either the top or bottom of the slope. All the tall non-rambling *Starworts* of a suitable colour whose season of flower is contemporary with the bright autumnal dress of the *Azaleas* are admirably adapted for planting in such positions; indeed, if one has the advantage of a slope, they can be worked in their respective heights so that a splendid bank of colour is obtained.

Claremont.

E. BURRELL.

Schizostylis coccinea.—This bulbous-rooted plant is useful for autumn blooming, although not so much grown as one might expect, as at times it is attacked with a disease which disfigures the leaves. In favoured localities it grows freely in the open ground, being nearly hardy, and in such positions large stools can be easily lifted and protected in cold frames or potted up for the conservatory. At this date the plants are pushing up freely their *Gladiolus*-like spikes, these being valuable for their scarlet colour and the length of time they remain pleasing in a cool house. The *Schizostylis* is one of the best things for autumn decoration and grows rapidly. It must be divided yearly to get strong spikes. I never allow the roots to get too much dried when at rest. They are divided, and the strong growths sorted and repotted just before new growth commences. Small shoots soon make rapid progress if given ample room and rich soil, such as sandy loam, leaf-mould, and dried cow manure. When repotting, place from four to six pieces in a 6-inch pot and from six to nine smaller growths in a 4½-inch pot. The latter will bloom freely the following season.—G. W.

ORCHARD AND FRUIT GARDEN.

POT VINES AS TABLE PLANTS.

IN Mr. Barron's popular work on the Vine a chapter is principally devoted to a description of the method of preparing pot Vines for table decoration adopted by Mr. Sage when at Ashridge. I very well remember seeing a pot Vine exhibited at South Kensington exactly similar to the sample, an illustration of which accompanies these remarks, and in all probability it was the specimen from which it was

since for the admirable condition in which the crops were produced and brought so far to exhibit. As a matter of fact, it is simply impossible to grow and fruit Vines so heavily as those shown by Mr. Sage in such small pots, and it would only be a waste of time and space to attempt it. What is wanted, to begin with, are either well placed young canes formed by older Vines, or, better still, young Vines planted in a forcing house or as supernumeraries in a newly-planted viney. These young canes being formed this season, say, and well ripened—they cannot well be too hard, great size not being particularly desirable—they will

lengths, each about 4 feet long, being needed, these to be twisted together to a length of 3 feet, and the remainder brought down to a horizontal position at equal distances apart. Next form a strong wire hoop 18 inches or rather more in diameter, set this on the four wires, give the ends of the latter a sharp curve with the pliers so as to clasp the hoop securely, and the trellis is ready for thrusting deeply into the pot. Take the rod straight up the wire stem and then train round the cross wires, finishing off with a circle 5 inches away from the hoop. If taken round the hoop, the laterals could not be laid in neatly later on. Thin out the worst placed buds in the twined part of the cane and remove those that form below the pot. The stem of trellis should be furnished with leaves and one or two bunches of Grapes, the laterals being treated accordingly; those to be fruited to be stopped one or two leaves beyond the bunch, and the rest at the first or second joint. More laterals ought to be reserved and duly stopped with the view to having two bunches midway between the hoop and stem, five being a good number to hang from the hoop. In a young state the laterals will not stand hard training, but it may safely be done when the flowering period is past. This training cannot well be carried out too neatly. Tie the reserved lower laterals close up to the stem, and all ends that protrude beyond the hoop should be closely trained to the latter; disbudding, stopping and thinning out of berries to be carried out in the usual manner, avoiding, however, the retention of too many leaves, a crowded appearance being undesirable. It ought, perhaps, to be pointed out that there is no necessity to nick the cane where enclosed in the pot, the roots being emitted readily enough without this, and, besides, bleeding to an injurious extent might take place if any wounds were made. All that is necessary is to keep the soil just moist, more water being given as the pots become filled with roots, liquid manure, not strong, being applied daily, or as often as the soil becomes somewhat dry, after the roots have well taken possession of the soil. This, coupled with liberal treatment below, serves to amply support a heavy crop of bunches, and the "finish" of these will be good if plenty of air is given during the ripening period. From the first the trellises will be rather top-heavy, and should be supported if need be by stakes thrust into the ground. When the Grapes are ripe and some time before they are wanted for table decoration or to take to a flower show, gradually cut through the cane close up to the drainage hole of the pot, and when finally detached there will be no flagging unless water is not given in sufficient quantities. Before they are moved, strong Oak or Elm stands, after the pattern shown in the wood-cut, should be got ready, and the pots, fitting tightly in these, will travel and stand quite firm. Mr. Barron suggests covering the tops of the pots with Selaginella, and this should be done. Either dibble in small pieces all over the surface of the soil when first placed in the pots, or else have pans of the Selaginella ready for turning out and placing on the pots when required. It only remains to be added that the Black Hamburgh and Foster's Seedling are the varieties best adapted for this method of fruiting Vines, though I have helped to grow very showy crops of the common Sweetwater, Buckland Sweetwater and Alicante in comparatively small pots.

The one fault of Vines trained according to Mr. Sage's method is their heavy appearance. They look well enough on a side-board and also on the exhibition table, but do not correspond



Pot Vine for the table.

taken. At the time I was greatly impressed by the great weight and general excellence of the crop, eight or more bunches of good size and well finished on a Vine established in an 8-inch or slightly smaller pot being an "eye-opener" indeed. I had previously thought it good work to produce six good bunches on a Vine trained round a hoop and rooting in a 10-inch pot, this being done within sixteen months of the date of putting in the eyes, but Mr. Sage's achievement quite put this in the shade. When, however, this grower's method of obtaining these satisfactory crops transpired there was less cause for wonderment. At the same time he deserved all the praise accorded him then and

be ready either for forcing or starting naturally next spring. Before the buds have burst the canes should be passed through pots varying from 6 inches to 8 inches in diameter, so as to have about 6 feet beyond the pots, the latter to be securely supported well above the ground, in order that they may get the full benefit of the warmth of the house, and be then firmly filled with rich loamy compost. Training ought not long to be deferred, as the canes will break more evenly when coiled round a trellis, and delay also renders it a difficult matter to train without snapping off some of the buds or shoots as the case may be. A neat trellis may be formed with the aid of stout wire, four

with present ideas of table decoration, being both too high and too heavy.

In Mr. Barron's "Vines and Vine Culture" there is a brief allusion to another very pretty mode of obtaining small fruiting Vines in pots for dinner-table practised by Mr. Lewin, gardener at Drumpellier, Scotland. In this instance a strong pot Vine is set on a shelf and trained along horizontally. A certain number of joints, about six I should say, would be enough, being pegged down to 5-inch pots filled with soil. Roots are duly formed in these pots, and the shoots each bearing a bunch are trained upright. Eventually a number of miniature Vines, each with a bunch attached, can be detached from the parent, these being admirably adapted for table decoration. I can suggest an equally pretty and more interesting modification of this practice. In this case either young canes trained up a roof or laterals on old rods may be utilised. Instead of pots substitute neat glass jars, or such, say, as are sold by grocers with 1 lb. of jam inside. Suspend these either at a joint of young cane or close up to an old spur, fill with water and bung up the neck with fresh Moss, some of this surrounding the joint from which roots are to spring. The jars being kept full of water, the Moss will constantly be moist overhead by absorption, the effect of this being to start roots early and strongly. After the roots have reached the bottom of the jars, they soon form a beautiful network of fibres and absorb a surprisingly large quantity of water, twice a day being none too often to refill the bottles. The roots thrive surprisingly in clear water, but are very sensitive, a little liquid manure or even stagnant soft water quickly killing all the points. After repeated experiments I found it advisable when adopting this system to use nothing but clear soft water, and in the case of large bottles full of roots, upwards of two quarts of water have been drawn out on a clear, hot day. I am not prepared to assert that the Vines derive very much benefit from their supplies of water, bottle-feeding evidently not being to their taste; but when the laterals are cut away from the parent Vine, the roots in the bottle will keep the leaves fresh and the berries of the bunch plump. Supposing that the laterals were duly stopped one, or at the most two joints beyond the bunch, they would be somewhat heavy and cannot be very well staked upright. As it happens, a slanting position shows off the Grapes to the best advantage, but in any case stands would be needed for small jars or bottles. These small Vines are not suitable for the centre of a table, but look well either at the ends or down the sides not far from the central line.

W. IGGULDEN.

Growing Melons in gravel.—The kind of material in which cultivators generally grow this important summer crop varies, but usually loam and clay in suitable proportion is employed. Until this season, however, I have never heard of or seen recommended such an infertile material as gravel for Melon-growing, nor do I expect that many would be inclined to adopt it only in a case of strict necessity or for experimental purposes, of which the case under notice forms one. A few spare plants remaining after the usual complement had been put out and an unoccupied frame suggested this course, but as the store of soil considered essential for Melons was exhausted, attention was directed to a heap of gravel. Of this some few barrow-loads were placed in the frame, thoroughly moistened with tepid water, and then made quite firm with the back of a spade. Holes were formed with a trowel only sufficiently large for the reception of the ball of roots and soil, and this afterwards made quite firm with the same

material. In this the Melons grew with remarkable freedom, and set their fruits as easily as they would do under more favourable conditions. They also carried to maturity two and three fruits on each plant, weighing about 3 lbs. each, as perfect in colour, shape, and netting as could be wished. The same fruits were equal to others better favoured in winning praises for flavour at the table; indeed, they held their own at an important provincial exhibition. Watering is very systematically carried out by the grower under notice, and there is no stint of liquid stimulants after the fruits are set and swelling. There is, I am aware, nothing very remarkable in this example of Melon culture, especially when it is known that fine fruits and healthy plants may be grown in heavy clay without any admixture. I have practised this on many occasions, and have noted the same in other gardens, but it has never suggested itself to me that gravel might be put to such a use as that I have described in this note, and it would be interesting to know whether any of your numerous contributors have done so, and with what results.

—W. STRUGNELL.

Wasps and fruit.—There is something curious in the way that these troublesome insects attack fruit. I cannot imagine on what principle they make their selection. Take Grapes for instance. They will invade a vinery and play havoc with its contents, and leave another close by untouched. A market grower here, who has two large houses, has suffered much loss, whilst in a private garden adjoining hardly a berry has been eaten, although the Grapes there were perfectly ripe some weeks ago. Why should the wasps attack one lot of fruit and not touch the other which was equally ripe and good and within a stone's throw? I have grown Black Hamburg Grapes a good many years, and although I live in the midst of fields bounded by old hedgerows where wasps' nests are sure to be more or less abundant, I have never lost any fruit worth speaking of. Some of my neighbours have at times been sorely troubled, but I should be within the mark in saying that during twenty years I have not lost £2 worth of fruit from wasps. This year I could count twenty nests within 200 yards of my dwelling, and until they were taken we daily killed hundreds of wasps in the house. They came in quantity into the Grape house, but although the berries were as sweet as sugar, they only attacked an occasional cracked berry until quite the end of September, and then they took to one bunch, and in the course of a few days ate every berry. All the wasps in the house came to that one bunch and left the rest untouched. A similar instance occurred to a friend; some three bunches were eaten up, and then the wasps abandoned the house. The same thing has happened with Pears and Plums this summer, one tree having all its fruit eaten, whilst its neighbour was not touched.—J. C. B.

Apple Hollandbury.—I used to grow this variety in Herefordshire, but my experience of it there was that, although a very large and showy Apple, it was not of good quality when cooked and did not keep well. Although to outward appearance sound, the fruits were really rotting. It is not worth growing.—Y. A. II.

Apple Frogmore Prolific.—This variety has been exhibited well this season, particularly at Earl's Court. It was staged in various collections. It is a constant bearer and a first-rate cooking kind. As a pyramid or standard it does well, the tree being hardy and the fruits large and handsome. It is not a keeping Apple, being somewhat soft and very juicy, but for early use it is first-rate and of good flavour. I saw some very fine trees (pyramids and bushes) bearing enormous crops in Messrs. Veitch's Langley Nursery a short time ago.—G. W.

A beautiful Crab Apple.—Looking over Mr. Bunyard's excellent fruit nurseries lately, we were astonished at the beauty of the Dartmouth Crab, which, in the early days of September, was like a lovely Plum. Like many Crabs, it seems to be a cross between some highly coloured Apple and the

Siberian Crab. Its value as a fruit, perhaps, in the face of the beautiful Apples that now come to us both from America and England, is not great, although it may be when ripe equal to the many worthless Apples which are grown in our gardens. It would be useful for preserving, and is certainly worth growing for the beauty of its flowers and fruit. Mr. Bunyard also sends us some of the Fairy Crab, which is a very pretty fruit and has a highly piquant flavour; indeed, it is large enough to rank as a pretty eating Apple. The Americans and Canadians have been busy of late years in raising Crabs, of which the Yellow Transparent is a very pretty form, and useful for making jelly.—Field.

WALL PEAR TREES.

Is it general experience that horizontally-trained Pear trees always bear more freely on the upper and younger branches, especially at their extremities, than they do elsewhere? The accepted theory in relation to horizontally-trained Pears is that by this method sap flow is equally distributed, each side branch deriving the same share of sap from the main stem. That may be correct, and so far as growth is concerned seems all right, but I do not think, so far as fruit production is concerned, that it proves to be correct in practice. I have not only this season, but frequently in previous years been struck with the abundance and fine appearance of the fruit found on the top and younger growths as compared with the meagre produce on other parts of the trees, and if results of this kind indicate that something is not quite right, it is but fair that growers should be set thinking as to what in a now old-fashioned method of training is wrong. Is it the case that the constant hard pinching and pruning which go on from year to year over all the lower and older branches presently result simply in the production of small and sterile fruit-buds, or is it the case that because of the vertical form of the main stem the sap flow is necessarily strongest towards the top branches, and that on these the spurs or buds are stouter, and hence more fertile? Of course on these for some years, because the branches are younger, the spurs are few; indeed the finest crops of Pears on these wall trees I have seen this year have been borne on two-year-old wood that has hardly been spurred at all. Before the introduction of the horizontal method of training, and that was some fifty years ago, Pears trained fan-shaped produced grand crops, although it happened even in their case that they became eventually somewhat stunted or over-spurred. Is it wiser to convey all the sap to the tree from the roots through one erect channel, the top branches, of course, getting the best supply, or is it better to divert it into several main channels at once, as is the case with fan-shaped trees? We see this principle operating with great success in the case of stone fruits, Peaches and Nectarines, for instance, trees that with comparative ease set crops equally all over their areas, whilst with horizontally-trained trees the case is almost always different. I have frequently observed how different is the treatment of this class of tree in diverse gardens. In one case all the summer shoots are pinched back in summer, and although the object is to promote the production of fruit buds, they seldom are strong enough to be fertile, the check to sap development in these side branches, by thus removing actual operating growth in the form of young shoots and leaves, largely prevents the production of stout bloom buds and the treatment fails. Then in other gardens these summer shoots are largely left growing all the season to bring about the very results referred to; not that all the growths are left, as the weaker ones are cut clean away early, but stout ones at frequent intervals are left, and these in the winter are cut hard back. But still, under this form of treatment success seldom ensues, because buds are not created, but simply a succession of other strong runner shoots. Now we will suppose that when old trees have got into this state and it is desired to renovate them, what would happen

were every other lateral branch sawn clean out, and from the one below at intervals of about 2 feet strong summer shoots were laid in, thus quite filling the wall space the removal of the branches had made vacant? Of course these one-season shoots would give no fruit the next year, but the second year might find them full of bloom-buds and probably of fine fruit. The strong young growths would exercise very potent force in attracting sap from the main stem, and we should then probably see crops all over the trees of that same very fine and abundant order I have seen in numerous cases this year. The present season has been a very marked one for Apples and Pears on standard trees, not that these large trees do not usually bear freely; indeed, I think as a rule far more so than do bush or pyramid trees. The cause, I take to be, is that heads of standard trees get an equable supply of sap from the main stems, and because the summer growth is free and unchecked, every branch on the heads gets fed alike. Bush Apples, where several main branches break out obliquely from the main stems, are invariably far more free fruiting than are espalier trees, especially when the latter are old; whilst old bush trees will fruit freely till the last. Espalier trees are all very well whilst moderately young, but they, so far as fruiting is concerned, soon wear out. The method of training, as with horizontal wall trees, is too unnatural. Of course, much that is said applies mostly to the older wall-trained trees, and especially to those which have their lateral branches crowded with spurs. Up to a certain age even horizontal-trained trees may be fertile, but the stage of comparative barrenness comes when the various side branches have filled their allotted spaces and have to be rigidly stopped. This defect comes to the lower branches early, and whilst the upper ones have ample room for expansion, it is but natural that the sap force of the tree should be carried to them, and is not again diverted to the older branches, as was the case when they were lengthening. The point raised seems to be well worthy of careful attention and criticism. A. D.

Plum McLaughlin's Gage.—Those who are adding to their stock of this fruit would do well to include the above variety. Ours is not a Plum soil, but this sort rarely fails to crop, and, what is better, is of first-rate quality, and being a small tree, is more noticeable, as some kinds do not crop freely when young. It may be described as a large and delicious Green Gage, a roundish fruit, flat at the ends, skin bright yellow flushed and mottled with red, and with a fine grey bloom, the flesh yellow, firm, and very rich. It is in use from August to September. The tree is hardy, vigorous, and most prolific, and one of the best of the Green Gage types. It does well in various positions. I have seen it very fine as a pot fruit this season, and it bears freely, making an excellent pyramid. As a wall fruit in cold exposed places it cannot be beaten, and in the last-named position it rarely fails to crop. This Plum is far better than many of the large coarser varieties grown merely for their size.—G. WYTHES.

Apple Annie Elizabeth.—I was glad to see "Y. A. II's" note (p. 319) on this variety. It is an old favourite with me. This season it is really fine, and is a valuable Apple for its good keeping qualities, as there is little trouble in keeping fruit late in the spring if carefully gathered and stored in a cool place. I have kept fruits of this variety good for eight months, and it does not shrivel like some kinds. It is an excellent kind for orchard culture. This season standard trees have borne fruits of large size and highly coloured. As a pyramid it makes a grand tree and bears fruits freely of large size in most seasons.—G. W.

Plum Grand Duke.—This is a valuable kind for its keeping qualities, as it gives a succession long after the early kinds. The fruit is of fair quality for cooking, also for exhibition. This season it is over much earlier than usual, having been gathered in September, but in past seasons the fruit lasted or hung well into October, thus

proving its lateness. It is a large oval fruit with a short neck, skin very dark purple, and covered with a beautiful blue bloom, the flesh being firm, of a yellow colour, and the flavour brisk. The tree is a good bearer, very hardy, and may be planted in a cold district, doing well as a standard. On a north wall I do not know of any more valuable Plum, as it bears abundantly, and as a wall fruit it possesses a rich flavour. For preserving it is much esteemed, and in places where Plums do not bear freely this in a suitable position will often give a good crop.—S. H. B.

FERNS.

NEPHROLEPIS.

MR. WATSON may be glad to hear of other species of *Nephrolepis* besides those mentioned by Mr. Gower on p. 333. The genus comprises some of the most useful of all stove Ferns, every one of the species in cultivation being exceedingly decorative and very easy to manage. There is a good collection of them at Kew, some of the specimens there being large, so that anyone who wishes to make the acquaintance of the rarer species can easily do so there. The names employed by Mr. Gower are not the same as those in use at Kew. Thus *N. biserata* is here called *N. acuta*. There is a fine specimen of it hanging from the roof of No. 2 house; it has fronds 5 feet long, with pinnae 4 inches long, wavy, soft green, and is a noble Fern in every way. There are several varieties, one of the best being *rufescens*, which has fronds 3 feet long and 4 inches wide, the pinnae wavy, very closely set, not overlapping at the base on the under side, as in the type.

N. cordifolia is the accepted Kew name for the plant called *N. tuberosa* by Mr. Gower. It is one of the best known stove Ferns, and deservedly so, as it keeps green and healthy all the year round under the most ordinary treatment. It is a fine plant for covering back walls or furnishing a rockery in the stove. There are several good named varieties of it, viz., *pectinata*, with rather rigid fronds about 1½ feet long, an inch wide, pale green, and most prolific in fronds and runners. It is one of the most striking of the large basket Ferns in the Kew fernery (No. 2), the specimen being 4 feet through and a perfect ball of green. *Compacta* is another good variety, which has fronds 2½ feet long and 3 inches wide, the pinnae slightly serrated at the apex.

N. davallioides is the best in the genus for furnishing large houses. At Kew it is plentiful, some of the largest specimens being huge masses of fronds, each 6 feet long, the longest pinnae being fully 10 inches long. A peculiarity of this species is the serrated and narrowed form of the sori-bearing pinnae, the barren pinnae being an inch wide and entire. The variety *furcans* has fronds 3 feet long and 8 inches broad, the pinnae being forked half way up, and these are again forked, so that they are really bifurcate, a character not shown in the picture on p. 332. *N. undulata* is not considered distinct from *N. cordifolia*.

The species not mentioned by Mr. Gower are the following:—

N. DUFFEL.—This is a very remarkable Fern introduced by Messrs. Veitch and Sons and Mr. Bull from Duke of York's Island in 1877, when it was awarded a first-class certificate. It forms a compact tuft of nearly erect fronds 1½ feet to 2 feet high, crowded with small roundish pinnae, arranged in pairs, and of a brownish green hue. This species is largely grown by Mr. May, of Edmonton, as it forms an attractive little specimen in a 4-inch

pot. Mr. Baker says it is an extreme form of *N. cordifolia*.

N. PLUMA was described by the late Mr. Moore in 1878 from plants introduced from Madagascar, and distributed by Messrs. Veitch and Sons the year following. Moore describes the fronds as 4 feet in length, but at Kew they do not exceed 2 feet, by 4 inches broad, slender, nearly erect, pale green, the pinnae narrow, and, as the name indicates, very elegant and plume-like. It is a pretty plant for pot culture. I have not seen it tried in baskets. According to Mr. Baker this also is a form of *N. cordifolia*.

N. RUFESCENS TRIPINNATIFIDA is a long and unwieldy name for an exceedingly noble and distinct Fern. It was sent to Kew from Fiji by Sir John Thurston, the Governor of Fiji, in 1884, and was distributed by Messrs. J. Veitch and Sons in 1887. It is one of the best Ferns introduced in the last ten years, requiring only to be understood to become generally grown. It has dissatisfied some cultivators, owing, I believe, to their having relied upon old stools instead of growing on young plants every year. It is impossible to describe a good specimen of this splendid Fern, the semi-erect fronds, 2 feet to 4 feet high, the stalks polished brown or clothed with reddish hairs, and the pinnae crowded, divided and interlacing in the most extraordinary manner. No collection of tropical Ferns should be without this plant. It likes plenty of water, plenty of root room, a rich soil and the hottest and moistest place in the stove.

N. BAUSEI is of supposed hybrid origin, and was raised by Mr. Bause, of Morland Nursery, South Norwood. It was distributed by Messrs. Veitch and Sons in 1885, and is now fairly well known. It has erect fronds a foot long and bipinnatifid pinnae, and is of dense habit. It obtained a first-class certificate in 1884. Mr. Baker says it is a variety of *N. acuta*.

N. RECURVATA was sent to Kew by Mr. May in 1892. It looks like a slender form of *N. cordifolia*, differing, however, in its thin, wavy, recurved pinnae and its soft green colour. Its fronds are 1½ ft. long, but as the Kew plant is in a cool house it is possible that the fronds get much longer when grown in a stove.

N. BARTERI is a well marked variety of *N. exaltata*, differing from all the forms of that species, however, in its short, rounded, almost leathery pinnae, which are of a glaucous green colour, and in the fronds not exceeding a foot in length. It was introduced to Kew many years ago from W. Tropical Africa by the collector Barter. Lately it has attracted the attention of Fern specialists, and I see it is offered by Mr. May in his catalogue for this year. W. W.

LARGE-GROWING ADIANTUMS.

I AM asked by "T. R." to name a few of the large-growing Maiden-hair Ferns which would succeed in the open rockwork of a fernery. As the majority of the *Adiantums* are natives of tropical climes, they are well suited for the position indicated, and have a pleasing aspect when well grown. These plants are widely distributed throughout the tropical and temperate countries of the world, and upwards of fifty species are in cultivation, all resembling each other, yet sufficiently distinct to plant side by side and form a good contrast. Many of the kinds are of slender growth, but these I have not treated upon here. Tall fine-growing kinds are asked for, but the smaller kinds are not omitted from their want of interest. I hardly know a single species or variety of *Adiantum* which does not deserve the attention of everyone. The tall-growing kinds when planted out require to be thoroughly well drained, and the soil should consist of about equal parts of nice fibry peat and turfy loam chopped up roughly and made fairly sandy, some pieces of sandstone being well mixed with it in order to keep the whole free and open. If the plants are required to make a quick growth the soil should have a larger admixture of peat. *Adiantums* require a liberal supply of water to their roots at all seasons, and the atmosphere should be kept well charged with moisture. Avoid

wetting the points. "T. R." is recommended to get the following kinds, some of them attaining large dimensions, and the positions which they are to fill must be regulated accordingly: *Adiantum cardiochlaena*, *A. cristatum* (does best in limestone), *A. cultratum*, *A. formosum*, *A. intermedium*, *A. henslowianum*, *A. kaulfussii*, *A. macrophyllum*, *A. microphyllum*, *A. palmatum*, *A. pentadactylon*, *A. peruvianum*, *A. prionophyllum*, *A. pulverulentum*, *A. tenerum*, *A. tetraphyllum*, *A. trapeziforme*, *A. venustum*, *A. villosum*, *A. velutinum*, *A. wailesianum*.
W. HUGH GOWER.

Brainea insignis.—This Fern is so distinct and peculiar, that any information with regard to its behaviour under cultivation is of interest. Mr. Gower asks (p. 334) for the experience of those who have raised this plant from spores. It has been done at Kew several times, and I know it was done by Messrs. B. S. Williams about ten years ago. There is nothing special to record with regard to the sporelings beyond the fact that whilst the spores vegetated freely only very few plants developed from them. There are some good specimens of *Brainea* at Kew, where two of them I know have been in cultivation twelve years. They have stems 2 feet high and good heads of fronds. A beautiful character of the fronds is their rich coppery-red colour when young. The longest fronds on the Kew plants measure 3 feet. A position not far from the glass in a moist stove suits the plants, and they appear to like water all the year round. This is quite different from what this Fern gets in a wild state in South China and Hong-Kong, as is shown by the following information sent to Kew some years ago by Mr. Ford, of the Hong-Kong Botanic Gardens. He says the *Brainea* grows invariably in full sunshine among stones on hillsides where the sun is felt in all its fierce intensity. From May to October it gets frequent and heavy rains, and scarcely any for the rest of the year, when the ground becomes very dry and the atmosphere drier than it ever gets in England. Now I know from experience that anything like an imitation of these natural conditions is fatal to *Brainea* in this country.—W. W.

ORCHIDS.

CELOGYNE CRISTATA.

THE time of year is fast approaching when we shall see dazzling white and yellow flowers of this gem amongst the winter-flowering Orchids. I am asked by Mr. A. Cargill how to grow this. He says, "I have some nice little pieces of *C. cristata* just finished growing. Will you kindly tell me through THE GARDEN the treatment to make them bloom?" When strong enough there is no difficulty in getting them to flower either in 5-inch pots or as large specimens. I do not know a more easily cultivated plant in the whole Orchid family than this, and the pure white flowers are suitable for any purpose, either on the plant or when cut, as they mix well with other flowers. It is just over fifty years ago since this *Ceologyne* was first seen in flower in this country from plants sent home some few years previous by Mr. Gibson, then engaged in collecting Orchids for the Duke of Devonshire at Chatsworth. Since then it has frequently been introduced. I introduced a large quantity, and amongst them were some of the varieties which have since obtained special names. None are shy flowering. It seldom flowers the first year after being parted, and sparingly in the second year. The species appears to be common in Northern India, but we do not know from whence the pure white form called *hololeuca* or *alba* was introduced, and which was first flowered by Mr. Richards when gardener to Mr. Titley, of Leeds, and which will prove very

acceptable where pure white flowers are required. The yellow blotch of the typical plant is objectionable. A few years ago this variety was very expensive, but it is less so now. These plants I have found for some years to thrive well in the warm end of the Odontoglossum house, the pseudo-bulbs come stronger and the whole plant is of a richer green in such a situation than when grown in the East Indian house. I do not object to see the thermometer running up pretty well in the daytime, and during the growing season the atmosphere should be moist. They like also a good supply of water to their roots; therefore ample drainage is necessary to carry off undue moisture, not allowing anything to remain about them in a sour or stagnant condition. When the bulbs are made up, as my friend "A. C." says his are, the quantity of water given the plants when growing should be considerably decreased and the atmosphere kept drier. I like to remove the plants to a situation some few degrees warmer, still keeping them supplied with sufficient water to prevent them suffering, when if the bulbs are strong enough the flower-spikes will begin to show. After the flowers fade the growth for the following season soon spreads out. I like to grow *Ceologynes* in large, broad shallow Orchid pots or pans, taking care to raise the peat fibre and Sphagnum Moss well mixed into a fair-sized mound, so as to enable the thick scaly rhizomes to extend. The flowering bulbs then swell up to a good size. Some prefer hanging baskets, but I am under the impression that well-drained pans suit them best. To get a good succession of bloom, anyone having a number of plants should remove some of these as soon as the spike begins to show up from the base of the pseudo-bulbs to a warmer house, and give them a larger amount of water. This will forward them considerably. The following are the principal kinds:—

C. CRISTATA.—This, the typical plant, has flowers some 4 inches across, the petals broader than the sepals, wavy at the edges, of the purest white; lip also white, having a large blotch of orange-yellow on the disc.

C. C. LEMONIANA.—This flowers usually later than the typical form. It has the sepals and petals slightly broader, and the lip is stained with paler lemon instead of orange.

C. C. MAXIMA is a superior form of the type, introduced by Mr. Sander, of St. Albans. All the segments are broader, and it produces more flowers on the raceme. It is a fine variety, and it was figured in THE GARDEN some six years ago (Vol. XXXI., t. 585).

C. C. HOLOLEUCA—This, the pure white-flowered form, flowered first with Mr. Titley, of Leeds, but from what part of India it had been introduced appears unknown. It is still a rare plant and valuable as a pure white variety.

C. C. TRENTHAM VARIETY is a grand flower of good form and substance. It is late in flowering, and I have seen this come into flower after all the others had past.
WM. HUGH GOWER.

Cypripedium albanense (*T. Burns*).—This is the name of the flower you send, saying it is the result of crossing *C. Sedeni* with *C. Schlimi*, only I should think the cross is reversed—*C. Schlimi* and *C. Sedeni*. It seems a somewhat poor flower of *C. Sedeni* and not worth recommending. We want bright colours in these Slipper Orchids, which we are now in a fair way of getting.—W. H. G.

Cypripedium Hornianum.—Flowers of two seedling forms of this variety come to me from Mr. Macdonald, who says that they are from plants obtained by crossing *C. Spicerianum* with *C. superbiens*, the latter being the seed parent. The foliage is pale green tessellated with fine lines of dark green; flowers large, the dorsal sepal white, hav-

ing a central stripe of chocolate, green at the base, the sides flushed with purple; lower sepal small, suffused with green; petals slightly deflexed, undulated at the margins, green shaded with purple, a median line of purple and several lines of black dots on either side; lip large, brownish purple tinged with green, inside wholly dark purple freckled with black dots. This hybrid was first raised by Mr. Horn, gardener to Baron Nathaniel de Rothschild, near Vienna a few years since, and to whom it was dedicated by Reichenbach, but the flowers now before me sent by Mr. Macdonald are much finer than those from the original plant.—W. H. G.

GARDEN FLORA.

PLATE 932.

CENTAUREA RUTHENICA.

(WITH A COLOURED PLATE.*)

SPEAKING of this grand old-fashioned flower only as a garden or decorative plant, much need not be said of its beauty and noble character when such a faithful coloured plate is given. This species is not old-fashioned in the sense of being an old denizen of our gardens, for it was only introduced in 1800, but rather that it belongs to an old and favourite type of flowers. Not that it has much to thank its genus for either, because many of its big sisters are coarse and ragged and have a most ungainly habit. I refer to these features of other *Centaureas* because I wish to strongly recommend this Russian species. It is well known that some genera that are mainly composed of coarse species often divert our notice from really good ones. I fear it has been so in the present case, though the plant in every way is vastly and distinctly superior to most, if not all, of the other *Centaureas*. With me the plant grows 4 feet to 5 feet high; the foliage is of a thick texture and dark, glossy green; the heads or flowers, as figured, are of the natural size, and nothing can be nobler and more beautiful than its big feathery flowers of pale yellow on the dark stalks, and contrasted with the almost Palm-like foliage. The plant is a reliable perennial and perfectly hardy, and is without the bad manners of most other *Centaureas* of running at the root. It will thrive under ordinary conditions, but it has a preference for deep, rich land, as I have proved, and as its long tap roots would indicate. Lovers of hardy plants may safely take a note of this for roomy and conspicuous positions. It is one of those garden subjects which we have been slow to appreciate, but it is a plant which sooner or later must meet with acceptance in all gardens of carefully selected things.
J. WOOD.

Pilea muscosa as a bedding plant.—I was agreeably surprised to find that this is a very useful plant for bedding. I saw it used as a carpet plant quite recently at Bowden House, Chippenham, and with marked effect, the colour and character being so distinct. Spring-struck cuttings

* Drawn for THE GARDEN in Mr. Woodall's garden at St. Nicholas House, Scarborough, by Miss Edwards. Lithographed and printed by Guillaume Severeys.



OGCHOTRIA PITHYULA

were employed, and these being planted thickly and not topped made a dense and even mass of growth, quite unlike any other plant used in the extensive arrangement. It was as healthy and luxuriant in this case as it is often seen in the plant stove; indeed, I have often noted the plants looking much less vigorous when grown in pots than they were in the beds at Bowden House.—W. S.

THE WEEK'S WORK.

PLANT HOUSES.

PLANTS AND THE AUTUMN FROST.—In advising the completion of the housing of greenhouse plants in the last calendar no allusion was made to such things as can be stored away under stages in dry sheds, cellars, &c., where it is possible to just exclude the frost, the plants thus coming to no material harm. Fuchsias belong to this category, but it is hardly advisable to house them just yet, for in their case a few degrees of frost will help to clear away any insects, as well as hasten the fall of the leaves before storing. Provision should, however, be made for them, so that when it is found needful to bring them under cover it may be done straight away rather than have them standing under temporary shelter for a time. Old plants of Fuchsias if not of any further use in pots can be turned to a good account oftentimes in the flower garden, flowering far more freely than young ones will do under the same conditions. Lantanas can be housed with the Fuchsias whether they have been grown in pots or outside by keeping the roots well covered up. Brugmansias in large pots or tubs should not be exposed to more than a few degrees of frost; these will, however, stand a trifle more cold than those which have been planted out, owing to the growth of the latter being more hardened with less tendency to gross or sappy wood. It is regrettable that these fine old plants are not more often met with than they are. Exposure late in the autumn with after-neglect in the winter has ruined many without a doubt. Myrtles in pots must not be risked outside too long; a slight frost or two will not injure them it is true, but the roots must be thought of, which in the case of pot plants are more liable to injury from cold. All that has to be done in the more favoured southern localities is, of course, to protect the roots and the growth during sharp frost when they are planted out, but in the majority of cases by a long way this will not suffice; hence we do not see nearly enough of this fine old shrubby plant from which it is far better to just exclude the frost. Green Bays in tubs must not be risked too long outside. When these are not wintered where the frost can be excluded the tubs and the surface soil should be well protected so as to prevent the roots from being in the slightest way frozen.

Agapanthus umbellatus will resist some few degrees of frost without any injury, but it is never advisable to run the risk if it can be avoided. By the end of the month the stock should be brought under cover where not planted out. In the latter case a good protection should be afforded them, but then even there is danger to be apprehended in severe weather. The scented Verbena, or *Aloysia citrifolia*, can be housed or protected in the same way as the Fuchsias; so long as the roots are not frozen no harm will come to them. Against walls in sunny situations this old-fashioned plant will survive several winters in succession with a fair amount of protection at the roots and of the main growths. A dry situation I have found to be favourable to it outside. *Eulalia japonica variegata* and *E. japonica zebrina* are hardy enough when planted out, but if in pots the plants must be protected for reasons already given. Bamboos, even, if they are grown in pots or tubs for decoration, must not be left so exposed as if they were planted out, otherwise the roots must inevitably suffer. Should it not be possible to protect these

plants under cover, plunge the pots over the rims in a sheltered spot.

BULBS.—Of these the Lilliums which are in pots must not escape notice. It is not at all necessary that they should occupy otherwise valuable room in greenhouses, but they can be kept under stages, standing upright rather than laying the pots on one side to prevent excessive drought. In frames they will be safe enough so long as the soil in the pots is not frozen; this may be easily prevented by a good surface covering on the pots, whilst by reason of the position no watering would be required for months together. Tritonias and Montbretias in pots should be stored away under stages rather than be left in cold frames even. Hedychiums in variety if in pots, also Cannas, should not be risked in too low a temperature, an ordinary greenhouse temperature being low enough.

Hardy exotic and other Ferns if in pots should at least be plunged over the rims, but a cold frame or pit would be better still. Other plants may occur to the readers of THE GARDEN which have not been enumerated. These should all be looked after according to their hardiness in time to prevent any possible injury thereto. Oftentimes the complaint is heard that the frost has destroyed plants or materially weakened them, when by a little forethought all loss might have been averted. A deal will depend upon the locality as to the amount of frost these and other semi-hardy plants will withstand, but in no instance is it advisable to run undue risks with all of the stock even if a few are experimented with.

Mats for protecting should be held in readiness for use, the earliest opportunity being taken to have the new ones tied. The drier these are kept the more effective will they be. Canvas covers are now greatly approved of for houses and large pits; they are in every way excellent for the purpose; these also should be looked to in case of emergency.

J. HUDSON.

FRUIT HOUSES.

PINES.—Where a considerable number of plants are fruited each year it usually happens that a few fail to start with the rest, but show fruit in the autumn. This season is no exception to the rule, but, on the contrary, there are more of the late starters than has been the case for some time past. They ought not to be neglected or lightly valued, as there is every possibility of the fruit ripening at a time when choice fruit is none too plentiful. Arrange the plants at the sunniest, hottest end of the house, and give them the benefit of a moist, brisk bottom-heat of say 90° or rather more, the house temperature being kept at 70° by night, increasing to 80° in the daytime. Those more forward, the fruit swelling fast, must also have plenty of bottom-heat, from 90° to 95° being none too much. Keep them uniformly moist at the roots, cease overhead syringings, syringing among the plants and into the collars occasionally and damping down the floors being still persevered with. Colouring will soon be taking place in the case of the bulk of late Cayennes, and the plants must then be kept rather on the dry side at the roots, or otherwise some of the fruit may decay at the heart. A drier atmosphere and rather more air are also beneficial, this greatly improving the flavour of the fruit. Ripe fruits keep best on the plants in a cool dry room or in ainery where late Grapes are hanging. The batch of Queens that are to be started early should be kept well plunged in a bed of fairly moist tanner's bark or leaves the temperature of which does not exceed 70°. If the plunging material is dry, owing to the heat being principally generated by hot-water pipes, then the pots must be gone over occasionally and watered before they become dust-dry, further perfect rest being promoted by keeping the top-heat at about 60° by night and not much higher in the daytime, air being given at 65°. Well-rooted suckers in 6-inch or larger pots must not be allowed to become very dry, or this may result in premature fruiting next spring. All ought to be examined at least once a week, and any

approaching dryness watered. Also give them good room, this being the time of year when many plants are greatly weakened and practically spoilt by overcrowding. A temperature from 60° to 65° by night is sufficient heat for these, the bottom-heat being at or about 80°. Canvas or thick cotton blinds run over the roofs of houses, and mats on pits on cold nights are great economisers of fire-heat and obviate the necessity for injurious hard firing.

LATE GRAPES.—These, thanks to the extra amount of sunshine registered this season, are more perfectly ripened than usual, and should keep well accordingly. In some instances there is a tendency to shrivelling, this somewhat spoiling the appearance of the bunches without, however, impairing the keeping or eating qualities of the berries. The last two or three weeks as well as the next few weeks have tried or will try the skill of those in charge, dull, warm showery weather being responsible for very many damaged bunches. Especially is this the case where the top air is admitted by means of running sashes, or, worse still, where the roof is in a bad state of repair. Drip where it comes into contact with bunches, soon ruins nearly all the berries, and if the bunches cannot very well be shifted out of the way of the falling water, then it ought to be warded off by means of strong paper arched over them. Faulty ventilation may also be quickly followed by many decaying berries. Now that the Grapes are thoroughly ripe, high temperatures, unless accompanied by abundance of air, are undesirable. A drop to 45° during the night with a little front and top air, the circulation being further aided by a very little heat in the hot-water pipes, answers well. Before the heat rises sufficiently in the morning to greatly exceed the temperature of the berries, and which are always naturally cold, this resulting in condensation of moisture on the latter, give air freely along the front as well as at the top of the house, always provided the latter does not admit rain to the topmost bunches. Neglect this early ventilation and the chances are all the berries will become dewed over, trickling soon following unless a better circulation of dry air is at once brought about. A few such narrow escapes greatly soften or weaken the skins of the berries and an early decay is certain. Keep a close look out for cracked or decaying berries, unhesitatingly cutting all out that are touched, however slightly, to the extent even of sacrificing half the berries to save the rest of the bunch. It is the freely-thinned, medium-sized to small bunches that keep best, and which should be principally reserved for bottling. All sub-laterals should be removed, and dead or dying leaves removed as fast as they fall, as these latter in the course of decay seem to keep the atmosphere moist and tainted. The borders ought not to be allowed to become very dry, and water should be given when needed, choosing the morning of a clear day for the work, and afterwards re-covering the soil with clean dry litter.

EARLY VINES.—Those to be started early enough to give ripe Grapes in April and May ought now to be pruned, the rods thoroughly scrubbed with hot soapy water, and the house generally also receive a good cleaning. When Grapes are wanted thus early they are really best obtained with the aid of pot Vines, or else strong young Vines well established in narrow borders in forcing houses. In each and every case they start all the more strongly for having a thorough rest after pruning has taken place, and in particular break more surely and evenly after being subjected to a moderately severe frost. Instead, therefore, of shutting up the house and turning on the fire heat when a frost is anticipated, the better course to pursue is to leave the lights wide open. Vines are perfectly hardy till such times as the sap is in upward movement, and the less frost is excluded from those cleared of fruit and leaves the better it is for them. Vines with their roots wholly inside are naturally the best adapted for hard forcing, but it is not an absolutely essential condition, as it is possible to warm up outside borders with the aid of hotbeds of leaves and manure formed on them. If, therefore, there are

any old Vines of Black Hamburgh and other varieties that it is intended to get rid of, they can be forced hard and the house cleared in time for planting strong young Vines in May or early in June, the loss of a season being thereby guarded against. The first proceeding with all outside borders containing the whole or the bulk of the roots of Vines to be forced early should be to heavily cover them with fresh dry leaves, these answering the double purpose of conserving heat in the horder and warding off cold, heavy rains. Later on a gentle hotbed can be substituted. Only borders containing the roots of Vines to be started any time before February should thus be covered up, the action of frosts being beneficial rather than otherwise in all other cases.

PRACTICAL.

THE KITCHEN GARDEN.

SPRING LETTUCE.—Lettuce planted now of either Black-seeded Bath Cos, Hicks' Hardy White, and amongst the Cabbage forms All the Year Round and Hammersmith Hardy Green will winter better than those planted two or three weeks earlier. Hicks' Hardy White will be ready quite a fortnight earlier than the Bath Cos; therefore the two form a good succession. It is better to plant on two positions, on a west border and in a more open position well exposed to the sun.

EARTHING UP CELERY.—It is time that the final moulding of all Celery other than the very latest was finished. Some care is needed with this latest moulding. With the soil loose and thrown up roughly wet penetrates, engendering decay; frost will be found to take a greater hold than it does with well-formed ridges. If more care were taken in the earthing, complaints of Celery being injured by frost would not be so numerous, and besides there would not be so much trouble in covering and uncovering when frost does occur. Some people consider this quite necessary to prevent injury. The soil must be brought up sharply, working it well around the plants, leaving about 6 inches of the tops exposed, the whole being finished off smartly with the back of the spade. It is not often that wet gets between the ridges, and when it does the position must be very low-lying and badly drained. In this case it should, if possible, be drained away. The very latest may be left until the appearance of frosts.

PARSLEY FOR WINTER.—As long as the weather remains mild and open, the Parsley which is being retained for winter and early spring use may be left exposed, keeping it, however, free from decaying foliage, tree leaves, and weeds. A free circulation of air promotes a matured growth. Have in readiness glass lights or whatever is to be adopted for protection. Parsley which is expected to keep if it once becomes exposed to a severe frost or a heavy fall of snow is apt to decay quickly. Parsley which is being reserved for use during an inclement time should not be gathered from until such weather really does occur. With a little timely protection that which may be growing in the open may be long preserved for use by a little forethought. A few wooden borders or any framework of wood should be covered with either mats or oiled canvas.

DIGGING VACANT GROUND.—Whether ground may be dug to advantage during the early autumn months will depend upon the nature of the soil. Trenching or bastard trenching of lighter soils so as to make a greater depth of well-worked fertile ground cannot be over-estimated, but this was referred to recently. Trenching of soils is different to digging. Digging over all vacant ground in the autumn is frequently recommended as the best method of getting the soil into a well worked state. With many soils this is undoubtedly so, but not all; for instance, certain kinds of clay soils. Those clay soils which are benefited by the process should be thrown up roughly with digging forks. Spades are not the best implements for manipulating heavy land. Those of a more sticky nature should be left until February. This is the better period for digging very light soils, but if the

soil is not dry, the surface should be quite clear of weeds and rubbish, so that it will be open to the action of frost.

WINTER TOMATOES.—The weather has been favourable for the fruits setting freely on Tomato plants provided for winter fruiting, and as long as they will keep on setting nothing should be done to prevent them. As the same conditions as regards temperature and ventilation are needed for both setting the fruit and swelling it off afterwards, the temperature should be about 60° during the night, with a little ventilation at the front and upper ventilators so as to maintain a buoyant atmosphere. What Tomatoes dislike is a close and stuffy house, which promotes disease. Water must also be sparingly applied, that is by damping, as unless for a week or two longer on fine mornings the less moisture that is thrown about the better. Rub out superfluous growths, the energies of the plants being concentrated on the main stems and swelling fruits. The soil must be kept just moist, a little very weak liquid manure being also applied. An occasional dusting of an approved fertiliser to the surface will be of service. Over-gorging with either liquid manure or water will soon cause the plants to collapse.

A. YOUNG.

ORCHIDS.

The effect of the sun upon the glass is not strong enough now to injure the plants in any of the divisions, and if the blinds have not been removed, see that it is done at once. I chose a fine dry day, and had all ours taken down and stored for the winter. If they are put away rolled up with the least damp upon them, they may be taken out in February or March perfectly rotten. Even if made of the best material, the blinds do not last more than about two years, through the wear and tear of running them up and down and the constant soakings of rain. We use our blinds only in summer to protect the plants from sunshine, but some Orchid cultivators prefer to use them in winter as a protection against frost. I tried this one season, but found it was a very troublesome system. There was undoubtedly a saving of fuel, as the blinds prevented the frost from acting upon the glass and made a difference of at least 5° in the temperature of the houses; but in the morning, when we wanted as much light as possible for the Orchids, it was not possible to obtain it owing to the blinds being frozen. They could not be rolled up until they had thawed. The Rev. F. D. Horner, of Kirkby Lonsdale, uses a thick material to cover the roof of his Orchid houses during frosts, and finds it not only saves fuel, but that the plants do better with the less artificial heat, the atmosphere being more congenial. When the blinds can be pulled off as soon as daylight comes in and put somewhere to dry, use them by all means, but even under the most favourable conditions the plants never get enough light from November to February. To leave the roof-glass covered for two or three hours after daybreak during that period cannot fail to be disastrous to plants which require full light. This being the case, see that the glass roof is made quite clean, for the glass soon becomes very dirty, especially inside, and it is well to rearrange the plants at this season. The laps of the glass become quite green also, and should be cleaned out with a feather. It is well to rearrange the plants at this season, for some that have been in a certain position during the summer are better removed to another and lighter position for the winter. I never think of removing them without their being cleaned, and this thoroughly. Nearly all parasites, whether scale or thrips, disfigure the foliage and sadly cripple the growth. If any really need re-potting let it be done without delay, and at this time of the year I am always more careful if possible to prevent injury to the roots. In the case of Cattleyas or Lælias I chip the pot to pieces bit by bit, and remove them carefully. If a few small pieces hang on to the roots no harm is done. Some persons, instead of turning their plants out of the flower-pots, place one within the other, and allow

the roots to ramble over the rim of one pot into the compost placed between the two. I tried this plan, and certainly do not like it. The flower-pots become too large by the transference of one to another in this way. Another plan I have tried was to break the flower-pots in pieces, or rather crack them badly, knocking the bottom out, &c., but not parting the pieces from the roots. This is better than transferring one flower-pot into another entirely. I mention both of them because some growers treat all or part of their Orchids in that way, but my own experience suggests the removal of the old flower-pots entirely; the fewer roots that are injured so much the better will the plants succeed. Beware of over-potting. It is much better to err on the other side; a plant from a flower-pot 6 inches diameter to one 8 inches is a good shift. Some of the Cattleyas and Lælias are pushing young roots freely from the base of the last formed pseudo-bulbs. See that slugs do not find them out. They can only be caught feeding by the aid of a lamp. The succulent young spikes of Oncidiums and Odontoglossums are devoured even before they are seen, as they push out between the bulbs and the leaves. The garlic-scented snails can be detected by the offensive smell they give off. We have been placing slices of Carrot which attract them, and by looking over the plants about seven and again at ten o'clock at night most of them may be caught, for they all turn out to feed after twilight. They are generally most troublesome in the cool house, and we could get rid of them altogether, but that the eggs and very small specimens are constantly being introduced with the Sphagnum Moss. Many Orchids do not require much water now, and unless great care is taken, some of the Cattleyas will start into growth again, especially such as are at the height of their vigour, and if an unseasonable growth takes place the plants are thrown quite off their balance, and may not flower for one or two seasons. Another class of Orchids requiring to be comparatively dry at the roots during the resting period, which for them is now commencing, is the Cynoches, Catasetums and Mormodes. They should be placed in a light position in the Cattleya house near the roof glass, and until the leaves decay, give water once a week or so; when the leaves are removed give none for some time. They want watching and the pseudo-bulbs ought not to be allowed to shrink much. I have before urged cultivators to take more to the culture of these quaint and interesting Orchids. The curious formation of the flowers and their distinct if not brilliant colours are interesting, and as a study of curious form they are amusing even to those who are not far gone in their love for Orchids. Some Orchids do well with their foliage near the glass in summer, but are too sensitive to the effects of sudden changes of temperature to be allowed to remain in that position during the winter, and in this class many Lælias and Cattleyas are included. Amongst plants that may be quite near the glass roof are such things as Dendrobium Falconeri, D. Devonianum, D. Bensoniae, D. formosum and some others of the nigro-hirsute section. The deciduous species may be almost or altogether without water, but all the evergreen section should not be so dusty that the stems become shrivelled, but it is well to keep them on the dry side. Vanda teres we have placed at the end of the Cattleya house, and the tips of the growths close to the glass roof, and they do not receive a great deal of water, just enough to prevent the part of the stems furnished with leaves from shrivelling. Renanthera coccinea should receive very similar treatment. The flowers of the old Cattleya labiata are now to be seen pushing up out of the sheaths, and we look forward to a good display of bloom from this brilliant Cattleya during the duldest, dreariest period of the year. Although the flowers are showing there is no need to be too free with the water, as a constant moist state of the roots would be injurious to them. The flowers open best in a temperature of about 60° as a minimum. Our Cattleya house ranges now between that figure and 55°, the warmest house 65° to 70°, and the cool house about 50°, less or more.

J. DOUGLAS.

THE FRUIT CROPS.

SUPPLEMENTARY.

Warfield Hall, Bracknell.—The Apple crop in this neighbourhood is very partial; some trees very good and others very thin. Pears thin as a rule. Plums fairly good, but much thinned by frosts in April. Cherries were fair; Morellos plentiful. Peaches set a good crop of fruit, but the trees suffered from want of water and from red spider and aphids. Apricots set well, but suffered from frost. Gooseberries were abundant and good considering the drought. Black Currants abundant from old trees. Red Currants very abundant, but not up to average quality. Raspberries almost a failure from want of water. Strawberries most abundant, and size and quality superb where well watered.

Vegetables generally suffered much from the long drought, but Peas did splendidly up to end of July, and salads succeeded well where they could get a little water occasionally. On the whole (in spite of the long drought) we stood in a much better position in the middle of July than I found it here at the same date in 1868.—H. SWANSBOROUGH.

Holker Hall, Cartmel, Carnforth.—The fruit crops in these gardens, with the exception of Plums, are abundant and of good quality. Sir Joseph Paxton Strawberries, being mulched early with stable litter and copiously watered, withstood the drought well and gave good crops of fruit. The excessive heat ripened them so quickly that their season was soon over. Gooseberries were heavy crops, but suffered severely from caterpillars and red spider. Red and Black Currants very good, also Raspberries. Cherries, both sweet kinds and Morellos, are heavy crops. Moor Park Apricots above the average, ripening to perfection, which is a rare occurrence here; the plague of wasps spoiled many of them. Peaches on open walls have done well, the fruit highly coloured and of good flavour. Apples are good crops, and some remarkably fine fruits have been gathered of Ecklinville Seedling, Roundway Magnum Bonum, Golden Noble, and King of the Pippins, the last very highly coloured. Pears on walls good crops and larger than usual, Williams' Bon Chrétien and Marie Louise especially so.

Both first early and second early Potatoes good crops and free from disease; late kinds not grown in garden. Peas were never gathered so early in these gardens as this year, being ready at Whitsuntide (May 21). All Pea crops have done well, particularly McLean's Best of All, which was one mass of fine pods from top to bottom. Dickson's Champion Cos Lettuce attained a remarkable size, being very crisp and good.—WM. FOX.

Croydon Lodge, Croydon, Surrey.—Apples here are an average crop, some kinds bearing very heavy crops. Lord Suffield, Alfriston, Keswick Codlin, Lady Hennifer, Manks Codlin, King of Pippins, Blenheim Orange, Cellini, Mère de Ménage, Golden Noble, Ribston Pippin, Devonshire Quarrendon and Peasgood's Nonsuch had very good crops. Rarely indeed are such fine crops of Marie Louise Pear to be seen as are hanging on the trees this season. Knight's Monarch, Windsor, Williams' Bon Chrétien, Louise Bonne of Jersey, Glou Moreau, Passe Colmar, Catillac, very heavy crops and large fruit. Wall fruit, such as Peaches, Barrington, Royal George, Golden Eagle, Dr. Hogg, Hale's Early, Sea Eagle and Grosse Mignonne, grand and well-coloured crops. Of Nectarines, Lord Napier, well coloured and large fruit, Albert Victor, Elruge, Rivers' Orange, Spencer, Victoria, Violette Hâtive have good crops. Apricots, although thinned out considerably, were a heavy crop and have ripened well. Cherries were a very good crop, May Duke being very large. Plums a total failure. Bush fruit, Currants (Black, Red and White) abundant and good. Gooseberries very good crop, bushes clean and healthy. Raspberries very small and poor. Strawberries have been plentiful; Noble, General McMahon, Sir Joseph

Paxton and Auguste Nicaise have been the best.—WILLIAM CARR.

Upcott, Barnstable, N. Devon.—The crops of fruit and vegetables in these gardens and neighbourhood have on the whole been satisfactory. Peaches have been abundant and good; so also Apricots, which ripened off much quicker than usual, so that the season has been short. Apples are a rather partial crop, but the fruit is large and well coloured. Pears are a good crop, the fruits large and clean. Plums and Cherries good. Small fruits have not been quite so good as usual. Strawberries a good crop. Black Currants abundant; Red Currants light. Raspberries light. Gooseberries a good average crop.

Potatoes have been good, but not a heavy crop. This applies to early and second early varieties. I cannot yet say how the late sorts will turn out, especially Magnum Bonum, which is our principal winter variety. Peas have been a light crop; so have Broad Beans. Onions are good. Carrots, Parsnips, Beet, &c., very good. Runner Beans did not set well at first, but are now abundant. Late Turnips and also winter crops are looking fairly well. The year 1893 has been remarkable here, as in most other parts, for its dry tropical weather, commencing early in March and continuing up till the middle of July, when we had some heavy rains, which thoroughly soaked the land, causing all kinds of vegetation to grow rapidly. The local markets have on the whole been well supplied with fruit, but during part of May and during June and July vegetables were very scarce. We picked Sutton's Ringleader Pea in the open on May 14, and gathered our first dish of Strawberries from the open on May 10, which is about three weeks or a month earlier than in other years.—W. HARRIS.

Castle Hill, Englefield Green, Surrey.—In this neighbourhood Apples and Pears are very abundant. Pears first-rate, but Apples with me are rather small. Strawberries were a complete failure. Bush fruits are an average crop, but soon over. Raspberries a fair crop. Peaches and Nectarines average. Apricots were a very fair crop, but eaten by wasps before they were ripe. Plums and Cherries were a very good crop, but trees covered with black fly and red spider. Nuts a heavy crop.

Early and second early Potatoes are good crops, late varieties promising well at present. Spring Cabbages were good. Peas a very heavy crop, but soon over. Cauliflowers a failure. French Beans good; Scarlet Runners very poor crop. Carrots, Parsnips, Beet doing well. Onions with me a complete failure, not one left, being eaten up by grub.—H. ADAMS.

Eynsham Hall, Witney, Oxon.—The fruit crops here are the best we have had for some years; although we generally have an average crop. Fruit large and well coloured. I may say the same of Pears, most kinds carrying a heavy crop, fruit being much larger than usual. Plums are an extra heavy crop, and where thinned the fruit is very fine. Apricots and Morello Cherries good crops. Gooseberries a very heavy crop. Raspberries have never done better. There are good crops of Currants, Red, White, and Black. Strawberries were a very good crop, size and flavour good, but the season short.

Vegetables have done well with the exception of midseason Peas, but late sowings doing better. Early Potatoes have been a light crop, but late varieties in the fields have never looked better and promise to yield a heavy crop, and as yet are free from disease.—JAMES ANDERSON.

Fota, Co. Cork.—Like most other parts of the British Isles, the south of Ireland has been very dry, but we have been more favoured than the south-west of England, the absence of spring frosts and the dry weather being most favourable to all kinds of fruit blossoms, with the result that there is an over average crop of nearly all kinds of fruit. The Apple crop is the largest I have seen for many years, and the quality all that can be desired, although the fruit is not so large as usual, in consequence of the dry season and over crop.

W. E. Gladstone was our first to ripen. This is not a profuse bearer, but a nice looking Apple and as good as most very early Apples are. King of Pippins, Ribston, Cox's and Sturmer Pippins, Lord Suffield, Tom Putt, Tower of Glamis, Blenheim Orange, Annie Elizabeth, Lady Hennifer, Bramley's Seedling, a very heavy late Apple; Worcester Pearmain, a nice looking early Apple, but quite second-rate; Small's Admirable, as usual, heavily laden; Lane's Prince Albert, Roundway Magnum Bonum, Dutch Mignonne and Alfriston are bearing very heavy crops, but other varieties are well laden. The Pear crop on pyramids is over average, not so on walls. Duchesse d'Angoulême, Williams' Bon Chrétien, Beurré Hardy, Comte de Lamy, a fine flavoured small Pear; Gratioli of Jersey, Mme. Treve, Louise Bonne of Jersey, Flemish Beauty, and Beurré Diel are bearing the largest crop. Cherries were an under average; Morellos quite an average crop and very fine. Figs a light crop. Plums much over average; Jefferson, Hicks' and Coe's Golden Drop on walls very fine; Victoria, Prince of Wales, The Czar, Prince Englebert overlaid. The Strawberry season was short and fruit not so large as usual. Gooseberries were the heaviest crops known for many years, and other small fruits an average crop. Peaches on walls a good crop and very highly coloured.

Early Potatoes are a very good crop and the quality is first-rate. Myatt's Ashleaf, I think, is yet as good as any for quality, and a very good cropper. Late kinds promise well. All kinds of fruit and vegetables quite three weeks earlier than usual.—W. OSBORNE.

Broadlands, Ascot.—The fruit crops under glass here have been a great success this season. We began with Peaches, Early Louise May 13, following with Hale's Early in June, both good varieties. With me Early York came in next, followed by Stanwick Elruge Nectarine, Royal George Peach, Frogmore Golden and Sea Eagle. The above selection gave a good supply till end of July; the second house giving us some fine examples of Stanwick, Early York, Rivers' Orange Nectarine and Princess of Wales. Melons also have been very good, one of the best being Sutton's Triumph, a good setter. Our Grapes are Black Hamburgh, Muscat of Alexandria, Foster's Seedling, Buckland Sweetwater, Madresfield Court quite free from cracking, and bearing very heavy crops; Alicante, Gros Colman, Gros Maroc and Lady Downe's. The fruit crop out doors with us commenced with bush trees, which produced a good all round crop, but over very quickly. Apples very scarce. Pears the same except on the walls. The following varieties are conspicuous: Williams' Bon Chrétien, Marie Louise, Louise Bonne of Jersey, Beurré Diel, Glou Moreau, Easter Beurré, Eyewood, Bergamote d'Espereou, Doyenné d'Été, Winter Nelis, Souvenir du Congrès, a very handsome Pear, and Duchesse d'Angoulême. Plums were a good crop. Strawberries gave us good crops, Vicomtesse Hélicart de Thury and Elton Pine being the only kinds we grow.

The season has been most trying for the vegetable crops. We began with Peas on May 16, Sutton's Mayflower being in before William I. The green crops hold their own better than in a rainy season, being quite free from club; young spring-planted cuttings of Seakale are looking most promising. The root crops are good, Onions excepted, as they are almost a failure. Beet is also good. Potatoes small, but sound, Sharpe's Victor, Early Regent, Beauty of Hebron and Reading Giant being our selection. We have had to keep the water cart hard at work all the season, only getting a few thunder showers since the first week in March. I think the season teaches us a great lesson—that is, nothing beats good deep cultivation in winter.—J. GUYETT.

Castle Gardens, Highclere, Newbury.—Apples are this year a very heavy crop and early in maturing, such kinds as Irish Peach, Juneating, Early Margaret, Mr. Gladstone, Lady Sudeley, and others being ripe at the end of June and beginning of July. The same applies to Pears, Plums, and, in fact, outdoor fruit as a rule, Jargonelle Peas

being quite a thing of the past at the end of July, but very fine nevertheless. Plums are very plentiful, but small with us; the same remark applies to Peaches ripening out of doors. Pears are not a heavy crop on the whole, some usually free-bearing kinds, as Beurré d'Amanlis, failing altogether, the most conspicuous failures being on west aspect walls, whilst standards and fully exposed espaliers are carrying good crops. Gooseberries plentiful and good. Strawberries very good, but soon over. Small fruits good and abundant. Raspberries and Cherries, especially Morellos, very good.

The season has been a trying one in the vegetable department, many seeds failing to germinate till after the July rains, notably Carrots, Onions, and Beetroot, much the best results being obtainable where sown rather deeply in drills. I never experienced such a trying season for keeping up a succession of Peas. Broad Beans set very badly too, while early Cauliflowers were infested with maggots at the root. I fancy Potatoes are turning out quite a surprise crop to many people, except, perhaps, on very dry, gravelly soils. At several cottagers' shows I have visited in this neighbourhood the tubers have been of good size and very clean; in fact I have been surprised at the good quality of vegetables generally after such a season. Tomatoes are cropping outside better than I have seen them for years, whilst late vegetables look very promising.—WILLIAM POPE.

Flixton Hall, Suffolk.—The fruit crops in this district, speaking generally, are fully up to the average. Of Peaches, A Bec, Dymond, Dr. Hogg, Violette Hâtive, Bellegarde, Sea Eagle, and Walburton Admirable were the best. Amongst Nectarines, Lord Napier, Stanwick Elrige, Violette Hâtive, and Rivers' Orange were very good. Apricots were also good, particularly Shipley, Large Early, Roman and Kaisha. Pears are below the average, but the fruit is of first-rate quality. Apples are plentiful and the fruit clean and good. Cherries on the whole were an average crop. Plums (both trained and standards) carried good crops. Amongst small fruits, Raspberries were a fair crop, but the fruit was not so fine as usual. Gooseberries and Currants suffered from the continual frosts in April; consequently the crop was below the average. On our strong soil Strawberries were plentiful and good, but on the light land along the Waveney valley the plants suffered much from the drought. Walnuts at one time promised to be a heavy crop, but latterly a large quantity have dropped, owing, I imagine, to the want of moisture at the roots.—H. FISHER.

Deepdene, Dorking, Surrey.—Apples on the whole a fair average, Lord Suffield, Hawthornden, and Cox's Orange Pippin carrying heavy crops. Apricots were a wonderful sight, the crops being far too heavy for the trees to carry with safety. Pears on the Pear stock are carrying good crops. Cordons on the Quince, and moved last winter, despite a heavy mulching, have done badly. All bush fruit's were excellent, Strawberries being good, but the fruits ran small. Prodigious crops of Plums were the rule.

The year so far has been very trying. I never saw kitchen gardens look so bad. Early sowings of vegetables have done much the best. Potatoes with me will yield a satisfactory crop.—J. SHAW.

Stoke Court, Slough, Bucks.—In reply to your letter as to state of fruit crops in this neighbourhood, I must say Strawberries and all small fruit have been abundant and good (our Strawberries were only planted in August, 1892). Pears on walls very light crop, on bush trees in open garden a very heavy crop of fine, clean fruit. Apples, Plums and Nuts are also very good. Apricots, Peaches, Nectarines and Cherries have been a splendid crop. Peaches well coloured and of good flavour. They are nearly over now. We are picking Barrington, Walburton and Late Admirable, that in an ordinary season would not be ripe before the middle or end of September. Everything is quite a month earlier than usual.

Vegetables are very good considering the season. Early Potatoes are small. Some Sharpe's Victor we had on a south border were lifted ripe for seed in

twelve weeks from planting. Late kinds are not ripening off so quickly, and are of a good size, clean and no disease. Tomatoes are a fine crop on the open walls. Good plants put out after danger of frost was past gave us ripe fruit at the end of June. Peas have done fairly well all summer, but now they are not doing at all well. Early Cabbage was good, but later lots were burnt completely up. Beans, Marrows and all other crops are good.—F. W. BEEVERS.

Cobham Hall, Gravesend.—Of Apricots there is an average crop, and of Apples a good crop on most trees, Lord Suffield, Manks Codlin, Lucombe's Seedling being above the average. The Cherries (Bigarreaus) under average, but good, and not much spoiled by cracking. Morellos good crop, but small, especially on the chalk. Figs are an average crop, but not many are grown. Nuts are an average crop, Cobs being above the average. Pears are a good average, fruit small except on walls, Doyenné d'Été, Brown Beurré, Marie Louise, Louise Bonne of Jersey, Williams' Bon Chrétien being good in most places. Plums are plentiful, above the average, the following sorts being the best: Angelina Burdett, Coe's Golden Drop, Early Prolific, Gisborne, the old Green Gage, and Jefferson. These are good on walls. Peaches and Nectarines are a good crop. Black and Red Currants are an average crop on heavy land, but on the chalk very poor. Gooseberries are a good average crop in most places, but very much damaged with caterpillars. Raspberries are an average crop in places, a great number of the maiden canes fruiting, which will reduce next year's crop. Strawberries are an average crop in places, best on heavy land; of good flavour. The season's picking was soon over, and, in fact, I have not known a season for picking so short as the present one.

Potatoes of early sorts are a light crop in most places, but good, Veitch's Improved Ashleaf being one of the best. Of second early varieties, Covent Garden Market and Chancellor are good sorts.—F. DEUXBERRY.

MARKET GARDEN NOTES.

COPIOUS rains have at length fallen, and work that has long been delayed can now be pushed on. The most important operations at present are:—

CABBAGE PLANTING.—This is one of the most important crops of the whole year, and all available land that has been cleared of crops, manured and cultivated is now being planted under very favourable conditions, for the soil being warm and moist and the weather mild and showery, the plants soon start into active growth. Soot is freely applied to this crop, as it keeps slugs and other pests away, and when washed into the soil acts as a manure. Great care is taken to have sturdy, short-legged plants by sowing thinly and giving plenty of space from the first.

CAULIFLOWERS of the Autumn Giant kind are now coming into market plentifully, but as a rule they are not of such good quality as in moister seasons, the drought having checked the formation of the crown in its earliest stages of growth. Plants of the Early London and other kinds for standing the winter are now being put out under hand-glasses or in cold frames.

CARROTS are now being pulled in quantity for market from sowings made at midsummer, as the earliest sown crop failed to a great extent, owing to exceptional drought.

CELERY is now being supplied more plentifully, as few crops suffered more from lack of moisture than this; late crops are now making rapid growth, and earthing up is being pushed on rapidly.

POTATOES.—All the late sorts are now being lifted and stored, and, as a rule, the crops are not only very fine, but exceptionally free from disease. Early and midseason varieties have been light crops, but very clean and bright, but late crops will make up for any deficiency in bulk.

TOMATOES have been the crop of the year, not only under glass, but on walls and in the open field

fine crops, well ripened, and free from disease. The latest gatherings are now being placed under glass to finish off their colouring.

FRUIT of all kinds has been abundant and cheap. Apples have been a wonderful crop, the oldest trees as well as those in their prime being loaded. All keeping sorts are being stored, and probably prices will get better shortly.

PEARS have, if possible, been not only more abundant than Apples, but remarkably fine—in fact, considering the drought the weight of crop produced was remarkable. The storing of latest sorts and cooking Pears is now nearly completed.

Preparation for planting fruit trees and bushes is now being made, the soil being in splendid condition, and, in spite of the low prices, there seems no slackening in the work of planting. A good deal of clearing away of useless sorts is likely to be done, as the past season has fully confirmed the advice so often given, that it is only good fruit that pays.

JAMES GROOM.

Gosport.

TREES AND SHRUBS.

THE JUDAS TREE.

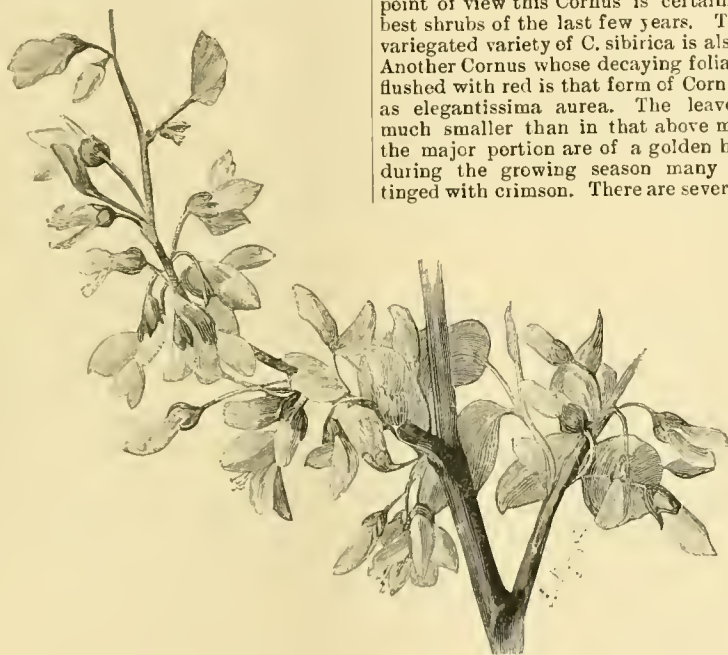
(CERCIS SILIQUASTRUM.)

THIS is one of the oldest of exotic trees. According to Loudon it was introduced into this country in 1596; still it is uncommon, especially in recently planted gardens. The Judas Tree is very distinct in aspect. It will flower freely when only a few feet high, and from its numerous branches it then often forms quite a shrub. Its flowering season is during the month of May, when the leafless branches are covered with deep rose-coloured flowers. They are borne not only on the smaller shoots, but on the large branches and main trunk. Directly after flowering the kidney-shaped leaves are developed, and when fully expanded their peculiar light bluish-green tint is conspicuous. When young it usually branches freely, but after a time the style of growth becomes more irregular. An old tree has usually a flat-topped, wide-spreading head. In this stage it forms a highly picturesque tree, especially where isolated on a lawn or in a similar position. The flowers are succeeded by pods which attain a length of about 6 inches, and they are noticeable especially after the leaves have fallen, for the pods remain on some time longer. Among other ways in which the Judas Tree may be planted is in the form of a small group, which will be especially bright during the flowering season. Though it does not attain its picturesque style of growth for some years, yet it flowers freely enough when small. It is of slow growth, so that there is little danger of even a thriving plant outgrowing its allotted space. Occasionally quite an old specimen of this Cercis is seen with not always a tree-like habit and a spreading head of branches, for sometimes the branches are pushed out not far from the ground, and continuing to grow they gain considerably in weight. It is necessary then to support them. The Judas Tree reaches a height of 20 feet to 30 feet, but it takes many years to reach that size. The tree is a native of Southern Europe and Asia Minor, and derives its popular name of the Judas Tree from its being thought by some that it was the tree on which Judas went and hanged himself. I once saw a bush of it forced gently into bloom a few years ago, the result being towards the end of March it was profusely flowered, the blooms of scarcely so deep a tint as when they are allowed to open outdoors, but still they were very distinct and pleasing.

The various kinds of *Cercis* are scattered over a considerable part of the world, for though we have but three species in cultivation, the above-mentioned Judas Tree is a native of Southern Europe and Asia Minor; *C. canadensis* occurs through a considerable tract of country in North America, while *C. chinensis* as implied by its name, is a native of China, but also found in Japan. The most ornamental of the three is, however, the old European form. The Judas Tree and its allies are not particular as to soil, though a rather deep open loam suits them best. Their roots, like many others of the Leguminosae, go down deeply. They may be increased by layers, but are usually raised from seed, and to this circumstance is no doubt owing the fact that a certain amount of variation is to be found in the colouring of the flowers, some being richer in colour than others.

T.

Crataegus pinnatifida major.—Some cut sprays of this comparatively new and uncommon Thorn were very noticeable among an exhibit of



Flowering shoot of the Judas Tree (*Cercis siliquastrum*).

hardy trees and shrubs shown at Earl's Court by Messrs. Veitch. The most conspicuous feature was the large, oblong-shaped fruits, which were of a deep bright red colour. These berries were not many in a cluster, but being as large as Cob Nuts they were showy. This Thorn is especially noticeable in the spring months, from the fact that, with the exception of the Glastonbury Thorn, it is the earliest of all to come into leaf, and the foliage is very handsome. It is when first expanded of a light green, and the deeply lobed leaves are borne on unusually long stalks, on which account they are partially pendulous. The flowers are white. As the season advances the foliage deepens in tint. This Thorn is a native of Northern China and the Amoor district, and is perfectly hardy in this country; indeed, the tender unfolding foliage resists the sharp frosts and cutting winds of early spring better than would be generally supposed.

—T.

Veronica Reine des Blancches.—Though I have not seen this variety mentioned in any of the horticultural journals, I was very much struck with it when shown by Messrs. Veitch at Earl's Court on September 27. It is one of the shrubby section, among the flowers of which various shades

of purple and blue predominate, but in this particular variety they are pure white, and borne on good showy spikes. Certainly as shown the plants were small and the spikes of flowers by no means numerous, yet they were full of promise. Where a few good varieties are needed, to this may be added *Imperialis*, amaranth; *Celestial*, pale blue; *Crème et Violet*, pink; *Jardin Fleurie*, carmine-red; and a second variety shown by Messrs. Veitch—*Purple Queen*. *Veronicas* of this class being of such easy culture and nearly hardy, are useful for the greenhouse or conservatory during the winter months. In the more favoured districts of England, and particularly near the sea, the shrubby *Veronicas* are beautiful in the open ground. A variety of *Andersoni* has the leaves very prettily variegated, and it is often used as a bedding plant during the summer months.—H. P.

Cornus sibirica Spathi.—This beautiful golden-leaved shrub which has resisted the burning sun of the past summer has now entered upon another phase of beauty, for the decaying foliage is of a deep scarlet, very showy in itself, and especially striking when the leaves have only partially changed colour. In some cases while the more mature foliage is scarlet, the younger leaves still retain their deep golden tint. From a foliage point of view this *Cornus* is certainly one of the best shrubs of the last few years. The pure white variegated variety of *C. sibirica* is also very pretty. Another *Cornus* whose decaying foliage is brightly flushed with red is that form of *Cornus* mas known as *elegantissima aurea*. The leaves of this are much smaller than in that above mentioned, but the major portion are of a golden hue, and even during the growing season many of them are tinged with crimson. There are several variegated-

(with an occasional turn over during winter) tilt next February, when they can be sown broadcast on beds 4 feet or 5 feet in diameter, transplanting the young plants into rows 2 feet apart in the autumn of 1895. When only a few are desired the seeds can be sown in drills. The few seeds of the Golden Yew may be sown in a shallow box or pan and plunged in soil out-of-doors. It is doubtful, however, whether anything different from the common Yew will be obtained; these garden forms (even the Irish Yew) do not come true from seed. They should be increased by cuttings or layers.—B.

Hydrangea paniculata.—The *Hydrangea* referred to on p. 309 as an inferior variety of the plumed *Hydrangea* is doubtless the typical *H. paniculata*, whose ornamental features are vastly inferior to those of the variety *grandiflora*. From this latter, which is more commonly met with, the typical plant differs in being rather more vigorous in growth and the leaves of a deeper green, but above all in the large sterile blooms, which form by far the most conspicuous part in the inflorescence of a *Hydrangea*, being limited to a scattered few; whereas, in the variety *grandiflora* they are sufficiently numerous to form a massive pyramidal-shaped head. The variety being so superior to the typical form should be always obtained when planting; indeed, but few of our nurserymen keep the type, and, except in a botanic garden or in the collection of some specialist, it is certainly not worth a place, and where it does exist it should be destroyed in favour of the variety *grandiflora*.—H. P.

Hibiscus syriacus totus albus.—The varieties of the autumn-flowering *Hibiscus syriacus* are very numerous, but as far as I know there is only one with pure white flowers, and that is the above-mentioned. The flowers are single and of a good clear white without any colouring whatever. There is a double-flowered form known as *albus plenus*, but in this the base of the petals is marked with crimson, and consequently the centre of the flower is of that tint. The fact that pure white flowers are so generally sought after is my reason for noting this particular variety, for a bush of this is when in bloom quite distinct from any of the others. All the forms of this *Hibiscus* have flowered beautifully this autumn; in fact, one seldom sees them so satisfactory as they have been this season where they were so situated as not to suffer from the drought. In dry soils, however, many of them had dropped the greater part of their leaves before the flowering period, and consequently their beauty was largely lost.—T.

TOWN TREES.

I do not know whether the Fig may be classed as a tree; certainly it is not usually grown as a standard, but in any case it matters little. It is true that the Fig seems to thrive best against a wall, but why not equally well for purely shrubby purposes in a border? There is growing on an east aspect in front of a school-house here, and in a wind-swept road, a fine tree that never seemed to have looked more dead than last winter, and has never been in more glorious leafage than now. It gets sun only in the early morning. I remember having seen Figs thriving well, but of course never fruiting, in the yard of the Charterhouse, Smithfield, and if well there, why not in parks and forecourt gardens? Then what a beautiful town tree for its foliage is the Sumach. It certainly never grows tall or gross, but its foliage is splendid, and as I saw in a walk round the suburbs of London a few days since, when Limes and many other trees were brown or almost leafless, the Sumach was in beautiful leafage. It does open late in the spring, as does the Fig, but at least it presents a green oasis amid the desert of brown withered leafage that is seen so prematurely in the autumn around all our towns or populous districts. For tall trees none excel the oriental Plane. Probably we never shall see it excelled. It is naturally a strong-growing tree, and it carries large leathery leafage which certainly can withstand town deposits

and vapours better than can the thin leafage of the Lime and similar trees. But even of the Plane I noticed recently the finest foliage and freshest, greenest aspects on trees that had been somewhat hard pruned last winter. It does seem as if any check to a too early spring growth produced by hard pruning tended to create later leafage in the autumn, but, still further, in such strong succulent shoots the leafage is always finer, fresher and more enduring. No one wants large trees in towns except in large open spaces. In streets, and especially in forecourts, it is a great mistake to allow trees to reach the height of the tops of the houses, shutting out light and air from the rooms. If all such trees were occasionally hard pruned in the spring, not in the middle of winter, as is sometimes done, leaving a lot of hard ungainly stems for several months before they break growth, but pruned early in April, then they would never become unduly large, would give far more luxuriant and enduring leafage, and serve to ornament our streets and roads admirably where now so many trees do the reverse.

A. D.

KITCHEN GARDEN.

ASPARAGUS ON HEAVY LAND.

In a natural state the roots of Asparagus grow in a very sandy alluvial deposit, and this gives the key to the system of culture we must adopt. Not but that excellent Asparagus can be produced on heavy land, but the beds must be prepared to suit its requirements and the system of culture also. Wet kills more Asparagus roots than anything else other than heavy cutting, and this is what must be guarded against. The heavier the soil is naturally the more reason is there to adopt precautionary measures against its destructive powers. A practice that is very prevalent is that of top-dressing in the autumn with rotten manure. Now, judging by the nature of Asparagus roots, this covering over the surface cannot but aggravate the evil of destruction from wet, that is where growing on heavy land, as on lighter and consequently warmer soils the injury is not so apparent. If anyone doubts this, let him examine the roots and the soil about them in the dead of winter, that is where the Asparagus is growing on heavy land and the surface top-dressed with rotten manure, when he will soon find that it is both wetter and colder than where left uncovered. Frost in itself will not destroy Asparagus roots if they can lie comparatively dry. The surface being left exposed will certainly assist in maintaining this, and this is a course which I can highly recommend with established beds, the top-dressing being left until the period just preceding growth in the early spring.

In the formation of new beds the first point to consider is whether the site be well drained, and this point being settled satisfactorily, then proceed with other details connected therewith. An Asparagus plantation will last for many years where a good foundation for the plants is made at the start. I am well aware that on some soils where the position is naturally drained, Asparagus will last and remain productive with very little preparation other than attending to annual surface dressings. In a general way, it is very rare that the position of a kitchen garden is fixed upon because the soil is suitable for vegetable culture, this being often only a secondary consideration.

The general way when dealing with Asparagus on heavy land is to have a series of raised beds running parallel with each other. This certainly is better than having the roots planted on the ordinary level. The soil in this garden is about

as unsuitable for the cultivation of Asparagus as it is possible to be, but yet by having the quarter raised above the ordinary level to the height of 18 inches a capital bed was formed, and by attention to annual surface dressings has every appearance of remaining productive for many years. The advantage of this is that the roots have an unlimited root run by being enabled to take possession of the intermediate space usually given up to alleys. Another advantage is that the beds are not likely to become so dry during the summer months as with narrow raised beds. The latter must have been very dry during the past season, as however good the water supply may have been, it was certainly not possible to keep the roots well moistened. But sufficient material cannot always be raised to bring the surface to the desired level. Of the materials which may be used with good effect, garden refuse—burned and decayed—dry road scrapings, road grit, sand, well-rotted manure, also ditch and pond clearings, are suitable. A heap of the above materials collected and turned two or three times during the early part of the winter, may be wheeled on during frosty weather, when it would pulverise down and be in good condition for spring planting. Certainly if there is no great hurry to form the beds, the material would be the better for being laid up for twelve months, and during that time turned occasionally. In such material as this the growth made is very strong and succulent, and the whole bed being raised above the surface there is no danger of stagnant moisture accumulating or the roots dying off during the winter.

A. YOUNG.

Abberley Hall.

Coarse vegetables.—In reference to what "A. Y. A." has written about unduly large vegetables getting awards at exhibitions, I am very glad to find so able a gardener on the side of quality and excellence as compared to mere size. I was much interested in a communication which came to me from an entire stranger in Cornwall who grows Cucumbers for market, and who stated that his fruits (17 inches to 18 inches long, and doubtless relatively large round) were much too big for the local taste, and asking for a pretty short green variety that would better suit his purpose. I have recommended him Lockie's Perfection. Now it is an odd fact that whilst so many vegetable judges will go for size in Onions, Carrots, Cauliflowers, Potatoes, Celery, &c., they will never as a rule favour large Cucumbers. The merest tyro knows that a large Cucumber is always past its best and lacks flavour, crispness, and those elements which alone make the fruit worth eating. If this be so in one case, why not in all? Whoever found merit in any big fruit or vegetable product except bulk? It would be a great service to vegetable growers could so strong a force of public opinion be formed as to make awards to mere size in vegetables henceforth difficult, and even ridiculous. It is not the show table or what certain judges may think should be the dimensions of products there, but rather the known requirements of consumers, especially of gardeners' employers, that should govern judgment in vegetable classes. Some clearly defined basis for judging is badly needed in the interests of exhibitors, who never know how judges' tastes will run. It is also badly needed in the interests of visitors to shows, who think these huge samples represent normal culture and look for the same results; and it is needed for the seed trade, who find that customers are disappointed because their products of the same varieties are never one half the dimensions as are the prize exhibits.—A. D.

—It will take something more than "A. Y. A.'s" assertions to convince me that large Cauliflowers are uneatable compared with smaller ones. I have no hesitation in saying that I will produce an Autumn Giant 1 foot to

15 inches in diameter (which I presume is the largest Cauliflower grown) that will be equal in flavour to Walcheren or any other kind of smaller habit. The only objection to large Cauliflowers is, that they do not dish up so nicely as smaller ones. "A. Y. A." is again mistaken when he states that quality in vegetables is sacrificed by the application of liquid manure. Anyone will tell him that a well-grown, highly-fed vegetable is superior to a starveling. Liquid manure hastens them on, and every gardener knows that the more quickly vegetables are grown the better and the more succulent they are. Reference is made to Celery as another vegetable which is very often seen so large that the texture is positively coarse; but are not coarseness, toughness and pithiness as often present in smaller heads? I have grown heads over six pounds each equally as crisp and sweet as others one fourth the weight. The good flavour of vegetables depends on good culture and cutting at the right time. A tirade against large Onions is occasionally made and their keeping quality is assailed, but I have not perceived any difference between them and smaller ones, taking one season with another. Nor has the question of flavour been raised. Certainly the Spanish Onion is said to be milder, and for that reason it is appreciated. "A. Y. A." states that "as the general public are much against large Tomatoes and give preference to smaller ones, it shows an improvement in the public taste." There are as many small bad-flavoured Tomatoes as large ones. Quantities of Tomatoes are consumed uncooked, and it is more convenient to pick up a medium-sized or small one and eat it than it is a large one. Besides, a Tomato weighing something like half a pound is too much at once for the majority of persons, and many would consider it extravagant. Another reason that preference is given to medium-sized or small ones is, that they are more readily distributed amongst friends.—W. P. R., Preston.

A good outdoor Tomato.—This has proved a good season for outdoor Tomatoes, those who planted early having reaped great advantages. I planted a large number of varieties for trial in the open, and the two most satisfactory early kinds were the Large Red and a new kind named Ladybird, specially recommended for the winter, but it was put out with others. It is certainly a splendid cropper, bearing enormous clusters of bright red fruits. I have not grown it for winter. The fruit's, produced in abundance, are of first-rate quality and have very few seeds. I saw this variety planted largely for market in Kent, and producing extra large fruit, but these of smaller size are much better.—GROWER.

Early Celery.—For the past three seasons I have grown Veitch's New White Celery, and last year it did so well, that I have grown more this, and it justifies the space given to it. It is of splendid flavour, solid and very early. The seed was sown in frames in April, and I am now getting good heads. Having given plenty of moisture, I never saw better results in so short a time. Where moisture has been deficient the sticks will be hard and somewhat flavourless, lacking that solid, juicy, nutty flavour so characteristic of Celery. Veitch's New White is not unlike Major Clarke's Solid Red as regards growth, habit and quality, but of course is white. This excellent variety is one of the best grown. The newer kind named above is also good, not belting as many do. This is important after a long hot, dry summer.—G. WYTHES.

CUCUMBER ROOTS DECAYING.

MY Cucumber plants seem to succeed well until they begin to fruit, when they flag. My opinion is that it is a root disease, something like the club that comes in Cabbage plants. They are planted in fibrous loam with leaf soil and manure. Melons have done well in the same soil, only for these the leaf soil was omitted.—FOREMAN.

* * This disease is most troublesome, as it usually occurs when the plants are in full bearing and at a time when it is difficult to replace them. Various

causes have been suggested for the above disease, but I have found that too much leaf soil in the compost will promote it. This is a great evil, but much depends upon the quality of the leaf mould, as this is frequently obtained from most questionable sources, such as the sweepings of the walks and from trees quite unsuitable. Oak and Beech leaves make the best leaf mould, but I have seen so-called leaf soil with the refuse of Conifers, Laurels, and other obnoxious subjects indiscriminately mixed together and used in a decayed state for various purposes. With good loam and manure, leaf soil is not advisable for Cucumbers. It is most troublesome, as it rapidly dries, gives the plants no nourishment, and produces long-jointed thin leaves and long-necked fruit. In winter a lighter loam is admissible. Leaf mould may be omitted with advantage if such aids as old mortar rubble can be used and a liberal quantity of decayed manure mixed with heavy soil. I find old Mushroom manure free of the top soil of the bed, fairly good yellow loam, and some mortar rubble one of the best composts for Cucumbers. In heavy clayey loam, charcoal refuse mixed with the soil is excellent, and to this may be added bone meal for top dressings if the soil is poor. I have seen the roots of Cucumbers club badly when in a soil to which a liberal proportion of leaf mould has been added. This occurs when an increased demand is made upon the roots. Often top dressings may not be given just at the moment required and the leaf soil is not rich enough to give the food required, and decay of the roots begins, this being accelerated by the heavy crop on the plants. Dryness at the root is often an evil, and this is usually caused by leaf mould, as it allows the water to run rapidly through without much benefit to the roots. When they are on a heated surface, dryness occurs at times unless care is taken. Cucumbers are frequently planted on elevated mounds, and dryness is more apt to occur in such cases, as with a large top growth the liberal syringings given earlier are now absorbed by the leafage or thrown off to parts of the house other than the roots, which formerly received most of the moisture. Again, in dull weather there are perhaps less moisture given and more heat in the pipes. This causes root decay whenever the plants receive a check through dryness, and, as previously noted, leaf soil does not tend to retain the moisture if mixed liberally with light fibrous loam. There are often portions of old roots and dead wood even in the best leaf mould, and these used in quantity are not conducive to strong root growth. For many purposes it may be employed, but I would omit it where food is required to support strong top growth.—G. W.

LARGE ONIONS.

I SHOULD be perfectly content to leave "Allium's" criticisms of my previous remarks respecting large Onions as seen now at certain shows, with the queries, Would such samples ever be grown unless wanted to gain prizes, and would they prove one half so useful or profitable for ordinary domestic uses as are what may be termed good bulbs from any ordinarily grown crop? But other matters arise from out of his criticisms, especially as to the keeping or non-keeping properties of these giant bulbs. I should be very surprised to learn that, taking an average of seasons, 50 per cent. could be kept over till April for planting. No doubt big Onions will keep better this winter because they have had a season out of a hundred to mature in. That is, however, such an exception, that it is not worth while to lay special stress upon it. If these giant Onion growers would but give their impartial experience with them, I should be found in my estimate to be well within the mark. But I admit fully that for what may be called special purposes, as mentioned by Mr. Crump, these large Onions are mild and delicious when properly cooked and served. I have constantly advised the consumption of Onions, boiled and baked. But then what does it cost to produce such bulbs, and when we have got them, are they milder or more nutritious than are the Spanish and Portuguese Onions which

we can purchase so cheaply in every grocer's shop all through the winter? No one will suggest that; indeed, unless from 4d. to 6d. per bulb were obtained, having regard to the necessity for raising the plants in heat, for pricking them out into boxes or pans, housing them in frames, and then planting out in soil so enriched with manure, that the dressing is fully double that applied to soil for ordinary Onion crops. All this is very costly, and when these huge bulbs, usually grown in rows from 16 inches to 18 inches apart and from 10 inches to 12 inches apart in the rows, are got, they do not represent so heavy a crop as obtained from an ordinary bed where the rows are 12 inches apart and the bulbs average in the rows four to the foot run. An ordinary crop thus produced of clean, even bulbs may be the most profitable of any vegetable crop a given area can produce. Can so much be said of a crop of giant bulbs grown under what may not unfitly be described as artificial conditions? Now I do not at all quarrel with the plan of sowing seed under glass and thus raising Onion plants, and planting them out later into the open ground. It is old practice and well known, and especially so to escape both mildew and maggot attacks. I have frequently advised cottagers and allotment holders troubled with these Onion pests to adopt that practice. It has also long been well known that if young Onion plants be lifted carefully from the winter bed and be planted out with care thinly on good soil in the spring, very fine bulbs result. That, however, differs materially from the artificial practice adopted to secure these giant show bulbs, and it is a practice created entirely by the custom of giving prizes for the largest. I read with much interest the report of the recent Banbury show. I had just previously seen all the grand samples that Mr. F. Wilkins, of Inwood House Gardens, exhibited, and also saw where and how he grew them. But then I noticed in the report also that in all cases but one, the weights being given, the judgment as to the respective merits of the bulbs was given by the scales and not by the judges. Would "Allium" or anyone else favour from 2-lb. to 3-lb. Potatoes or Turnips or Tomatoes, or giant Carrots, Parsnips, Beet, or other roots? The production of these fine bulbs does, perhaps, help to improve a seed strain, but then it is obvious that fully as great good, if not more, can be produced by the hard selection for seed stock of the finest bulbs from an ordinary stock, and whilst of the former so many will decay, the latter at least will all keep. That there has been a gradual increase in the ordinary dimensions of Onions there can be no doubt, but many of the monsters of the show table do not cut such a tremendous figure under ordinary cultivation as I have seen frequently, and as was manifested at Chiswick this year under a most impartial trial. One thing to be deprecated with regard to the exhibition of these huge bulbs is that persons purchasing seed think that under ordinary culture similarly big bulbs will be produced, but they soon find their error.

A. D.

PREVENTION OF ONION MAGGOT.

RECENT communications that have appeared in THE GARDEN show a very imperfect acquaintance both with fly and maggot, and, so far as the former is concerned, still more imperfect ideas as to the prevention of its attack, although the note on page 309 should do much to make matters somewhat clearer. That certain localities are peculiarly subject to the fly, and *vice versa*, is evident, or how can it be possible to grow Onions year after year on the same piece of ground, taking annually first-rate crops quite free from maggot. Again, it cannot be too clearly pointed out that, so far as this particular pest is concerned, nothing dug in in autumn or forked in in spring into the plot of ground destined for the Onion crop in the way of lime, gas lime, soot, or ashes is of the slightest use. One might almost as well dress the root of any member of the Brassica family to prevent butterflies from settling

on the foliage. Again, another remedy propounded—careful thinning—sounds very strange in the ears of those who have been accustomed to hold a directly opposite opinion. I should think where the fly is troublesome, thinning had best be left severely alone in the hope that some of the plants at any rate may be saved. The able note on page 309 is of great service, even though it be in a negative form, as it proves that the pest in the chrysalis and grub state is impervious to the powder and liquid agencies therein mentioned. Knowing so much, therefore, and also that the immediate cause of the destruction of the crop is the deposit of eggs in the top of the Onion bulb by a fly, it is manifest that the only way of successfully combating the evil is to attack the fly, or rather to render the grass and that portion of the bulb above ground so distasteful to it, that it will leave this particular hunting ground for other spots. Here is the problem not yet satisfactorily solved—the best ingredient for the purpose, always remembering it must be something in no way interfering with or arresting the growth of the bulb, and the best way of applying the same. Experiments in this direction should be made in a garden where the crop has practically failed for several seasons and remedial measures thoroughly applied, that is, the entire portion of the Onion above ground must be thoroughly dewed over with the mixture, and in the event of showers washing it off, a second and third application given if necessary. The preparation most strongly recommended is compound quassia extract, 1 pint to 6 gallons of water. What we want to know, however, is, if this has had a thoroughly satisfactory trial; that is, if any given portion of a bed has been thus dressed, leaving other parts to take their chance. There would be no mistaking the completeness of such a trial, for there would be ample proof of the presence of the fly in great numbers, and a certain prospect of discovery as to whether the "doctored" grass was sufficiently distasteful to prevent the deposit of eggs.—E. BURRELL, *Claremont*.

—"W. P. R." in his notes on my article on the "Onion Fly," says he was not aware that the pupæ of the said fly "had a relish for Cabbage roots." Neither was I, or rather that in this stage it fed upon anything, being torpid throughout the whole of this period. As both the Onion and Cabbage fly are two closely allied species, I should not be surprised that during the grub or feeding stage it feeds upon other subjects. For this reason, and as a precaution, I advocate the practice of cleaning away any material that the grubs, or rather pupæ, are likely to harbour in. According to good authorities, the pupæ do harbour in the ground as well as in the trimmings and refuse of the stored Onions, which should also be cleared away and burned, not be dug in, whatever crop was intended to follow. It is usual to see such material with Cabbage and other refuse taken to a heap to decay, if not dug in at the time, to be afterwards wheeled back and dug in. Much as I favour "green manuring," I should never think of wheeling back garden refuse of this description if root-eating insects were known from previous experience to have destroyed crops. If the pupæ harbour in the plot previously cleared of Onions, it should prove easier still to effect a clearance, giving a dressing of gas-lime to this particular plot. It is likely that freshly slaked lime and soot will not destroy the grubs when in an active state; they evidently showed their dislike to it. Now it is from their dislike for the presence of soot and lime that I advocate their application to grub infested soils. The syringing with well-diluted petroleum which I recommended was not supposed to kill the grubs, but as a preventive against the flies settling to deposit their eggs, just the same as Celery is dusted with soot and syringed for the same object, viz., to make the foliage obnoxious, and this should be at the period just before the fly emerges from the pupa stage. But as two or three generations occur throughout the summer, this would also have to be done at intervals. "W. P. R." has evidently experimented in a wrong way, or he would not write so positively that he has tried all the

remedies or precautions I recommend and failed. One might just as well say that it is impossible to keep fruit trees free from the attacks of insects.—A. Y.

Use of Cucumber frame (Beginner).—A two-light frame may be used for various purposes during the winter. For forcing, as "Beginner" has plenty of stable manure, Seakale, Rhubarb, or Asparagus can be forced regularly, taking care not to overheat the frame, but to mix sufficient leaves with the manure to keep up a steady temperature. It is late to strike cuttings of soft-wooded plants, as these would not winter in such a structure. I would advise lifting old plants and housing till early spring. Then a good use could be made of the frame with plenty of heat at command, as the tops of Abutilon would strike readily. The frame may now be utilised to strike such cuttings as tufted Pansies, Calceolarias, Pentstemons, Antirrhinums, but not with bottom-heat, as these root freely in a sandy soil on a firm bottom. There are other uses such as wintering half-hardy plants, the choicer Echeverias, Cannas, Fuchsias and Francoas. Bulbs for early bloom all do better with frame treatment whilst making root growth, also to protect from frost. The more tender Carnations require shelter in frames; indeed many things may be placed there.—G. W.

PARIS MARKET BRUSSELS SPROUTS.

I HAVE this season heard of breadths of Brussels Sprouts failing to produce sprouts, and such failures are more common with the larger kinds than the dwarf or medium growers. For small, hard, and compact sprouts I rely upon this kind, which is of far better quality than the coarse growers. This season our quarter of this vegetable does not show to such advantage as in more favourable seasons, the growth being more irregular and taller, but good, hard, firm sprouts are plentiful. The season has been unfavourable for vegetables requiring abundance of moisture, especially in light or gravelly soils, this being to a great extent the reason why solid sprouts are not abundant. A check was given during the growing season. Those who grow this vegetable on heavy land were better able to keep the crop growing during the drought. It is on light land that failure is experienced. During the hot weather a thorough soaking with a hose for several hours once a week kept them growing; but even then failures would arise if early planting, giving ample space and deep cultivation, had not been resorted to. I do not like the large sprouts. They are never of such good flavour when cooked. After a trial of most kinds I like the Paris Market best. Coarse kinds are also not so hardy as the smaller, and they run much sooner. Our second sowing of seed of this variety was made early in March in the open ground, and the plants are now very promising. These are utilised for the late supply. They are very dwarf, not more than 2 feet in height, and feathered to the ground with foliage, which is a great protection in severe weather. Sowing seed in frames in February results in a long supply, so that by these two sowings good sprouts may be had for six months in the year. Formerly I grew a good breadth of the imported seed, but one cannot depend upon it, the plants varying both in size and quality. Paris Market is very productive, and to get the best results good cultivation and change of ground yearly should be given. G. WYTHES.

Eulalia gracillima univittata.—As I think it desirable that all plants should be, if possible, correctly named, I write to inform your correspondent "H. P." that the graceful Grass he so accurately and appreciatively describes on p. 323 of your last issue can no longer bear the somewhat lengthy name above mentioned, by which it has been hitherto generally known. It has been for some time doubted at Kew whether this Grass was a *Eulalia* at all, but it could not be accurately

ascertained whether it was so or not till it matured its panicle of inflorescence, which this fine summer has enabled it to do. This inflorescence having been critically examined and compared by the learned graminologist, Dr. Stapf (assistant for India in the Kew Herbarium), he has pronounced its correct name to be *Miscanthus sinensis*, under which name it is figured on plate 7304 of the number for July of the *Botanical Magazine*, to which all careful lovers of plants should refer for further details and botanical particulars. This Grass is a native of both China and Japan, and has been described by various botanists under the synonyms of *Erianthus japonicus*, *Ripidium japonicum*, *Saccharum japonicum*, and *S. polydactylon*, but Hackel, the latest and best authority on the andropogoneous Grasses, is responsible for its present name.—W. E. GUMBLETON.

STOVE AND GREENHOUSE.

PLUMBAGO CAPENSIS.

THIS easily cultivated plant should not need any recommendation; its rapid growth and



Cape Leadwort (*Plumbago capensis*).

lovely pale blue trusses of flower should alone be sufficient in this respect. Yet it is not seen nearly so often as one could wish, being in large establishments even often more conspicuous by its absence, or, if present, not always in the best possible condition. There are certain conditions to be observed in order to ensure the best results. It should first of

all be noted that this species is an introduction from the Cape of Good Hope (hence its name); it may therefore be fairly surmised that plenty of sunshine and not too much atmospheric moisture are essential points to be noted. That these are facts have been proved over and over again, for if at all shaded the growth is inclined to be weakly with less disposition to flower, and if grown in too moist an atmosphere the growth will be far in excess of all needed requirements. If the plant be grown in the open border of a light cool house, to which there is no objection, the soil should not be too rich or of a great depth; it should consist for the greater part of light loam and road grit or sand, and this should be made as firm as possible. In pots the same soil will suit well with a little peat added thereto. The sunniest spot, even in a light house, should be chosen for its culture, and as far as is practicable freedom of growth should be allowed, close pruning being the rule during the resting period, and that well in advance of the starting into activity again. To tie in the shoots as they grow for the sake of trimness is utterly wrong and out of all character; only just sufficient of this kind of work should be allowed to keep the shoots from breaking down with their own weight. If it is seen that the growth is too free, of which there is more danger than the reverse, then less water should be given for a time; this will have the desired effect of producing flower trusses plentifully in due course. As a bedding plant *Plumbago capensis* is admirably suited. If grown as standards in 10-inch or 12-inch pots and plunged the effect is excellent, sufficient room being allowed for an appropriate undergrowth. Smaller plants can be planted *en masse* with good effect, and taller ones of long rambling growth will be quite at home when trained against walls or verandahs in sunny positions. In a cut state the flowers quickly fade, and are in nearly every case disappointing. H. G.

Dipladenia atropurpurea.—This is a fine species now flowering in Mr. Sander's establishment at St. Albans. It is a companion plant for the delicate *D. boliviensis*, but it is more free blooming than the white-flowered plant just named. This plant produces large trusses of blooms. In that now before me there are some fifteen buds, which before opening are of a bright crimson, but when the petals are unfolded they are of a deep velvety maroon. I hope to see this plant become plentiful in our plant stoves, its colour being so rich and charming.—W. H. G.

Abutilon Anderken An Bonn.—This Abutilon, which was alluded to on p. 296, was shown in good condition at a meeting of the Royal Horticultural Society on April 25, when an award of merit was given to it under the title of *Souvenir de Bonn*. It is a good free-growing variety, and will doubtless be useful where the mixed style of summer bedding is carried out. The creamy white margin to the leaf is clearly defined and very constant. I have also seen a second new variegated Abutilon during the present season, viz., a variety of the showy-flowered *A. igneum*, or *insigne*. In this the large leaves are marked with varying shades of green and yellow, arranged in a tessellated manner somewhat in the way of the older *A. Darwini tessellatum*. Abutilon *igneum* is better treated as a roof plant than as an outdoor subject, as it needs a little more heat than most of the others, and consequently its variegated variety is hardly likely to be so useful as *Souvenir de Bonn*.—H. P.

Tecoma Smithi.—There are very few, if any, greenhouse plants introduced within recent years which promise to be so useful as this. The plant is a hybrid of Australian origin, its parents being *T. venusta* and *T. capensis*. It has been in culti-

vation at Kew for two or three years, and since its first flowering there has been regarded as a valuable new plant, but it is finer this autumn than we have seen it before. Some half dozen or so plants are now in flower on the shelves of the temperate house, and they give a singularly bright and pleasing effect. The racemes are terminal and carry from twenty-five to thirty flowers, these being tubular, 2 inches long, and of a bright yellow, tinged with orange; the whole inflorescence is a dense cluster of flowers 6 inches high. The method of culture adopted is one which has been recommended in these pages for *T. capensis*. The cuttings should be taken as early as possible and struck in moderate heat, growing the young plants on in an intermediate temperature and treating them liberally until June or July, when after hardening off a little they are stood out-of-doors in full sunshine. For the first year at any rate the plants should be restricted to a single stem, which will be no more than from a foot to 18 inches high, and, therefore, of a convenient size for the shelves.—B.

SPRING-FLOWERING BULBS IN POTS.

A VERY great point in the pot culture of Hyacinths and other bulbs is often overlooked, namely, a good supply of roots before placing them in a forcing house, or otherwise putting them under glass to flower. To ensure success this is absolutely indispensable. We often hear blame cast upon those who sell the bulbs when really the grower was at fault. I have noticed persons potting up such bulbs as Hyacinths and Tulips and at once standing the same in a forcing pit, with the result that they either rotted or refused to flower in anything like a perfect manner. Therefore, it is necessary that the bulbs named, with Narcissi, which are not the least important among spring-flowering subjects, should be potted without delay, and a lengthy season be thereby given to become well rooted previous to coming into bloom. Hyacinths, &c., like a rich, open compost. That employed by me is made by well mixing the following proportions. One bushel of loam, half a bushel of cow manure well rotted, and a like quantity of road sweepings. Bulbous plants are very partial to the latter gritty material. A 5-inch potful of soot may be added to the above quantity of soil with capital effect. The soil should be allowed to become in a nice workable condition, that is, if at all inclined to be pasty, it may be turned in the sun to dry, and if very dry, water should be sprinkled on it whilst being mixed. The size of pot used for one Hyacinth bulb is the popular $4\frac{1}{2}$ -inch or 5-inch. This is not only a convenient size, but I think quite large enough even for exhibition. The spikes of bloom can be made to look larger if the pots be put into others of greater size. This is the mode adopted by those who show these spring bulbs publicly. Three Hyacinths placed in an 8-inch pot answer well for conservatory decoration. Tulips for exhibition are generally grown three bulbs in a pot. When this number is not stipulated and for other purposes, I much prefer five in a 6-inch pot, or seven in an 8-inch size. But for the decoration of vases in rooms three or four bulbs are placed in the smaller $4\frac{1}{2}$ -inch pot because of its convenience. In the case of Narcissi the bulbs are put into the pots as thickly as possible. Sometimes three bulbs of the Polyanthus kinds are sufficiently large to fill one of 6-inch diameter. When potting use one good crock over the hole and then a portion of the rough part of the compost, and fill the pot so that about half of the bulb is on the surface. Do not fill the pot with soil and then push the bulbs into it, but make a hole to receive the same with the fingers, and press the

soil firmly around them. If the former be done the compost is too firm, and when roots are made they sometimes push the bulb out of place, when injury to it becomes easy.

I prefer after potting to stand them on a firm bottom really out of doors, but in frames, so that the lights may be readily put on in the case of continued wet weather, when there is a likelihood of the soil getting soddened. It is a good plan to put a small pot inverted over the bulb of each Hyacinth. This will keep the bloom-spike clean and often prevent its rotting, but with Tulips and Narcissi such a precaution is not necessary, as these are not so ready to show bloom before leaves. Cover the whole with about 4 inches of cocoa-nut fibre or sand. Do not on any account use ashes. Sulphurous matter resting in these may be the cause of utter failure. With the exception named of covering with glass, or for that matter anything to ward off excessive rain, the bulbs should remain in the dark until the end of the year. This does not, of course, apply to the early Roman among Hyacinths, the Paper-white among Narcissi, or Tulip Duc van Thol of that ilk, which may be had in flower before that time, but to the general list of varieties, which are much better if not forced into bloom by the aid of fire-heat. In January, then, take the pots from their covering and put them in other cool frames, but inure them to the light and air in a gradual manner, and in the meantime carefully protect them from frost. When the young growths are well used to these, the pots may be stood on greenhouse shelves as near as possible to the glass where abundance of air may reach them and where the temperature is kept between 40° and 50°. In this position the leaves will be sturdy. Water, which up to this time has not been needed, not even when the bulbs were first potted, may now be given if the soil is at all dry; but although Hyacinths, for instance, develop in water alone, it must be sparingly given when the roots are in soil and there is little top-growth. As the growth gets larger, there will be greater calls for moisture, and when the blooms show, it is not an easy matter to over-water Tulips or Narcissi. From the time the flowers show colour, give the plants manure water. If treated as advised, there will be abundance of roots and they will be in a condition to respond to feeding. Sulphate of ammonia used at the rate of an oz. to three gallons of water may be employed with safety and is a first-rate stimulant, so also is soot-water. Well-grown Hyacinths, Tulips or Narcissi should have short sturdy foliage with the bloom thrown well above it. I give the names of a few of the most esteemed sorts. Hyacinths: Koh-i-noor, Macanlay, Von Schiller, Roi des Belges, Moreno, Vuurbaak, shades of red; La Grandesse, Mont Blanc, Princess Amelia, white; Czar Peter, Queen of Blues, Grand Maître, King of Blues, shades of blue; Ida, yellow. Tulips: Proserpine, rose; Keizer Kroon, scarlet and yellow; Ophir d'Or, yellow; Joost van Vondel, crimson and white; Joost van Vondel, pure white variety; Vermilion Brilliant, scarlet; Van der Neer, purple; Duchesse de Parme, bronze and yellow. Narcissi: Empress, Horsfield, Emperor, Sir Watkin, Golden Spur, Orange Phoenix, Sulphur Phoenix, Barri conspicuus. Polyanthus varieties: Bazelman major, Her Majesty, Grand Monarque, Newton, Gloriosa. H. S.

Cordylone (*Dracæna*) indivisa.—Although the plant itself is very little known in gardens, this name is quite a familiar one to horticulturists. This is mainly through its having been

applied to the wrong plant. The true *C. indivisa* is very rare and quite distinct from the variety of the well-known *C. australis* which figures so frequently under this name. I saw the other day, planted out in Mr. Rashleigh's garden at Menabilly, Cornwall, two remarkably fine specimens of the true thing. The largest of these is 9 feet high, and its effectiveness in the outdoor garden may be imagined from the fact that each of its leaves is 3 feet 6 inches long and 6 inches wide at the middle, tapering thence to a long fine point. They are, therefore, much larger than any of the forms of *C. australis*, and are besides very distinct in the markedly glaucous tint on the upper surface. Unfortunately, neither of these *Cordylines* is hardy near London—in ordinary situations at any rate—but in the gardens of South Cornwall *C. australis* makes a common and very striking feature. In these gardens and in the greenhouses of less favoured localities *C. indivisa* deserves to be better known.—B.

Gomphocarpus sinaicus out of flower appears identical with the better-known *G. fruticosus*, and when in bloom so nearly approaches it, that it may be readily taken for a seminal variety, but, as the name implies, it comes from quite another part of the world. The flowers, instead of being wholly greenish white, as in *G. fruticosus*, have the disc stained with purple. The inflated seed vessels of each are exactly alike. It is worth while to grow them side by side, as both are ornamental greenhouse shrubs.—J. M., Charmouth, Dorset.

THE HIPPEASTRUM.

It is very interesting to a student of the life-history of any plant to carefully note the changes of growth through the growing and flowering period and from the time the flowers fade until the growth is fully matured again. The *Hippeastrum* is a singularly interesting genus of plants, and the rapidity of growth and development of the flower-scapes in spring are certainly very interesting to the cultivator. The bulbs when well grown are plump and heavy at the time of repotting, and remain so until the flower-scapes appear, when they shrink up gradually, and continue to do so until little else is left but the skin and internal tissue, the fleshy portion having gone to make up the scape and leaves, for those that produce no scapes are also liable to shrinkage. This period is the half of the season's growth, and when the flowers are fully developed the bulbs are a mere wreck of what they used to be. It is at this point that there is danger of the plants being put aside and not receiving so much attention as they ought to have. A plant out of bloom with long leaves flopping about is supposed not to be an object of beauty, and it is pushed into some corner as much out of sight as possible. There is an old saying, and in most cases it is a true one, that out of sight is out of mind, and the plants are neglected at the very time the bulbs ought to be plumping up for next season's bloom. As soon as the flowering period is over, my plan is to place the plants in a bed of spent tan, with the flower pots in which they are growing plunged over the rims. I believe M. de Graaf, of Leyden, was the first to grow the *Hippeastrum* in this way. I saw them growing in a span-roofed house there with greater vigour than I ever remember to have seen them. The tan seems to be best adapted for the purpose after it has been used for a year to plunge other plants in, and the little bottom-heat they require is obtained by hot-water pipes under the bed. The plants make fresh roots very rapidly. The roots run over the rims of the pots into the bed of tan, and seem to obtain a great deal of nourishment from it. The bulbs which were so utterly exhausted now rapidly fill up again, and if they do well increase greatly in size. If seed is obtained from the plants, it exhausts them a little, and may be the means of preventing the flowering of some of them next year, but it does not do so to a great extent. A well-grown collection of plants should produce such bulbs that 90 per cent. or more of them would flower next year, but this success can

only be attained by careful attention to the plants from April until their resting period, which has now commenced. It is necessary to be even more careful in the watering, keeping the plants clean, damping down and shading the house, than during the early stages of growth when the flowers are in course of development. Water must now be altogether withheld, and when the leaves become flaccid they may be cut off; it is not necessary to wait until they quite decay. The seed ripens about the end of July or early in August, and should be sown at once in a hothouse, and if bottom heat can be afforded, the seeds will vegetate more readily, and the plants push ahead more rapidly afterwards. As soon as they are large enough to be pricked out this can be done. About a dozen plants in a 5-inch or 6-inch flowering pot will give them enough space until the end of the season, but with good management they will make nice bulbs, and it is a characteristic of the seedlings that the leaves remain in quite a green state all through the winter. They must not receive a very great deal of water, and should be kept in a warm greenhouse temperature until January or early in February, when they can be turned out of the flower-pots, the roots carefully disentangled, and the plants repotted this time three only in the same sized pots. If these are plunged in bottom heat and the temperature of the house kept at 55° as a minimum to start with, growth will be very rapid. The flowers of these plants are very easily fertilised, and large numbers of the seedlings have a tendency to produce flowers as good and sometimes better than the parents. This being so, it may well be supposed that many beautiful varieties far surpassing those of ten years ago or less have been raised.

The fully developed flowering bulbs either of seedlings or named varieties should now be quite at rest. Let the ventilators of the greenhouse be quite open by day, but it is getting damp and sometimes very cold at night, so that it is necessary to be careful that they are not exposed either to the one or the other. It is as well to leave them in the tan just as they are until the end of the year, when they may be taken out and examined, removing all the decayed material from the crown of the bulbs. Nestling securely in this decayed outer coating may be bug or thrips, and when it is removed give a good dusting of tobacco powder. This is a necessary precaution, for it is far better to make sure that there are no chances of any parasites remaining after the bulbs have been repotted and started into growth again for another season. The operation of repotting should be done from the middle to the end of January. I have the bed prepared for them a week or ten days previous, so that there is a mild bottom-heat to plunge them in as they are repotted. At this time the pots are plunged as deep as the rims, but not over them. The temperature of the house ought not to exceed 50° at night for the first three weeks or so, and no water should be given to them for even a longer period than that, as water applied before the roots have made some growth is injurious, causing the base of the bulbs to rot sometimes. Do not over-pot. This is easily done. Some growers anxious to excel will place a bulb in an 8-inch or 9-inch pot that would do much better in a 6-inch or 7-inch one. Drain the pots well so that there may be no stagnant water. A good potting soil is composed of two parts loam to one of leaf-mould, and some good fibrous peat is an excellent addition. A barrow-load of decayed manure should be added to four barrow-loads of the loam, and an addition of coarse white sand to keep the compost open. J. DOUGLAS.

Salvia splendens var. compacta.—There are very few plants more useful for brightening up the greenhouse in the rather dull time which precedes the Chrysanthemum season than the old *Salvia splendens*. Its scarlet racemes are very bright. There are several forms of it in cultivation differing not so much in flower as in habit, and the one which is best adapted for flowering on the shelves is the variety *compacta*. A batch of

well-grown plants is now making quite a brilliant show in the temperate house at Kew. They are about 18 inches high, but more in diameter, and being covered with bloom, form quite fiery globes of colour. The ordinary form of *Salvia splendens* is useful for standing on the ground level. The species is a native of Brazil, and was first introduced to cultivation seventy years ago. The variety here noted is of garden origin, and probably originated in the south of France, where this and most of the *Salvias* are grown permanently in the open.—B.

Primula obconica.—In "A. D.'s" note on this plant (p. 327) he alludes to it as having been successfully cross-fertilised with other *Primulas*. This may be so, but all the distinctive points noted by your correspondent may be found in any batch of seedlings raised from an ordinary packet of seed, or from home-saved seed which has been subjected to no attempts at cross-fertilisation. I raise a batch of seedlings every year, as I find that seedlings make healthier plants than divided pieces, and the variation in size, colour and form of the flowers is great, the lemon eye with a flush of crimson surrounding it being by no means uncommon. I have never yet been able to see the slightest departure from the normal type of leafage, as one might expect to see if cross-fertilisation had been effected with such a different type of plant as the Chinese *Primula*. I should imagine that *P. cortusoides* would be a good plant with which to work in conjunction with *P. obconica* in any attempts at crossing, as the former possibly might impart the necessary colour to the flowers, which now are somewhat dull, without spoiling the neat habit of the plant.—J. C. TALLACK.

THE EUCHARIS.

At a recent meeting of the R.H.S. at Westminster, Mr. Iggulden read an interesting paper on the *Eucharis*. My object in sending this note is to point out the excellence of the paper as showing that the mite is not so much the cause of failure as bad culture. Mr. Iggulden's remedy in the long run was high culture and no coddling—an excellent one. A few years ago I had two old rather flat-roofed Pine stoves filled to overflowing with *Eucharis* in the luxuriant condition referred to by Mr. Iggulden and was frequently asked how they were grown. The answer was by letting them alone and allowing them to remain in one place. This latter point is a strong one in the paper referred to. This I consider sound advice, as a few years later a larger house or plant stove was considered a better place to show the proportions of such fine masses in 18-inch and 20-inch pots, and the old despised pits were used for other purposes. A greater mistake was never made. There are now no *Eucharis* plants worth the name, and this failure is attributed to the mite; whereas it is quite the reverse. Another point is to pay careful attention to the watering. In our young days most of us remember how carefully the hard-wooded plants were attended to as regards watering, and my opinion is that the *Eucharis* requires equal care in watering as in temperature and to be kept like an *Erica*, always moving, with partial rest at certain seasons when growth is complete. This rest is effected by lowering the temperature and giving less water. Another matter of equal importance is cleanliness. How often do we see the *Eucharis* under other plants and the dirt from the roof plants daily washed down into the bulbs. I also consider excessive overhead syringing most injurious and the forerunner of disease. Keeping the surface on which the pots stand damp and syringing under the foliage are of greater benefit than syringing overhead. Mr. Iggulden does not advise a low winter temperature, but

it all depends upon the quantity of roots and the use of the water-pot, as I wintered very fine plants for years in a night temperature of 50° to 55° and could not wish for better results. These were, however, large masses full of roots and in a dry house. Another point is pure water, as I believe there are few plants more fastidious as to purity of water and free drainage. Shade is also an important matter and one overlooked. I do not think the plants will thrive long without shade; indeed, I believe in partial shade especially from the bright light of a modern house, as I found they did best where a piece of tiffany covered the plants as a permanent summer shade, a heavier shade during bright sunshine being added. I also have a great liking for charcoal in the soil, no matter whether light or heavy, as it prevents clogging—so injurious to the fleshy roots. I am sure such papers as Mr. Iggulden's will go a long way to re-establish these beautiful plants and bring them into favour. I, like many others, feel sure superior culture is the best remedy, and am delighted that we are not advised to try more of the many remedies so freely prescribed by some for the ills this plant is subject to.

G. WYTHES.

THE FRUITING OF CYCAS REVOLUTA.

THE plant in question of *Cycas revoluta* is the female variety, the fruiting of which is not of common occurrence until the plants have attained age, and then only periodically. By the description given by "W. A. G." the crown of flowers is a fine one, being the result of good culture. The berries are usually of an orange-scarlet colour, almost hidden from view by the downy bracts on which they are placed. These will be useless for purposes of seed-sowing without the presence of the male parent for fertilisation. They may be removed, however, and utilised for decorative arrangements in a dry state, lasting thus for a length of time. The plant will not come to any harm or be weakened by this occurrence if it be in a healthy state at the root, less effort even being required to develop the flower than in the case of a dense crown of young foliage. The plant under notice not having made any leaf growth for two years will in all probability do so next season. In order to encourage this result, it would be better to keep the plant on the dry side, but little water being given through the winter. Then with the approach of warmer weather in the spring it should be transferred to a house with a higher temperature and a moist atmosphere. This change usually has the desired result of inducing leaf-development in course of time. I once had a very fine specimen which flowered in similar fashion, and not the slightest harm came to the plant. That season it stood out of doors until the late autumn, when the flower-heads were removed and the plant housed. It is possible that the foliage will become a trifle faded-looking, but this is only the result of age provided the roots are healthy. In this case I should advise the removal of the flower-heads at once if fully grown and matured, and then, as aforesaid, let the plant have a good rest. In the spring if the plant has not been recently potted, it will be just as well to give it this attention prior to a young growth appearing. The plant will, presumably, be already of specimen size and in a good-sized pot or tub; if this be so, the old ball should be carefully reduced by the removal of all loose soil and unhealthy-looking roots, so as to admit of a fair amount of good fresh compost. This should consist chiefly of turfy loam with a little rough peat, the potting being done in a sound, firm, and enduring manner. CYCAD.

The weather in West Herts.—A very warm week, particularly at night. On Monday the highest temperature in shade was 66°. On Satur-

day night the thermometer exposed on the lawn did not fall lower than 55°. This is the highest reading yet registered by this thermometer in October during the eight years over which my observations extend. At both 1 foot and 2 feet deep the temperature of the ground now stands at 55°. At the same date last year it was 6° colder at the depth of 2 feet, and as much as 9° colder at 1 foot deep. During the week about three-quarters of an inch of rain has fallen, bringing up the total for the month, as far as it has gone, to 3½ inches, or more than half an inch in excess of the October average. Of this quantity about 2½ inches has already come through the 2½ feet of soil in the percolation gauges—equivalent to about 10 gallons of water through every square yard of surface of uncropped ground.—E. M., *Berkhamsted*.

BOOKS.

ART OUT OF DOORS.*

THIS work is pleasantly and sensibly written; the main things necessary to be considered in creating, ordering and adapting a garden to a home thoughtfully enumerated. It is likewise in a handy form and not too long or elaborate for the many who do not wish to wade through long treatises before arriving at notions how best to set about arranging their grounds. As the authoress remarks, "good judgment in art is rare." She feels vividly that the importance of caring to have artistic gardens cannot be too strongly insisted on, and wishes to impress upon the general public that much more care should be taken to produce beautiful pictures even in the smallest plot which the owner has destined to hold his cherished plants than is usually done. One feels how much is required in this way when passing through the suburbs of London, or of, indeed, any place, the little spaces at command being commonly choked with the most unsuitable trees possible, not only rendering the individual garden unsightly, but spoiling the general effect of the thoroughfare at the side of which they are situated. At page 16 she says:—

The true artist will not go about with a store of ready-made features and effects in his mind, and strive to fit some of them into the task of the moment as best he may. He will conceive his general idea in deference to the local commands of Nature, develop his general scheme as artistic fitness counsels, discover the special features which are needed to complete it (considering which Nature will permit among those he might desire), and then half unconsciously perhaps search for memories of natural results which may teach him how to achieve his own.

Among the many who are fond of Nature, gardens, and flowers, how rare is it to find people who have a

taste at all analogous to what we understand by a taste for art, *i.e.*, an appreciation of organised beauty, a love for the charm of contrasting, yet harmonising, lines and masses, colours, lights and shadows, a delight in intelligent design, in details subordinated to a coherent general effect. Yet it is only such a taste as this which means a real feeling for Nature's beauty, and which can make the surroundings of our homes really beautiful (page 30).

Mrs. Van Rensselaer quotes Ruskin's definition of a good composition as one in which every detail helps the general beauty of effect, and says "that it may also be defined conversely as one which brings out the highest beauty of each of its details."

It is indeed difficult to attain the "vision of an artist" in gardening as in every other art,

* "Art Out of Doors." By Mrs. Schuyler van Rensselaer. New York: Charles Scribner's Sons, 1893.

but this book does a beneficial thing in endeavouring to bring home to us that we should aim at it. I think she hardly does the author whose work she quotes the justice he deserves for his well-known and strongly reiterated opinion, that a garden should always be laid out in keeping with the house, and that the plants in it should be of a kind that their right association will make a beautiful whole, when she says (p. 58) that his decision,

that the true use and reason of the home grounds is "to grow for us plants not in our woods and mostly from other countries than our own," is a very mistaken one.

The author whom she quotes said this truly, but much more also, and has strenuously insisted frequently and emphatically on harmonising the house and grounds as the great point to be kept in view.

The authoress points out usefully, how trebly needful is the planter's aid when a house stands on a flat site to prevent it having a casual, inconsequent air, like a box standing upon a floor; likewise that a house should never stand on a line of empty earth which causes the want of harmony with its surroundings to be painfully apparent, and also very rightly animadvert on the too lavish use in the present day of the striped, speckled, blotched and golden curiosities and novelties of the nursery gardens. I cordially agree with her in disapproving entirely of the ungraceful and uninteresting fashion of surrounding masses of shrubs with rows of plants. Nothing can be prettier than here and there stealing in groups of such things as *Bocconia*, *Spirea*, *Delphinium*, or *Anemone japonica* in front of shrubs, but in some of our own public parks we see them throttled with stripes of inharmonious stiff *Pelargoniums* and other bedding plants instead of their own sprays feathering on the grass. A suggestive and well-described account is given (p. 151) of French flower beds on the site of the old Tuilleries, and how preferable they are to brilliant, formal, and stiff bedding on lawns, and how far more artistic in many situations than the clipped pattern bed could be, as showing more variety in detail, while general harmony is well preserved. "The true lover of plants," she notes, "should prefer them, for they allow their furnishings to grow in free development." Sound advice is given (p. 175) as to the treatment of villa gardens and the disfigurement so often caused by

a greedy love for conspicuous plants as such and bits of grass splashed with chrome-like flower beds, the result being that the unity which alone can give relief and value to variety has been entirely lost. The garden has no coherence, no character; it is a place in which plants are grown, but not a place which as a whole makes any impression upon the eye, except to confuse and pain it.

It may also be well to quote page 187.

We shall never be well served by theories that this style is right and this is wrong; that one method of treatment or one kind of feature is beautiful, and other methods, other features are inept. We shall be well served only by good sense, taking account of particular local facts, and based upon principles which themselves are based upon the same great laws that direct intelligent effort in all the other arts. Simplicity, harmony, appropriateness, variety in unity—clear expressions of clearly conceived and fitting schemes.

In the chapter on architecture, it seems wonderful that now in this century it should still be necessary to dwell on the wrongness of false rusticity, *i.e.*, rough barbaric work suitable for a woody glen being employed in the polished precincts of an urban park, as it appears has been done at Boston. Mrs. V. R. also alludes

to the draping of gateways, not to disturb the rural effect, this again to be noted as false, since their eminently artificial character cannot be disguised, and to cover them with foliage is to sacrifice art and appropriateness to an unattainable end. Thus she adds

that while the art which really conceals art may be great, the art which tries to conceal what cannot be concealed is always mistaken.

In the chapter on trees, she observes how much more care is needed at the present time in forming plantations, as we have a far more varied store from which to select than in past centuries, and consequently it is much easier to make glaring mistakes. To quote again—

Taste is the guide we need, and taste means the cultivation of our own perceptive powers, not the learning of cut-and-dried formulas. To study art as a preparation for the study and appreciation of Nature may seem at first thought a reversal of the right order of things. But it is a very wise thing to do. If a painter were never anything more than a mere recorder of natural facts, a mere reporter, in prosaic speech, of things actually seen in this spot or that, his results would still be of service, enlarging our field of observation by the addition of his field, and preserving for constant examination effects which are transitory in Nature. . . . He has at his command the power to preserve general truth of effect, and yet accentuate certain special truths more forcibly than, to our eyes, Nature has presented them. . . . They should be consulted as stimulants and explanations, as cultivators of taste, as teachers of what is meant by beautiful associations, by strong or graceful contours, by effective or subtle contrasts of light and shadow, by satisfactory contrasts of textures, by variety in unity, by diversity in harmony, by dignity, breadth, simplicity, repose, and charm. . . . These are the things we must learn in advance of any planting if we are to make a work of art of our result.

On one point I do not agree with the authoress, namely, her dislike of the Weeping Willow and her notion that hardly any place where it can be put will have its beauty enhanced by its presence. In my estimation its appearance is superior to that of the Weeping Beech, which she prefers to it.

In the chapter on books, Mrs. V. R. makes some sensible remarks on the pleasure and use of even a smattering of botanical knowledge, as helping to put us on friendly terms with Nature in her gardening work and landscape painting. M.

The Shrubs of N.-E. America.*—This is an American book on a very interesting subject, illustrated with outline drawings, and very useful ones, of the plants talked of, but the printing is very large and open and done in a most "bumped-out" way, as if the object were to make the book as large as possible; there is often nearly half an inch of space between the description of the leaves and that of the flowers. We think we have never seen so great a waste of space in a book; notwithstanding which and the fact that it is well printed, the type is all so open, that one cannot easily get at the individual names. The author follows what we think the evil way of European writers, of giving precedence to technical details, such as the flower, and saying very little about the general aspect of the thing, its size, uses, beauty, &c. In fact, however botanically correct, it is made as dry as possible, and we think without reason. The author appears to have written another book on the trees of North-eastern America, but as it is often so difficult to separate trees from shrubs, it would be much more reasonable to treat of all in one book. In our own country in some cases, and no doubt

* "The Shrubs of North-eastern America." By Charles S. Newhall. G. P. Putnam's Sons, 27, West Twenty-third Street, N.Y., and 21, Bedford Street, Strand.

also in America, a shrub in one part of the country may in more favourable conditions deserve the name of a tree.

PUBLIC GARDENS.

PRUNING LONDON TREES.

If Colonel Bushe, who writes to the *Times* advising the pruning of London trees, is open to reason, he will find proof enough in the streets and squares of London against pruning. A walk to Berkeley Square and then down the Mall in St. James's Park, where the wretched trees are disfigured by pruning, would convert him. If people are so unwise as to put very big trees in very little streets, in time they must lop them; but in our regions it is a mistake to put trees in narrow streets. There is reason for pruning in certain cases, but not for the pruning of forest trees, even when these are grown in towns. When a man gets the pruning-hook in his hand to deal with these, he generally puts his reason to bed. In our own day we have trees of all sizes for street and every other purpose of planting, and both from a cultural and artistic point of view it is best to leave them with the forms that heaven gave them. That there is a need of "regulating the height and giving the necessary symmetry and formality of shape which are best adapted to their purely abnormal and artificial conditions of cultivation," as expressed by Colonel Bushe, is a delusion of his own, and we hope of only a few others, because anyone who takes the trouble to look at the trees in Gray's Inn and some of the west central squares, and also many parts of the parks, where they are let alone, will see plenty of proof that there is no such necessity.

LONDON TREES.

ON page 338 of THE GARDEN you published an interesting letter from Mr. W. Paul as to the varieties of trees suited to London. There is, however, an important question not touched upon, and that is the way that trees, of whatever varieties, should be planted in streets. In our damp climate we want light and air, and, much as the planting of trees is to be desired in London, they will become simply nuisances if they are to be planted close against the houses on the skimped pavements of our narrow streets. Let anyone who doubts this go and look at the Planes in Northumberland Avenue. This fine street is far too narrow for the height of the houses on each side, and when the Planes have had a few more years' growth, the place will be so dark that the trees will have to be cut down. A similar state of things exists elsewhere in London and other large English towns. It may do in the brighter and drier air of Paris, with broad pavements and broader streets, to plant trees close to the houses, but in England such a practice can only end in the removal of the trees. What is wanted is a totally different system, better for the trees, prettier in itself, and better for human beings subject to rheumatism and other ailments arising from damp. Let the trees be planted down the centres of the streets in a straight row, in narrow islands with curbed edges, and with frequent openings to let wheel traffic through. The effect say in Portland Place, which is a fine broad street, of a row of trees planted in this way would be very fine. The trees would have light and air all round, and they would not grow in the lopsided way which is inevitable when they are placed against houses. The dwellers in Portland Place would have pleasanter things to look on than the bricks of their opposite neighbours, and the trees could be varied by many suitable sorts being planted.

J. I. R.

Metropolitan Public Gardens Association.—At the monthly meeting, the Earl of Meath,

chairman, presiding, a letter was read from H.H. the Maharajah of Bhavnagar, enclosing a donation of £21. It was reported that the association had completed and opened Goldsmith Square, Shore-ditch, and St. Olave's Churchyard, Silver Street, E.C., and that the Duke of Westminster had kindly consented to prolong the summer opening of Lower Grosvenor Gardens, S.W. It was agreed to offer seats for certain roads in Dalston, Deptford, Stamford Hill, and for St. Peter's Churchyard, in Upper Thames Street, to offer assistance in the acquisition of some additional land adjoining Barnes Common, and to contribute £200 towards the laying out of a plot of land near Gloucester Road, provided it were secured as an open space. Progress was reported in the laying out of Victoria Park Cemetery and in the negotiations being carried on with the object of securing several new gardens and playgrounds in Walworth, Deptford, and Bethnal Green. The secretary stated that the association had erected a covered shelter on Wandsworth Common, with funds provided by one of its members, that £1000 had been received from another member towards the formation of a riverside space in Battersea; that the Earl of Meath, the chairman, had presided at a meeting in West Hampstead in favour of acquiring St. Mary's Fields, about eight acres in extent, as a recreation ground; and that the association had also been represented at a meeting recently held for the preservation of Leyton Marshes.

The Stockton park, which was opened on the 4th inst. by the Duke and Duchess of York, is in the south-west portion of the borough. The land purchased and presented by Major Ropner, being a plateau, to render the park somewhat naturally picturesque and more romantic, the Corporation purchased an additional 3 acres, 1 rood and 37 $\frac{1}{2}$ perches, to the east of the land given, at a cost of £1026 11s. 3d.

National Chrysanthemum Society.—We are requested by the hon. sec. to state that on the occasion of the exhibition at the Royal Aquarium on November 7, 8 and 9, the flowers competing in class 27 of the amateurs' division will be considered when the special *Gardener's Magazine* medals are awarded. This class was unfortunately omitted from those mentioned on page 64 of the schedule of prizes. Also that the awards in class 48, being special prizes by Mr. E. C. Jukes, will be the silver-gilt, silver and bronze medals of the society. The floral committee will meet on the second day of the show, Wednesday, November 8, at two o'clock, and not on the first day, as heretofore.

—A meeting of the floral committee of this society was held at the Royal Aquarium on the 11th inst., Mr. W. Herbert Fowler occupying the chair. There was a good display of novelties, and the following received first-class certificates: Charles Davis, a deep bronzy yellow Japanese bloom, a sport from Vivian Morel. This was staged by several exhibitors, the colour varying in every case. The award was, however, made to Mr. H. J. Jones. Mme. Edouard Rey.—A fine incurved Japanese variety, deep purple-amaranth with a rosy pink reverse. Exhibited by Mr. E. Beckett. Eda Prass.—Another Japanese of somewhat similar type, but much lighter in colour, being of a delicate blush. Mr. Godfrey received the award. Louise.—A very large white incurved Japanese of good form. In its early stage the flower seems to be shaded blush-mauve. It has long deeply grooved florets. Staged by Mr. N. Davis. Mme. Thérèse Rey.—A large white Japanese flower with long drooping florets. Shown by Mr. H. Shoesmith. Edith Rowbottom.—A seedling Japanese of a deep lilac-amaranth colour and rather narrow florets. Raised by Mr. E. Rowbottom, who exhibited it. Among other striking novelties presented to the committee were Duchess of Devonshire, a rosy-pink Japanese with golden centre; l'Ami Etienne, a large light mauve Japanese of the Audiguer type; Lizzie Seward, a deep amaranth Japanese with silvery reverse; Rose Wynne, a large loose-petalled white Japanese; Mrs. Conway, a light yellow Ja-

panese of a rather delicate shade; and Miss Muiel Scott, also a yellow Japanese. The exhibitors were more numerous than on former occasions, and as the season advances we may confidently expect a large addition to the meetings, as the flowers hitherto staged appear to be of uniform good quality.

Royal Horticultural Society.—The next meeting will be held on Tuesday, October 24, in the Drill Hall, James Street, Victoria Street, Westminster. The council of the society have offered special prizes for Apples and Pears grown in the open air and also for Grapes. At 3 p.m. Mr. A. Dean, F.R.H.S., will deliver a lecture on the "Cultivation of Onions," examples of which would be welcomed at the meeting.

OBITUARY.

Mr. W. Y. Draper.—We regret to hear of the death, at the age of sixty, on the 7th inst., at 14, Addison Crescent, Kensington, of Mr. William Yates Draper, the head of the firm of Messrs. J. W. Draper and Son, the well-known salesmen of Covent Garden.

Mr. H. E. C. Beale.—We are also sorry to hear of the death, on the 12th inst., of Mr. H. E. C. Beale, eldest son of Mr. E. J. Beale, of the firm of Messrs. J. Carter and Co. The deceased, who was about thirty years of age, was educated at King's College. He then took a prominent position at Holborn, but his health broke down, and we understand he has spent most of the last two or three years in California, Jersey, and the south of France.

A curious Cucumber (F. Stubbs).—We do not think it is a cross, as you say, but the Japanese Cucumber sent out by Messrs. Carter and Co. and others this year.

Names of fruit.—R. C. Cooke.—1, Minchall Crab; 6, Court of Wick; 3, Braddick's Nonpareil.—J. S. Cornwall.—1, Doyenné Boussoch; 2, Duchesse d'Angoulême; 3, Beurré Rance; 4, Knight's Monarch; 5, Napoléon; 6, Beurré d'Arenberg; 25, Apple Bess Pool.—A. C. H. O.—A, Cox's Pomona; B, not recognised.—J. W. Ayton.—1, Winter Strawberry; 4, Schoolmaster; 6, Court of Wick; the others are unknown to us.—W. Darker.—1, General Todtleben; 2, Baronne de Melo; 3, Beurré Rance; 4, Glou Moreau; 5, Thompson's; 7, King of the Pippins; 8, Cox's Pomona; 9, Rymer; 10, Hanwell Souring.—W. P.—1 and 6, not recognised; 2 and 3, Marie Louise; 4, Eyewood; 8, Apple Fearn's Pippin.—A. P.—1, Blenheim Pippin; 2, Hoary Morning; 3, Cellini; 4, too bad a specimen.—B. Wells.—42, King of the Pippins; 40, Margil; 41, Emperor Alexander; others not in character.

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All of our readers who are interested in the improvement of cottage homes are invited to help us to make **Cottage Gardening** known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, E.C.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*. (1)

CHRYSANTHEMUMS.

NATURALLY GROWN CHRYSANTHEMUMS.

THE term "naturally grown" is usually given to Chrysanthemums that are made to develop a bushy form and which are not subjected to the severe disbudding necessary if flowers of exhibition quality are desired. It is, however, a misnomer, for, strictly speaking, a naturally grown plant would have neither its shoots stopped nor any of its flower-buds removed, both of which operations are nearly always practised. In growing Chrysanthemums of what may be termed the exhibition type, the sole object in view is to obtain flowers at once of the largest size and as near as possible of the form that has been set up by the florist as an ideal one. In the cultivation of that class with which the present observations deal, the aim is entirely different; it is, in a word, the beauty and effectiveness of the plant as a whole rather than that of the individual flower. In growing this class of plants, it is of great importance that each should be clothed with foliage almost or quite to the base of its stems, and that whilst the shoots should be disposed and supported so as to secure sufficient symmetry of form, the stiff outlines and unwieldiness of the "specimen" plant of the exhibition should be as carefully avoided. With regard to the flowers themselves, the aim should be to obtain them large enough to show the true and distinctive character of the variety, and yet in sufficient number to fully furnish the plant, thus avoiding the wasteful process which accrues from restricting the energies of the plant to the production of two or three flowers. For some years past this system has been adopted for the plants grown in the large temperate house at Kew, and this year they are unusually fine. In this house, with its broad walks and splendid background of greenery, Chrysanthemums are shown off to perfection, and I think that, as seen here, few will dispute their being shown in as beautiful a shape as pot culture will admit of.

It is questionable whether, by encouraging so exclusively as exhibitions do the big flower and the conventional specimen plant, the true interests of horticulture are furthered as much as would be done by adopting a system of culture that requires as much real gardening skill to obtain the best results, and which, from an artistic standpoint at least, are infinitely more pleasing. The groups of plants seen at even our best shows, with their carefully sloped surfaces, look brilliant and gorgeous enough at the top; but to the inquisitive eye that searches below there is revealed a huddled mass of long stalks and pots (the latter not unfrequently stood one above another), which is to the last degree unsightly. Looked at singly, such plants are hideous, and even when massed together in a formal sloping bank, which is the only arrangement they are presentable in, the few square yards of colour they give cannot be said to be an adequate return for all the expense and labour they have entailed during the previous twelve months.

To obtain plants of the character now in question, cuttings may be taken at any time between the end of November and the middle of February. I have not been able to see that any advantage is gained by taking them very early, cuttings taken in February rooting sooner and growing away more freely than those taken two or three months before. I prefer to strike them singly in $2\frac{1}{2}$ -inch pots, placing them in a frame close to the glass and using no artificial heat so long as the temperature is above 40° Fahr. As soon as rooted they should be removed to a cool frame, and still be kept near to the glass, giving air on all favourable occasions. When the pots are filled pretty full of roots a shift into 4-inch pots should be given, and as soon as the plants are 5 inches high they should be stopped for the first time; from this stepping three or four shoots generally appear; if more than this number, the lower ones should be removed. From this time right through the summer the chief thing to aim at is a free and uninterrupted growth. It is of the greatest importance that no check should occur, either by under-watering or under-feeding, or by allowing the roots to become pot-bound before the final shift. During April the plants are mostly ready to shift into 6-inch pots, stopping the shoots a second time when about 6 inches long. For the majority of the varieties two stoppings suffice to produce from eight to twelve shoots, but this matter will have to be regulated in accordance with whatever number may be considered sufficient according to the variety. Some, such as Mrs. Beale, do not branch freely, and have to be stopped three or four times to obtain even seven or eight breaks. The final shift into 10-inch pots will be necessary during the last week in May or early in June. This, however, should be done whenever the 6-inch pots are fairly well filled with roots, the different rates of growth rendering it advisable to repot at different dates. In the last two pottings care should be taken to make the soil very firm; if it is in a proper condition and not too wet, the potting-stick may be freely used. I am convinced that to obtain the dwarf, stocky habit and firm, woody growth which so much improve the appearance of Chrysanthemums grown in this manner, firm potting is essential. Of chief importance in making the compost is, of course, the quality of the loam. It should be of a rich, turfy character, and care should be taken to avoid one that is too light and sandy. Of the two, indeed, I would prefer that of a rather heavy and clayey nature, modifying it afterwards by a sufficient mixture of clean, coarse sand. A good proportion of well-rotted cow manure is usually advisable, to which, before adding to the loam, a thorough dressing of soot should be given. This not only acts as a manure, but destroys the worms and larvæ, and renders the cow manure drier and more workable. Finally, a little bone meal is a useful addition. This compost should if possible be made five or six months previous to using, and be turned over two or three times in the meantime. It should be kept dry by being built up in a ridged heap or covered with shutters.

Perhaps in all the matters relating to Chrysanthemum culture, the one on whose proper manipulation the difference between mediocrity and the greatest success most depends is that of the application of manure, or "feeding," as it is popularly termed. It is evident that whatever system of culture we pursue, the plants will require very much more food than can be obtained from the soil in a 10-inch pot, and, in fact, from June right up to the end of October

the application of manure either in the form of artificial fertilisers or as manure water is a continual necessity. As soon as the roots have found the sides of the pots, a bag of soot should be sunk in the tank from which the plants are watered, and the soot should be renewed about twice during the season. About six weeks after the final potting the first weak manure water may be given to plants that have grown strongly, and from this time onwards until the plants are housed it must be given regularly, increasing its strength as they get older, and finally supplying it to them twice every other day. In addition to this, a top-dressing of artificial manure will probably be necessary about the middle of July, repeating this at first once a week, afterwards oftener. The practice of deferring the application of artificial manure until the flower-buds are beginning to swell is not a good one for bush plants, whatever it may be for those intended to produce large blooms. It is a good plan to use two or three sorts of fertilisers in rotation in preference to one for the whole season.

It need scarcely be said that Chrysanthemums must never be allowed to get dry, more especially later in the season; on the other hand, some care is needful in the early stages to avoid over-watering, particularly just after repotting. Some difference of opinion exists as to the advisability or otherwise of plunging the pots in ashes. Where, through pressure of work, there is a danger of the plants not obtaining full attention in watering, it is certainly better to plunge the pots. But where no difficulty of this kind is likely to occur, I should prefer to stand the pots, without plunging them, a yard apart each way on a hard bed of ashes, believing that this is more conducive to the formation of firm and well-ripened growth.

With regard to the amount of disbudding to be done, it varies considerably according to the variety. The "crown" buds are only to be taken in a very few cases. In some varieties, however, the characteristic form of the flower necessitates the allowing of but one flower to each of the seven or eight shoots. A marked instance occurs in Edwin Molyneux; in the Queen family, too, the crown bud is always taken unless it is formed too early. It is the Japanese section, however, that lends itself to the natural style of growth better than any, and from pretty nearly all these the crown bud is removed, and three or four shoots beneath are allowed to grow. A single flower is permitted to develop on each of these, and thus, as a rule, from thirty to forty are produced. On some varieties twice or thrice as many may be carried without detracting from the beauty of each flower. The finest plant of *La Nympha* in a 10-inch pot I have ever seen bore just under 200 flowers, some of them 6 inches across. Such single-flowered varieties, too, as *Miss Rose* should not be disbudded at all. But a single season's experience is sufficient to enable any one to judge for himself in this matter.

W. J. B.

CHRYSANTHEMUMS AT CAMBERWELL.

CAMBERWELL is not altogether an ideal spot for flowers, but the Chrysanthemum is grown in perfection by Mr. Norman Davis in his Lilford Road nursery there. This year this well-known grower has an exhibition, and Chrysanthemum enthusiasts will be interested in the splendid novelties to be seen in the several houses. One structure in which the chief mass of plants is arranged is large, and in the course of a few days will be a sheet of colour, each variety disposed in blocks to give a rich effect. Of course, every novelty worthy of the name is in the collection, besides the ordinary va-

eties that are known to all who really care for the flower. We are concerned here alone with the newer varieties, and every one is cultivated with remarkable success, in spite of the crowded surroundings. But this testifies to the great usefulness of the Chrysanthemum as a town plant and also its brilliancy in the late months of the year, when few other greenhouse things are in bloom. The Japanese section is remarkably strong, and although the several kinds were not in perfection at the time of our visit, many beautiful novelties were in bloom. One of the finest was Mlle. Thérèse Rey, the first flowers of which were expanding. This is a magnificent kind, the flowers of very large size, but not in any way coarse; the petals broad and composing a massive bloom, whilst the colour is delightful—a rich, almost creamy tint, a shading of yellow appearing in the centre. It is the finest acquisition to this section of recent years, and the growth is dense, compact and vigorous. Another fine novelty which we made note of was Col. W. B. Smith, a variety shown well on several occasions last year. The flowers, although of very large size, are not coarse, and it is pleasing to see that many of these monster kinds are really refined in aspect—very different to the first acquisitions of this type. The colour is a golden bronze, shaded with a brownish tone, and we must also mention that the habit of growth is excellent. This is of great importance. We care little for the tall kinds, and it is to the reduction of habit that raisers have been directing their attention with so much success. Andrew Felaciers will take a high place as a flower for decoration. More thought is given to these kinds purely for this purpose, leaving out the question of exhibition. Too often a variety was condemned simply through failing to attain a certain standard of excellence from the exhibitor's point of view. Such charming things as this were overlooked. The flowers are rich orange, neat, borne very freely, and remarkably bright. Another of this type is Charles E. Shea, which is too well known to need description. Rycroft Glory is a very beautiful decorative variety, the flowers orange-yellow, and smothering the vigorous shoots. Louise belongs to the Japanese incurved class. It is a very fine flower, white touched with magenta, and the habit of the plant very dwarf, not more than 3 feet in height. A distinct improvement on the popular Mme. Bernard is Commander Bluset. The flowers are best described as deep amaranth-crimson, with silvery reverse to the petals, and the plant naturally dwarf. It is much freer and more easily grown than Mme. Bernard, the colour also deeper. A very pure white Japanese kind is Mme. Chater, the flowers exceptionally pure, and in other respects this is a desirable kind. Mr. Davis has a splendid batch of the now well-known Vivand Morel, which has given rise to considerable controversy regarding the white sport. One sees the flowers here of various colours, the early crown bud giving pure blooms, and those from the late buds deep lilac, whilst the intermediate or second crown buds bear flowers of varying shades of lilac. It is very interesting to thus see a collection representing such remarkable diversity. A variety named Mme. Charles Moulin is very much like a white Vivand Morel, the petals broad and firm, whilst the habit of growth is quite as free as that of the kind to which we have compared it.

This representative collection is very rich in what we may call the deep chestnut-crimson class. One house is filled with the variety William Seward, comprising hundreds of plants, all in splendid health. It will be remembered that this variety created quite a sensation when exhibited by the raiser, Mr. W. Seward, at the Royal Aquarium last October. It is a remarkably beautiful kind for colour in particular, which is best described as purple-crimson. The flowers are not unlike those of Cullingfordi, but more purple, the reverse side of the florets being gold, seen especially when they are unfolding. They are absolutely devoid of coarseness, each bloom a model of symmetry, smoothness and beauty. John Shrimpton was also shown by Mr. Seward at the Royal Aquarium last year, and in both cases a first-class certificate was at once given. The flower reminds

one of Jeanne Délaux, the colour a rich velvety crimson, the florets of a golden shade on the reverse side. It is as distinct in habit almost as in colour, the majority of the plants 2 feet in height, some less. Mr. Davis has a large number of plants of that very fine kind named C. Shrimpton, which is catalogued as a reflexed Japanese, but these various distinctions are a trifle puzzling. The flowers are large, but not coarse, and deep chestnut-crimson, the reverse of the florets bronze. When writing of Vivand Morel, we ought to have mentioned that fine variety Charles Davis, which sported in this nursery from Vivand Morel. It is a noble flower, a decided yellow in the earlier buds, but the later ones are rich rosy bronze, broad, full, and similar in expression to those of the parent, whilst the habit of growth is of the same character. Mr. Davis has so many fine novelties, that it is difficult not to make a particularly long list, but in the Japanese section we must mention as of merit: H. Shoesmith, a lovely straw colour; Caesar Costa, Viscountess Hambleton, lilac, turning to white; L'Isere, which is like Yellow Dragon, only white; and Alice Rowbottom, a seedling raised by Mr. Davis, amaranth-rose, with silvery reverse, and recently certificated.

The incurved section is thoroughly well represented, and the flowers of many excellent kinds were expanding. Baron Hirsch was one of the finer kinds, and this is now well known. Mention may also be made of Emile Parli, rich bronze and of the Princess of Wales type, besides many other beautiful novelties.

What is known as the hirsute section is of course a feature. But we care little whether a flower has this distinctive character or not, the chief thing being its colour or form. Louis Boehmer was never a favourite, its colour is too dingy, but William Falconer is a step in the right direction; and then Mr. Davis has the white Louis Boehmer, also Queen of the Hirsutes, rosy crimson, and W. A. Manda, yellow.

Every phase of the Chrysanthemum is seen here, and the borders near the houses are gay with many kinds of well-known hardy kinds. It is surprising how well they are flowering amid the smoky surroundings, especially such varieties as La Vierge, Mrs. Cullingford, Alice Butcher, Anastasia, Little Bob, Lyon, Roi des Precoces and Mlle. Foucher de Careil, which is of a bright orange shade, very free, and in all respects a showy and useful outdoor kind.

NOTES ON NEW VARIETIES.

Mlle. THERESE REY.—Although white-flowered varieties in the Japanese section are numerous, there is still room for more, especially when of the quality of the above, which is without doubt one of the finest introductions of recent years. Well-developed blooms measure from 7 inches to 8 inches in diameter and of corresponding depth, a point that should always be present in typical flowers. The petals are of medium width, incurving slightly at the point until fully expanded; the colour white, with just a faint tinge of cream in the developing florets. In habit of growth it is all that can be desired, being robust, yet not too tall. I should advise exhibitors to make a note of this novelty.

PRESIDENT BOREL.—This belongs to the flat-petalled section of Japanese, and is in every way promising. The florets are of medium width, very full in the centre; the colour is rose-magenta, or a very warm rose; the reverse, pale gold, which gives the flower when half expanded a novel, yet striking appearance. Well-developed blooms are large enough for any purpose. This new introduction is likely to take a foremost position on the exhibition table in the near future.

MME. EDOUARD REY.—Early blooms of this Japanese open pale lilac in colour, being spotted and suffused with rose. Those from a later bud have more colour, being a warm rose-pink, and are more pleasing. The florets are broad, incurving at the tips. The flower is of full size, and a decided acquisition as an exhibition variety.

KENTISH YELLOW.—This is a desirable Japanese variety; the colour rich yellow, most striking in its tint, as we have not too many of that type of colour. The flower is devoid of anything approaching coarseness of petal, and is of great depth, carrying a full centre.

EDITH ROWBOTTOM.—This French-raised seedling belongs to the narrow-petalled section of Japanese. The blooms are very full in the centre and of great depth, the colour warm rose, deepening in later blooms.

MISS MURIEL SCOTT.—This promises to make one of the best decorative varieties we have in the Japanese section; the colour is most desirable for that purpose, being what is perhaps best termed a golden primrose. The florets are narrow, flat and full, making a bold bloom of medium size, and just the kind for the purpose named.

PROFESSOR WHITMACK.—As an exhibition variety this Japanese is likely to become popular; the colour is a desirable one, rose-magenta, with silver reverse; the florets incurve at the tips, showing the silver until fully developed. The blooms are not extra large, but solid and in every way desirable.

LOUISE is one of M. Calvat's latest introductions, and a great acquisition, from the fact that magnificent blooms are produced from plants but 2 feet 6 inches high. For this reason Louise is bound to take a high position with all exhibitors whether for cut blooms or for grouping. The florets are broad and massive in appearance, loosely incurving toward the centre. The colour, flesh-pink, is unique. This novelty was finely shown by Mr. N. Davis in his first prize group at the late October show of the N.C.S.

M. ULRICH BRUNNER has narrow petals of a rich magenta-red colour; the blooms are well built, being full and deep, of medium width. As a front line bloom it must take a high position in the Japanese section on account of its colour and solid form.

EDA PRASS.—This Japanese, which belongs to the incurved section, was finely shown by Mr. Godfrey at the late October exhibition of the N.C.S., and was unanimously awarded a first-class certificate by the floral committee. The colour—a warm peach—is most pleasing.

PETIT DELAUX.—This has broad incurving petals of a rose colour, very promising as an exhibition variety.

MISS ALICE WILSON may best be described as an improved Stanstead Surprise. In formation the florets much resemble this variety, but the colour is richer, while the blooms are more massive; therefore will be more effective.

MRS. CHARLES COX is a sport from M. Bernard, possessing all the characteristics of that favourite in habit of growth and formation of flower. The flower has a golden base, dashed and suffused with red. Blooms developing from later buds will show a richer tone of colour, which is a characteristic of its parent. Taken altogether, in Mrs. C. Cox we have a decided acquisition to the large show varieties.

DR. MRS. WARD.—The florets of this American-raised Japanese are broad, the tip of each recurves, giving it a novel appearance, but exhibiting fully the surface colouring of golden amber edged with brick-red. The blooms are full, quite solid.

GOLDEN WREATH is a rich golden yellow; the long, though loose florets are of fair substance. Japanese. E. MOLYNEUX.

Chrysanthemum C. B. Whitnall.—From the description accompanying this variety in catalogues, I gather that it received a certificate in America. From my point of view, instead of its being a perfect incurved variety, I call it an ill-formed Japanese. In point of colour it is perhaps remarkable—purple-red, but we here in England look upon a flower with the eye of the florist, and I consider this variety is not deserving of attention. Were we to include such badly formed flowers in our list of incurved sorts, it would be difficult to say where Japanese begin and incurved leave off.—E. M.

FLOWER GARDEN.

DAFFODILS ON THE GRASS.

AFTER a somewhat long and careful study of the native conditions under which the Daffodils are found wild, added to considerable observations of these plants as naturalised in our fields and gardens, we have arrived at the conclusion that they never look better, and in many cases never succeed better than when carefully and thoughtfully planted in the meadow or on the outer fringes of the lawn. In England we find, especially in the south, that these flowers affect the woods and hedge banks, as well as, and sometimes apparently, in preference to the open fields or downs. One of the sights in

England and Wales, and in Scotland, whence we have seen from Dr. Stuart, of Chirnside, a very remarkable series of dwarf yellow, and other larger Daffodils distinct from named and known kinds, which he was so fortunate as to recover from an old garden some few years ago.

Then in England we have the instance of Finnerne's Flowers growing in a spot to-day, from which the old family of Crusaders, the Findernes, have vanished, followed by every stock and stone of their castle or dwelling, but their flowers, or at least some of them, remain, as related in THE GARDEN (Vol. XV., pp. 75 and 134). The Rev. Harpur Crewe took some trouble to verify this fact, and found that one of the flowers of the Findernes was *Narcissus poeticus*. Then in Wales there was the cropping up of the giant Star *Narcissus*

tion of Daffodils and of Star *Narcissi* is an accomplished fact to-day in many places. *Narcissus poeticus*, varieties *ornatus* and *recurvus*, *N. incomparabilis*, or the Star *Narcissi* in variety, and several of the trumpet Daffodils, and especially *N. obvallaris* (Welsh or Tenby Daffodil) and *N. princeps* (so-called Irish Daffodil), have improved as here naturalised in grassy meadows for three or four years. Nor must it be supposed that the soil in the scene shown in the engraving is a good one. On the contrary, it is a heavy, greasy clay lying over ironstone—a soil in which forest trees and Roses and other hardy shrubs and flowers grow vigorously; but not exactly the kind one would select for choice bulbs. Nevertheless, as we have said, the above *Narcissi*, *Tulipa sylvestris*, various *Squills*, *Anemone*



Portion of field of Poet's *Narcissus* in bloom. Late variety, planted six years; soil stiff loam. Meadow mown every year; plants never degenerating, but improving yearly, and showing very great differences as to size and height according to the amount of rain. No preparation of the soil ever given, or anything beyond turning up the sod, placing the bulbs beneath and standing on the turf.

Normandy in April is the woods beside the railway from Dieppe to Rouen, as they are gold-flecked with Daffodils by the million. In a lesser degree this is true in Kent and Hampshire, and even in Ireland, where no form of Daffodil is really wild or indigenous. They were long ago introduced into gardens from the Continent, and are now frequently found in quantity as naturalised on sites

Where once a garden smiled,

a fact Goldsmith chronicled long ago, and one we have observed with much pleasure in more recent times. Such choice kinds as Colleen Bawn, Minnie Warren, Rip van Winkle, Leda or albicans, Countess of Annersley, Ard-Righ, princeps, and several others have thus been found not really wild, but apparently so in Irish fields and parks and derelict demesnes. To a lesser extent this much is also true in

Sir Watkin in a semi-naturalised state, and there are the curious white Daffodils found on an old religious site near Bicester, and even *N. capax*, or Queen Anne's Daffodil, has been found on a hedge bank in Wiltshire; while in Cornwall and the Scilly Isles various forms of the bunch or tufted *Narcissus* (*N. tazetta*) of the Mediterranean region have been naturalised for years, and from this fact arose the suggestion for and likelihood of the enormous trade in *Narcissus* flowers carried on there to-day.

Our object is not so much to speak of or write the history of these flowers as to allude to their adaptability and beauty as cultivated in quantity in the Grass in suitable positions, where they may escape the mowing machine or the scythe, at least until their leaves wither in hay-time, or say June and July. We are not recommending a novel practice, for the naturalisa-

apennina and *A. Robiusoniana* have done well, improving in strength and vigour of blossoming year after year. Other bulbs have also done well, none better, perhaps, than the various forms of our native meadow Fritillary, or "Chequered Daffodil" of Parkinson, which in April or early May hangs its curious lamp-lit or lantern-shaped flowers by the thousand above the lush young Grass of early summer-tide, succeeding the Snowdrop, Crocus, Aconite and other harbingers of spring.

The essential practical points in this question are first the obtaining of good sound bulbs in quantity early in the season, and not later than August if possible. The golden rule is to plant only the best and strongest kinds, and to use these boldly by the thousand. Then they must be well planted 5 inches or 6 inches deep in bold clumps or masses, and not dotted

about singly or planted in lines or any set pattern. If several groups of the same kind are planted, the groups should themselves be arranged in relation to one another, with one group larger and bolder than the rest, so as to give more mass towards the centre on which the eye may rest, and not be led to wander about, as it inevitably will do if several adjacent masses are of equal importance. As in colour inequality means brilliancy, so in groups or masses inequality means an added interest, but one point in a line or in a group should always be denser and bolder than the rest, or it will never satisfy. The very best rules on compositions of this kind are those in Ruskin's "Elements of Drawing," which should be studied by all who attempt the planting of flowers or trees. The engraving may be taken as a good example of the kind of natural grouping we mean.

Planting itself is best done with a spade or draining tool, and in hard ground or among tree roots a pick or axe may be necessary. Loosen the soil to a depth of 12 inches to 16 inches if possible, and if leaf soil and sand can be added in the planting, so much the better. Two or three labourers with a cartload or two of sand and mould well mixed will soon put in a few thousand bulbs, but there should be some supervision, unless the size and shape of the groups be marked out beforehand, as they were by one friend of mine with the lawn-tennis marker! After planting the turf is relaid, and all after culture consists in giving the annual top-dressing of soil and manure usual for meadows early in the year. In a word, the naturalisation of bulbs in meadows is not in any way inimical to their due and proper use from the home-farmer's point of view. Mowing does not take place until after the leaves wither. Then they may go to swell the bulk of the fodder without injury, even if not with some slight advantage, since we read and heard of the cows in Scilly having been fed on Narcissus leaves during the drought of the past summer.

What we especially plead for is a greater general extension of bulb planting in Grass in all suitable positions. Once well done, results are good for many years, and, as we have shown, the art of the gardener and planter often survives after that of the builder is decayed or swept away. It is no new hobby, but has long been practised in the best of old country places, until in some cases quite a character has been added to domains, and bulbs on the Grass herein constitute the essential charm. It is so at Straffan, Kildare, and Dunrobin Castle, Sutherland, where the Snowdrops form a turf where Grass can but barely grow under trees, and now the same is true at Carton, where the Duchess of Leinster has jewelled the turf near to the ancestral Cedars and other lawn trees with the choicest bulbous flowers. It is also the case at St. Anne's, Clontarf, of recent years, and at Belvoir. It may thus be seen that Nature's own way of growing flowers amongst other herbage is the best way after all.

F. W. BUREIDGE.

Tuberous Begonias in beds.—During the early part of the summer, and in fact up to the time the rains fell heavily and the weather became cooler, these flowered none too well; whereas zonal Pelargoniums never looked gayer. Then came the turn of the Begonias. No amount of rain seemed to hurt them, and at the present time (October 12) the beds are as brilliant as I have ever seen them. The Pelargoniums, Calceolarias and such like have for some time past cut but a sorry figure, the first-named soon collapsing when rainy weather sets in.

All things considered, tuberous Begonias have no equal for flower garden decoration, and that they are steadily gaining in favour in small as well as in large gardens there is no gainsaying.—I.

Rhexia virginica.—I notice that Mr. J. Wood, in his interesting notes on hardy plants in THE GARDEN for September 23, expresses some fear lest this plant should not be entirely hardy. It is one of our most plentiful wild flowers in New Jersey, where one may often see a swampy meadow simply a mass of its beautiful flowers, and as the winters there (in the latitude of New York) are usually severe, there can be no doubt of its perfect hardiness. The specific name is rather a misnomer, for it is not by any means confined to Virginia, but extends over quite a wide range. It may be relied upon wherever *Lobelia cardinalis* is hardy.—E. L. TAPLIN.

OCTOBER FLOWERS.

SOME of the hardy flowers that render good service in the outdoor garden during this month are this year over-forced into bloom prematurely by the great heat of the past summer. Fortunately, frost has spared the tender ones, and some of them, favoured by the refreshing rains enough to moisten the roots and not sufficiently heavy to wash the beauty out of the flowers, are still in this second week of October more beautiful than in the height of summer. Dahlias, for instance, are fine in colour and form, and still expanding their buds, for in the home counties at least, although the nights have been cool, the temperature by day has been high enough to promote development. Few tender things have come quite to a standstill. Had a national Dahlia show been held in the last week of September, the average quality of blooms exhibited would, I imagine, have been high. French and African Marigolds are still a mass of bloom. Gaillardias are as good as two months ago, and zonal Geraniums are more effective than is often the case with them in the height of summer. Those who grow the early-flowering Chrysanthemums will have been well content this season. Early autumn frosts have spared them, and rain came in time to assist development of the blooms. I do not think the flowers are individually so fine as is generally the case, but none have been destroyed, so that this year may be considered as having been favourable for this section of the family. When Mme. Desgrange and its varieties as well as those kinds that bloom from mid-September to mid-October escape autumn frosts, one may rely on having a fairly attractive garden till late in the latter month, when the late blooming hardy ones come in. The annual Chrysanthemums seldom fail us in late autumn. It must be a hard frost that stops their blooming, and they bear a lot of wet weather without suffering any great diminution of their blooming powers. One of the most valuable of October flowers is *Pyrethrum uliginosum*; it can be grown where many things would fail, large well-established specimens being remarkably effective where the dense masses of pure white bloom are shown up by the rich green of evergreen trees and shrubs. One may cut a bushel of flowers from two or three fair-sized plants. Only a few years ago one rarely saw it in any but the largest gardens; now I see it frequently in cottage gardens. The Ivy-leaved Cyclamen is generally in good bloom with me during the early part of October, but this year the flowers were thrown up in profusion by the first week in September. The great heat quickly spoilt them, and now there is but a bloom here and there to be seen. Everyone ought to find a place for this Cyclamen, which can be grown under trees and in other situations where flowering plants could not thrive. Few things of its size are more effective, but to fully appreciate its beauty one ought to have bulbs that have seen a decade. Some of mine are twenty years old, and they yield individually over 100 blooms. Perennial Sunflowers and Michaelmas Daisies no garden should be without. The latter are becoming more and more

valuable. I am looking to the time when this flower will be as valuable for the outdoor garden as the Chrysanthemum is under glass. Seeing what marvellous work has been done in improving the latter, there is every reason to believe that a similar change will be effected with the hardy Starworts. We shall probably get varieties with blooms six times the size of the largest we have now, and why not a race of double flowered ones? When this good work is done, we shall be able to have a gay garden quite up to November. The dwarf German Scabious may be classed among October flowers. It looks best in a mass, and furnishes an abundance of flowers for cutting. In ordinary years *Violas* can be relied on to give some blooms through this month, but this season I cannot now find a single flower, and to my sorrow a large proportion of the plants are dead. Pansies of the large flowering type, on the contrary, are giving plenty of good blooms on seedlings raised in July, and Fuchsias, such as *Rose of Castile*, seem to enjoy the rains and cooler temperature immensely. J. C. B.

FLOWER GARDEN NOTES.

THE mild weather following the heavy rains we had early in the month has given a rare impetus to September planted border Carnations, and it is seldom we get in the middle of October a better or more even lot of plants. The only thing one fears is that the succulent grass, which is a natural outcome of this late and rapid growth, may not stand the winter so well as that of a firmer and more wiry nature. The planting was accomplished in good time this season, good layers being quite three weeks earlier than we generally get them. A spell of dry weather succeeded the planting, but has apparently had no prejudicial effect on the layers; they received their usual dose of horse droppings worked well in about the roots, and then to prevent the ground drying out about them an inch mulching of rotten leaves. The report of many new varieties on trial another summer would seem to indicate that our stock of this favourite flower is likely to be largely increased. The more the better if they are really good, only it is to be hoped that those answerable for the trials will insist strongly on a thoroughly hardy plant. Nothing should pass muster as a *bonâ fide* border Carnation that has to be coddled in frames all through the winter.

PLANTING BULBS.—If a start is to be made with a few *Babianas*, *Ixias*, *Sparaxis* and *Tritonias*—and they are so beautiful in a cut state that a corner ought to be set apart for them in all gardens—they should be seen to at once. A corner, by the way, is not meant to signify any out-of-the-way place, as all these Cape bulbs like a warm, sunny spot. A south border in front of a plant house—just such a one as would be dear to the Tomato grower—would suit them admirably. The ground should be deeply forked and well broken throughout the depth of the spit, and any manure added must be thoroughly broken up and well incorporated with the soil. If the plantation is to be a permanent one—and much trouble in annual lifting and replanting will be saved thereby—6 inches must be the recognised planting depth, and a heavy mulching of leaves with just a slight topping of Fern will be necessary through the winter months. A similar site and the like cultural requirements apply to the *Montbretias*, only they may be planted somewhat further apart, and instead of the mulching, the surface of the soil may be covered thickly with some dwarf hardy carpet plant. October is, too, a suitable month for planting *Alstroemerias*, among the most lovely of early summer flowers. A border, or at any rate some particular part of a border, should be reserved for their special benefit; they are better so than when mixed with other herbaceous plants of a different nature. A sandy loam suits them well, and the place destined for them should be deeply dug, or, better still, bastard trenched, working in a liberal dose of manure. It is well to make sure they are not likely to be disturbed, as the forma-

tion of a plantation of *Alstromerias* is a job that need only be performed once in a lifetime. Plant deeply and firmly, and mulch after planting and each succeeding winter with half-rotten manure.

It is not often that Dahlias last out well until towards the end of October, but such an experience has to be chronicled this year. I reserve a border annually to be planted with Cactus, decorative and pompon varieties to supply cut flowers, and immediately the glass is inclined to drop low at night, some upright irons are placed here and there along the border, so that a piece of tiffany can be run quickly over the plants if the weather necessitates the operation. If due regard to selection of varieties and judicious blending of colours are attended to at planting time, a very fine and effective display will be obtained from such borders, only it must be borne in mind that in all three sections above named some varieties are much longer in the stalk than others, and consequently better adapted for cutting, also that decided colours will be found most useful. Sorts in the pompons that have proved very free and are still full of flower are Guiding Star, white; Catherine, yellow; Darkness, very deep maroon; Brilliant, a rich crimson; Hector, a pleasing lilac, and E. F. Jungker, of a somewhat amber shade. In the decorative class for cutting, if flowers are required in quantity, it is well to grow plenty of such old favourites as Constance, Cochineal, Fire King, General Gordon and Panthea. All these are of good bushy habit and will furnish an enormous quantity of cut bloom. A decided feature of the autumn of 1893 is the quantity of outdoor flowers available for cutting. Besides plenty of Dahlias, *Pyrethrum nigrinosum* and a wonderful wealth of Starworts in different shades are still to be found. So useful are the last named, that one is apt to wonder sometimes how people managed without them in the old days when only the old variety *spectabilis*, now all but discarded from the borders, was to be seen. Long stems of *Asparagus* splendidly berried are good companions for equally long spikes of the best Starworts for tall trumpet vases; so, too, are the plumes of the Pampas Grass or *Arundo conspicua*. There are splendid tints in the autumn foliage, too, this year, some trees wearing an aspect one does not remember to have noticed before. We have plenty of leaves on a fine plant of *Laurus Sassafras* that would be bad to beat in any stove or greenhouse, splendid blendings of crimson and gold on the same leaf. I think the peculiarity in the autumn tints may be attributed to the fact of an early ripening of the leaves, and then just as they were putting on their autumn dress some refreshing showers came and arrested to some extent the rapid decay. The absence of frost is also naturally responsible for the length of time the half dead foliage continues to hang on the trees. *Ampelopsis* foliage is very bright and looks well with some lighter foliage in shallow bowls, and long pieces of the double *Spiraea prunifolia*, just now of a bright scarlet hue, associate admirably with the feathery Aster, A. *Tradescanti*.

Claremont.

E. BURRELL.

DAHLIAS IN OCTOBER.

UP to the time of writing these lines when three-fifths of the month have passed away, there has not been any frost in our district to affect Dahlias, *Heliotropes*, or *Alternantheras*, whilst the *Begonias* are still flowering profusely. The Dahlias never carried more flower all the season than during the past fortnight, the Cactus and pompon varieties being alike valuable for cutting; the latter kinds, however, keep fresh the longer of the two in a cut state. The rains, which have been exceedingly heavy, have apparently put fresh life into them, encouraging the backward flower-buds to swell up and expand beautifully. The Dahlia season always appears to me to require lengthening; we want, in order to see their full beauty and to enjoy their varied forms and colours more fully, another month sandwiched in between the end of September and the beginning of October, or, in other words, September should consist of eight weeks in

order to extract from the Dahlia as a garden flower all the wealth each plant is capable of developing. As the season approaches the end, or at any rate up to the end of September, the brilliancy of the colours seems to be intensified. Not only in my own case, but in others also have I noted this, and I have been led to wonder if this be the reason why more Dahlias get certificates after what are termed the best weeks for the Dahlia shows are passed than whilst they are on. At the last Royal Horticultural Society's meeting in September at the Drill Hall there were, I think, more certificates given than at any two previous meetings, and this year is not, unless my memory serves me wrong, any exception in this respect. Possibly seedlings are in a measure more backward, but I am disposed to think the brilliancy of the colours late in the season adds greatly to their attractiveness, standing them in good stead. Taken all in all, the Cactus and the pompon sections are the most useful for purposes of decoration in a cut state. The former fade all too soon, but if they are inserted into several inches of water by using deep vases, the result is better in every way. As a foliage accompaniment the common *Berberis Aquifolium* is excellent; it will last out three or four cuttings of Dahlias. Just recently I have noted a sport on a pompon which might be useful. This I am going to try to retain by taking off the growth immediately below the flower in question. I do not know if this will strike, but, at any rate, no harm will have been done. It appears to have been a season fruitful in sports, many of the fancies having, I observe in one collection, reverted to plain colours entirely, being quite distinct in every way.

SOUTHTRON.

LILIES AT KEW.

THE systematic cultivation of Lilies on a large scale at Kew is a somewhat recent development of the outdoor gardening in that establishment. Formerly many attempts were made to grow them in specially made beds in that portion of the gardens devoted to the cultivation of monocotyledonous plants, but these all failed, and so—with the exception of a few species which thrive even under the most depressing conditions—Lilies played little or no part in ornamental gardening at Kew until within the last six or eight years. The success which has attended the new departure, and the wonderfully fine effects produced by masses of the showier species and varieties, are so great that an outline of the methods pursued may be of general interest.

SOIL AND POSITION.

Most of the Lilies at Kew grow well in peat; some few refuse to grow in peat, but do well in loam; some do equally well in loam and peat. But, generally speaking, the key-note of success was struck when the bulbs were planted among low-growing shrubs. Behind the Palm house is the so-called "American Garden," containing masses of ericaceous and other plants in large beds; among these are *Rhododendrons*—low-growing species—*Azaleas*, *Ledums*, *Callunas*, *Ericas*, *Pieris*, *Leucothoë*, *Daphne*, &c. These shrubs serve a double purpose; they keep the ground cool about the Lily roots and shelter the young growths from the late spring frosts. Every few years, as the shrubs grow too dense, it is necessary to replant them and space them out properly, so as to give the Lilies a fair share of light and air. Replanting, by the way, is better than pruning, as each time replanting takes place a number of fine shrubs are obtained, which are available for new plantations. At the same time the Lilies—at any rate, the great majority of them—pay for being lifted and replanted, the smaller bulbs being retained and placed in nursery beds to grow on. *Lilium auratum* is one which pre-

fers being let alone, and, given a well-drained peat bed, should not, if possible, be disturbed. *L. auratum*, by the way, being a taller grower than most of its congeners, we grow in beds of taller *Rhododendrons* than those which find a place in the "American Garden," and these can from time to time be pruned in so as to allow the Lilies light and breathing space. In the beds of *Rhododendron*—principally hybrids of *R. ponticum*—along the Broad Walk we have had hundreds of stems of *L. auratum* 6 feet high (many have attained 8 feet or more), with fifteen to twenty, or even more, perfect flowers. This year, however, owing to the excessive drought, few stems have attained the dimensions or have produced the number of flowers just mentioned. *L. longiflorum* does best with us in peat and must be replanted every second or third year, or there would be a falling-off in the size and number of the flowers. The fact is the bulbs increase so fast that they crowd each other out and impoverish the ground; the small ones are planted at once in other beds or are grown on in nursery beds for stock. *L. speciosum* and its numerous varieties increase so rapidly that they quite exhaust the ground; replanting is necessary every second, or third year at the outside. Fresh peat should be added and only some of the large bulbs replaced; the others may be at once utilised for forming new plantations.

RAISING FROM SEEDS.

The bulbs of some Lilies, after flowering well for several seasons, disappear apparently without cause, and the better and the more freely have they grown and flowered the more apt are they to disappoint their possessors. It seems probable that the bulbs of these kinds are in reality always rather short-lived. An excellent way to keep up a stock of young, vigorous bulbs is to make a sowing every year. If treated properly, seedlings arrive at the flowering stage very quickly. The seeds should be sown as soon as ripe—if possible, in prepared beds (not in pots or pans) under glass. A cold frame will do well, but results are more speedily attained if seeds are sown in a bed in a slightly heated greenhouse. For instance, seeds of *Lilium longiflorum* var. *formosanum*, a beautiful variety from Formosa, developed rapidly, some seedlings flowering in little more than a year from time of sowing. The bulbs in that time had attained about the size of small Hazel nuts; last year they were planted in the open ground, and during the past summer have flowered profusely.

SCALES AND BULBILS.

The former method of propagation—when seeds are not to be had—is one which allows the stock of a given kind to be rapidly increased. A good-sized bulb will furnish a large number of scales, each of which may develop into a good bulb in two or three years. The scales should be planted in silver sand—over prepared soil—and kept in a frame or greenhouse until young plants have developed, when they are better planted out in the open ground. The third year from scales we have had *L. Hansoni* 5 feet high, bearing from nine to twelve flowers on a stem. Bulbils, as of the Tiger Lily (*L. tigrinum*) and *L. sulphureum*, furnish an easy way of propagation; the former will flower the second year from the bulbil, all that is necessary with the Tiger Lily being to sow the bulbils when ripe in the open ground and leave them to their fate. A slight covering of Fern leaves, &c., during winter is, however, beneficial. With *L. sulphureum*—owing to its being much more uncommon—we act differently, planting the bulbils in pans

or beds under glass. The first year these will get as large as small Hazel nuts—after this they are better planted outside; some planted out this spring in an Azalea bed, fully 6 inches deep, have grown freely this past summer, producing numbers of bulbils, which, in their turn, will be carefully treated as above described. They will, doubtless, flower well next year.

LILIES WHICH GROW BEST IN LOAM.

The Martagon Lily (*L. Martagon*) and its varieties album and dalmaticum will not grow in peat at Kew, but do well in loam. The Tiger Lily (*L. tigrinum*) and its varieties, although they will thrive in peat, do well in almost any garden soil. The Pyreneau, or Yellow Martagon, as it is sometimes called, requires loam; if chalky in character so much the better. *L. testaceum* and *L. candidum* like good loamy soil. *L. pardalinum* grows very freely in a damp loam; the third year we have had it 7 feet high, with thirty flowers on a stem. When this species is transplanted, unless clumps are moved with masses of soil attached to their roots, it is never so fine the succeeding year; one must wait until it is thoroughly established before the best results are obtained. *L. Hansoni* will grow well even in a hot dry spot. The Scarlet Martagon, or Scarlet Turk's-cap, *L. chalcidonicum*, and its varieties, like a moist, but well-drained, good strong loam; this is not an easy species to manage, but where it does succeed it is one of the most beautiful of hardy Lilies. *L. croceum* (the Orange Lily) does better in loam on a damp subsoil than in a bed, no matter how well prepared, on a dry gravelly or sandy subsoil; it is a beautiful plant, and by no means common in gardens. *L. davuricum* and the numerous forms of the garden *L. umbellatum* thrive admirably in almost any garden soil; among dwarf-growing shrubs, as recommended at the commencement of these notes, the bulbs increase in size and number to such an extent that, although planted originally 6 inches or 8 inches below the surface, in about three years they will almost lift themselves out of the ground. The Chinese *L. Henryi* grows in both peat and loam; in peat, two years after planting, the stems measured 5 feet in height, and bore as many as nineteen flowers; in loam, however, the second year after planting, the stems had attained a height of 6 feet or 7 feet, and some bore upward of thirty flowers. *L. candidum*, as far as Kew is concerned, is one of the most refractory of Lilies; imported bulbs flower well the first season, but afterward, as a rule, fungoid disease attacks stem and leaves, and both dry up and wither before the flowers open. *L. longiflorum* will grow well either in loam or peat, and *L. Szovitzianum* likes loam with a clay bottom.

LILIES WHICH DO BEST IN PEAT.

First and foremost is the Golden-rayed Lily of Japan (*L. auratum*), which has already been mentioned. *L. superbum*, a noble species, with which, doubtless, your American readers are familiar in a wild state, does best in peat with us; the second and third year after planting it has reached 7 feet in height and upward, bearing from twenty to thirty flowers on a stem. Some seasons many of the bulbs will remain perfectly dormant, but the following season they will start again. *L. Grayi*, from Roan Mountain, does not, as far as my personal observation and inquiries on the spot go to prove, ever attain anything like the proportions in a wild state that it does at Kew. We have had our bulbs since 1891; they were planted early in that year in a bed of Azalea amoena, and most of the stems bore but one flower; the

following year the flowers numbered from two to five on a stem, the present season the stems have grown 5 feet high and borne from five to twelve flowers each. The little Japanese *L. concolor* (bright scarlet) and its variety, *Coridion* (bright yellow), the second year after planting among dwarf Azaleas have grown 2 feet high and borne from four to six flowers on a stem. *L. speciosum* and its varieties like peat, but soon deteriorate unless replanted and the smaller bulbs removed; with this species not more than two years should elapse without replanting. If arranged in clumps among low shrubs it is easy to move the clumps 1 foot or 2 feet, and so obtain fresh soil for the hungry roots to work in. The second year after planting we have measured *L. speciosum*, and found the stems to be 5 feet high, bearing from twelve to twenty flowers. *L. canadense*, *L. elegans* and its numerous forms, *L. Browni*, *L. japonicum*, *L. pomponium* and *L. sulphureum* are other Lilies which, in Kew at least, do best in peat.—GEORGE NICHOLSON, *Kew, in Garden and Forest.*

TUBEROUS BEGONIAS AT BEXLEY HEATH.

The tuberous Begonia is grown on a large scale at Bexley Heath, where Mr. T. S. Ware has established a nursery devoted entirely to this fine plant. A few days ago the plants occupying about 2 acres were a sheet of bloom. The several colours are kept quite distinct, and thirty-five long beds form the frontage, so to say, to the nursery. Generally each colour is represented by two beds, yellow, crimson and so forth, with the double varieties kept apart from the singles. The double Begonias in particular were remarkably fine, the plants very free, and bearing flowers individually of much beauty, especially the Picotee-edged and the yellow types. The Picotee-edged forms a charming class, the flowers each like a rosette, the segments white, margined with rose or shades of this tone. During the summer these beds have been as gay as later in the season in spite of the long-continued dry weather, which has not exactly suited the tuberous Begonia. We must draw special attention to the double yellow or rather a golden yellow shade, a very telling and handsome flower, either by itself or grouped in the bold way one sees it in this nursery. The double crimson is a very showy variety, especially when the sun shines upon the bed, lighting up the intense colour, and the double white besides the other colours are also worthy of note. We are pleased to see such prominence given to the double varieties, and also that the plants are robust, compact, and dwarf in habit, bearing the spikes well above the base of luxuriant leafage.

It says much for the value of such flowers that from early summer until mid-October they keep gay, and nothing but frost stops the season of blooming, whilst the varieties now are of great value for cutting. They last well in water, do not drop quickly, and the more delicate shades are useful for the most refined decorations. We saw a basketful of blooms of the soft-coloured kinds, and they were as acceptable as any exotic from under glass.

The same high character that distinguishes the double Begonias is also conspicuous in the single varieties. The several kinds are planted in distinct beds, and the flowers are of large size for October Begonias; but the fact is there is little to choose between those raised under glass and in the open, the flowers of the latter being quite as large and, if anything, more refined in colour. Size is not perfection, however, and it is noteworthy that the flowers here, although so big, lose nothing in beauty from this cause, being so firm and delicate in expression. During recent years a great advance has been made in the direction of getting good yellow-coloured kinds, and, as in the case of the doubles, the singles are just as effective, the various shades clear, decided and attractive. Vermilion in the sunlight is remarkably brilliant, so also the

crimson, crimson-scarlet and salmon varieties, besides many others too numerous to describe. In front of the grower's house (Mr. Pope) are many kinds grouped in beds, one variety in each bed, and this illustrates the beauty of the tuberous Begonia in even small gardens and its long continuance in perfection. Only a few days ago the flowers were as fresh as in midsummer and will continue so if frosts keep away. Several of the kinds here are named, which is not the case with the seedlings in the open, although well worth distinction. But the list of names would be of inordinate length, perplex the purchaser and soon prove valueless, as each year the flowers seem to improve in some particular, as the colour, shape, or new shades are got through skilful hybridisation. In the small beds is Beauty of Belgrove, a double kind, the flowers rich pink in colour, produced with freedom, and the plant is of good habit. Henshaw Russell, scarlet; Marquis of Stafford, crimson, and Hecla, rose, are all good double varieties, and in one case the bed is edged with a variety named Marie Lentz, which should be made note of for this purpose. The growth falls over on the turf, and the white flowers have the same drooping tendency. It is a delightful variety to form a graceful edging to a bed filled with more erect and taller things.

The tuberous Begonias at Bexley Heath are not all in the open, and a large collection is grown in pots, as those who visited the exhibitions this season know well. Many beautiful groups have been shown by this firm, and the plants are not yet over. Seven houses are practically filled with Begonias, comprising seedlings and cuttings. In one structure we see the double varieties, more particularly the rosette Picotee-edged type, so conspicuous in the open field. A few of the finer double varieties we noted were Bexley Gem, carmine-rose, a distinct and pleasing shade; Princess May, white, the inner segments frimbriated; Golden Empress, deep golden yellow, one of the finest of its colour we have seen, the plants of excellent habit; Queen Victoria, deep pink, the flower like a Camellia in form; Iona, golden bronze; Duke of Teck, splendid crimson; Mrs. Fell, salmon-rose; Duke of York, crimson; Leviathan, an immense rose-coloured flower, but although so large, not coarse; and Pavonia, pink. Of the singles the best white is Bexley White, a pure, charming flower, and other very fine varieties are Vigilant, crimson; Valkyrie, salmon; Champion, bronze; and Alma, scarlet, besides many fancy colours, the outcome of crossing certain varieties to get new breaks.

During the summer one house was filled with plants in baskets, the growth of a distinctly pendent character. Salmonea, salmon, is one of the best for this purpose, but all shades of colour are represented. The tuberous Begonia is not made sufficient use of for this purpose, and varieties are grown ill-adapted for baskets. When a proper selection is made there are few prettier plants for baskets than this, and a few specimens create much needed variety.

SHORT NOTES.—FLOWER.

Violet Wellsiana.—This is a splendid Violet, the colour being very deep. A great advantage is also that it blooms early and continuously. The foliage, too, is not so coarse as in some other varieties, Victoria Regina, for instance. On light soils this may not be noted so much, but on heavy land it is undoubtedly so.—A. Y.

Pentstemon barbatus.—This plant has flowered more freely during the past summer than I ever remember to have seen it. This appears to enjoy hot dry weather. According to my experience it dislikes disturbance, and should be left alone when doing well and allowed to grow into a bold mass, which it will quickly do, and then flower freely enough. It is perfectly hardy.—T. A.

Pentstemons.—Among the most showy of all half-hardy herbaceous plants we must include the Pentstemon. Flowering freely from August until October, and being so easy to cultivate, I have for a long time been struck with their scarcity in all

but a few old-fashioned gardens. Pentstemons come very true from seed, and, unlike the majority of florists' flowers, do not produce inferior plants to the seed-bearing parent. But the best method of propagation is by cuttings taken off now (middle of October). The young growths, removed in the same manner as the cuttings of Phloxes, &c., will root freely in a sandy compost. It is best to insert them in small pots and plunge these in a cool frame where they can be kept close for a time. Pentstemons are more than half-hardy, and will generally go through the winter safely, but wet, with severe frost, is very injurious to them. Those struck now and turned out into good soil in the spring will bloom during the ensuing summer and autumn. There is no doubt that our wet winters are the worst drawback to their successful cultivation in heavy soils, but they are well worth a little protection and care, while a stock for the coming year may easily be made secure by propagating now and keeping them in a cool frame or pit until the end of March next.—R.

A protest.—Lilies and Roses, or rather one Lily and 4000 Roses, on October 6 graced our

ing power. For, alas! long before the end the tables were littered with the fallen Rose petals; whereas the one Lily present, in my button-hole (a solitary protest against the neglect of its race), a beautiful bloom from a bulb of *Lilium Henryi*, last year in China, was at the close of the feast as fresh as ever, and that evening was despatched by post to be viewed by one of our eminent Norfolk rosarians. This is but one of many instances how the popular taste flies to the Rose and neglects the Lily. Four thousand Roses to one Lily! Yet I venture to say that at this season of the year cut flowers of the speciosum and longiflorum Lilies, such as are grown at Colchester, in a decorative and lasting point of view put Roses completely in the background. Why, then, are they so neglected? —ALEXANDER WALLACE, M.D., Colchester.

The white Cosmos.—Penny packets of flower seeds have brought many pretty things within the reach of the humblest cottager, and now one frequently sees uncommon plants in cottage gardens. In Cuckfield recently I saw the white Cosmos in several gardens. The plants were strong, graceful in leafage, and covered with large pure white

tions. If once the custom of employing white flowers exclusively for this purpose is broken through, it may be taken for granted that for some time to come at least comparatively few wreaths will be made of white flowers alone. It has hitherto been a matter of sentiment, for the future it will probably be a question of taste as regards the choice of flowers for wreaths and crosses. It is to be hoped that the change of fashion will be decided and permanent, as we have so many flowers so suitable for this purpose that have hitherto been put aside on account of their colour. Coloured flowers are now much used for the decoration of graves, as many cannot command a supply of white ones.—J. C., *Byfleet*.

TREES AND SHRUBS.

MAGNOLIAS AT WASHINGTON CITY, D.C.

THE species and varieties of Magnolia indigenous to the States, as well as those from China and Japan, succeed admirably in Washington. Our warm, dry autumns mature the wood and perfect the flower-buds for spring. These plants are perfectly hardy. Our winters, in which the temperature occasionally goes down to 10° below zero, never injure wood or bud if the cold is uniformly steady. What we have most to fear is mild weather in January or February, followed by a cold snap. This injures the flower-buds. The past winter has been unprecedentedly cold, yet on the return of spring our Magnolias were very fine. *Magnolia stricta* (see the annexed engraving) looks like a cross between *M. Soulangeana* and *obovata*. The purple in the flower is deeper and richer than in any of this strain of Magnolias, crosses of which the original types were conspicua and purpurea, and of which we have now such a number of beautiful forms. JOHN SAUL.

Washington Nurseries, August 12, 1893.



Magnolia stricta in flower in Mr. John Saul's nursery at Washington, D.C., U.S.A.

unique Colchester oyster feast, when the Mayor of Colchester entertained royalty for the first time in the person of H.R.H. the Duke of Cambridge, with the Lord Mayor of London, the mayors of several East Anglian boroughs, and many other distinguished guests. Our Corn Exchange never looked better; the wall decorations were excellent and appropriate to the occasion, and the tables were adorned by a magnificent display of Roses and autumnal foliage. Four thousand Roses were sent to this feast by our local Rose growers. Rosarians were well represented by Mr. Mawley, secretary to the N.R.S., by all our local rosarians, and by Dean Hole, who delighted the company by an excellent and humorous speech. But—and in matters human there is always a but—where were the Lilies? Not only for oysters and Roses, but also for Lilies is Colchester celebrated, and the liliarians (why not, if there be rosarians?) of Colchester could easily, had they been asked, have placed on the tables 5000 Lily blooms, mostly of the speciosum group, which would have equalled the Roses in beauty and colour, and beaten them easily in last-

flowers. No doubt the season has favoured it, for the Cosmos is not generally adapted for open-air sowing.—A. H.

Linaria spartea.—This is a very old garden annual, having been in cultivation over 100 years, but one does not often see it now. It is, however, very pretty, neat in habit, the flowers bright, and altogether attractive when in sufficient quantity. It has a close, upright habit of growth, branches freely, and blooms profusely for many weeks, the flowers being of a clear rich yellow colour.—A.

Wreaths and crosses.—The use of coloured flowers for wreath and cross making appears to be on the increase. I lately saw a wreath made of Vallotas, and it is not uncommon to see wreaths in Covent Garden almost entirely composed of coloured flowers. I remarked one a few days since made of purple Asters. Autumnal-tinted foliage is also used, and has quite a nice effect. There is something appropriate in the employment of foliage in the last stage of its life for funeral decora-

Barberry berries.—The bright-coloured berries of the common Barberry, borne as they are in long drooping clusters, have a very pretty effect when used in a cut state for table decoration. They were employed in this way at the recent Aquarium show, and the vivid tints of the berries were very noticeable by artificial light, especially when contrasted with light-coloured Chrysanthemums. Hardy kinds of flowers, fruit, and foliage undoubtedly get more popular year by year, and this is as it should be, as the pleasures of hardy subjects can be enjoyed by nearly everyone; whereas bothouse plants are for a limited few. To return to the common Barberry, the great profusion of its berries this season may be especially noticed, while I was recently much struck with a nursery bed of the smaller *B. Thunbergi*, which in a sunny spot was an entire mass of scarlet leaves and berries. This Barberry is certainly a very beautiful shrub, which, though now pretty and well known, is not half enough planted.—T.

Caryopteris mastacantha.—Beautiful though it be most seasons when planted under favourable conditions, I never remember this Chinese shrub to be so full of flower as it is this year, and the clear bright weather of which we have had so large a share for some months past has caused the colour of the flowers to be much brighter than when we have a dull and damp season. It belongs to the order Verbenaceae, and forms a much-branched bush, clothed with ovate leaves of a hoary character, while the flowers are borne in great profusion on the upper parts of the shoots, and arranged in closely packed axillary cymes. The colour of the flowers is a rich lavender-blue. A succession of blossoms is kept up for some time, and some bushes of it that com-

menced to bloom in August are still—two months afterwards—quite a mass of blue. At Kew in front of the museum it has been an object of great beauty for some time, and it is equally fine at Coombe Wood, from whence it has been shown by Messrs. Veitch at some of the horticultural meetings. I note also that a certificate of merit was bestowed upon it at the October meeting of the Horticultural Society of Ghent. This *Caryopteris* cannot be considered thoroughly hardy in all parts of England, though in the southern counties it will thrive as an outdoor shrub. If given the protection of a wall it will in exposed situations be greatly benefited thereby. A light open soil of a loamy nature suits it best. It can be propagated without difficulty by means of cuttings of the young growing shoots put in a close frame during the summer months. This *Caryopteris*, which is a native of China, is said to have been introduced in 1844, but it is only within the last few years that Messrs. Veitch have made us familiar with it. Besides the generic name of *Caryopteris* it is also known as *Mastacanthus sinensis*.—T.

The Sea Buckthorn.—In common with other things this year, the Sea Buckthorn (*Hippophae rhamnoides*) is loaded with its orange-coloured fruit. This fine shrub is a native of Britain, but, unfortunately, seldom used to advantage. It makes, however, a beautiful winter picture. The growth is loose and the leaves have quite a silvery tint. It prefers a deep moist soil. It is useful to plant by the sea, but the sides of lakes and streams in inland gardens should be judiciously planted with it.

Hypericum patulum.—Very few shrubs flower so late in the season as early October, but such St. John's Worts as *H. patulum*, *H. oblongifolium* and *H. Moserianum* are still in full bloom. We saw recently two beds each of the Japanese *H. patulum* and *H. oblongifolium*. Those of the former were rectangular in shape, well exposed, and containing about forty plants each, arranged in rows, but the growth had met, thus relieving the beds of formality. It is when thus used that the *Hypericum* shows its true beauty. Each plant was in full bloom, the rich butter-yellow flowers borne on graceful shoots that touched the surface of the soil, and a display of flowers will be maintained until quite the winter. A moderately light soil and sheltered position, as far as possible, are desirable, as the plant is not so hardy as one would like. *H. oblongifolium* is more erect in habit, but very graceful and pleasing, the flowers also yellow. There is, however, a great difference between the two, and both may be planted without fear of sameness. Their late-flowering character is a great charm.

Hydrangea vestita var. pubescens.—We have more than once spoken of the value in our northern gardens of this hardy shrub. It is the most beautiful of all the *Hydrangeas* which are absolutely hardy in New England, and the earliest of all the species to flower in this climate. It is a shrub 4 feet or 5 feet high, with slender branches which form a dense broad mass 6 feet or 8 feet in diameter, ample pale green ovate leaves acute at both ends, and large flat cymes of flowers 5 inches or 6 inches across. The ray-flowers are numerous, an inch or more in diameter, and are at first pure white; in fading they turn rose colour, and, although they begin to open towards the end of June, remain quite fresh on the branches until November. It is a native of Northern China and Manchuria, and was one of a remarkable collection of trees and shrubs raised several years ago in the Arnold Arboretum from seed sent from Pekin by Dr. Bretschneider, the learned botanist and physician for many years attached to the Russian Legation in China.—*Garden and Forest*.

Ampelopsis muralis.—There is a confusing list of Virginian Creepers in most catalogues, but names are more numerous than distinct varieties. That which bears the above name, however, is very distinct, strikingly beautiful, and cannot be too widely known. Some plants planted against a wall in April of the present year have made shoots 11 feet in length. It has the close clinging characteristic of *Ampelopsis Veitchii*, but the free,

graceful growth of *A. hederacea*, of which it is probably but a variety, but so good that we would prefer it to either. It clings tenaciously, but its leaves are as large and long as those of *A. hederacea*. In its present autumn tints it is quite as bright as any other kind. For quickly covering bare walls it is a valuable plant.

AN OCTOBER RAMBLE.

THE glorious weather we are now experiencing makes an October ramble a source of great pleasure, for although the gorgeous hues of summer have given place to the more sober tints of autumn, yet these will be found sufficiently lovely to well repay attention. Nowhere are the autumn tints more apparent than in the Dogwood (*Cornus sanguinea*), and as we may as well gather a bouquet as we proceed, we will commence with this, which will form a grand background and also work in as sprays among other subjects. On chalky soils this shrub is this season a mass of colour, forming a pretty contrast with its black berries. The same may be said of the Privet (*Ligustrum vulgare*), whose black fruits are finer than I have ever seen them, reminding one of small bunches of Grapes. The Traveller's Joy (*Clematis Vitalba*) sometimes has its foliage tinged with lovely hues, but even were this not so, we should find its feathery inflorescence, or rather seed-vessels, quite indispensable to our bouquet. No climber in my opinion equals this either in appearance, quickness of growth, or length of time it remains in beauty, as neither frost nor wet appears to affect its beauty. In fact, the finest display I ever saw of this was on a moonlit night in early December, the white fluffy sprays looking almost like feathery wreaths of snow. When, as often happens, the White Bryony (*Bryonia dioica*) entwines with the Clematis, an added charm is derived from the bright scarlet of its berries, these latter, although poisonous, materially helping to enliven our bouquet.

What can possibly be more beautiful at this season than the coral and orange berries of the Spindle Tree (*Euonymus europæus*). Near the Spindle Tree we shall find the Hawthorn (*Crataegus Oxyacantha*), the foliage of which yields to none for richness of colouring, and the red berries of which are always attractive and beloved by birds and children. Another favourite of children may be found in the hedges on the Dog Rose (*Rosa canina*) close by. These are a very necessary adjunct to our nosegay, supplying, as they do, a brightness of colour not excelled by any other berries. The mossy excrescences on the branches, which, as children in Berkshire, we called "Robin's Cushions," must not be overlooked. Neither must the fruit and foliage of the Bramble (*Rubus fruticosus*), which we shall find threading its way through the hedge, or hanging its tempting clusters of fruit far beyond our reach, be overlooked. It is a pity this is not more generally cultivated in gardens, for with very little care it gives as good or better returns than the Raspberry, while its flavour leaves nothing to be desired. All the berries have now disappeared from the Wayfaring Tree (*Viburnum Lantana*), but the foliage is sufficiently beautiful to command attention, as is also that of the Guelder Rose (*Viburnum Opulus*), with its ornamental red fruit, which may be eaten if desired, and is by the Norwegians esteemed when served with honey and flour. The Crab Apples of various shades also lend a charm to our hedgerows. The country folks gather these to perfume their clothes'-chests, and I well remember when a boy storing them in hay until Christmas-time, when

they were not half bad eating, or, at least, were then greatly relished.

The Oak, Elm, Maple, Beech, Chestnut, &c., are now conspicuous objects in the landscape, and will all furnish their quota to our bouquet. Nor must we overlook the claims of the Mountain Ash (*Pyrus Aucuparia*). A few fronds of the Bracken (*Pteris aquilina*), now a golden yellow, will help our bouquet, and if flowers are desired, these may still be found in the Knapweeds (*Centaurea scabiosa* and *nigra*), Field Knautia (*Knautia arvensis*), Campion (*Silene vespertina*), Blue Succory (*Cichorium Intybus*), Toadflax (*Linaria vulgaris*), Yarrow (*Achillea Millefolium*), Golden Rod (*Solidago virgaurea*), Harebell (*Campanula rotundifolia*), Hawkweeds, Thistles, Mints, and many others, while a few sprigs of Burdock, coloured leaves of the Cow Parsley or Cinquefoil, and a head or two of the Teazle may be added for variety.

If we have gathered a few sprays of each as we proceeded, we shall have at our journey's end a bouquet which will well repay our trouble.

EDWARD JAMES CASTLE.

AUTUMNAL TINTS.

THE beautiful and varied leafage colouring which we all admire so much in autumn seems likely to be of short duration this season, owing to the long drought experienced during the last five or six months. Trees have suffered greatly, as the rain we have had has been insufficient to penetrate any distance, the surface layers absorbing it rapidly, so that the roots of the larger trees have received a scant supply. In consequence many trees are already denuded of their foliage, especially the Limes and Horse Chestnuts; some of the latter indeed have been bare for several weeks. In the case of other trees also the change of colouring is not so gradual as usual, nor so bright; the leaves have lost their vitality, they turn to a dull yellow or brown and fall almost immediately. The Elms are carrying their foliage well, as also are the Planes, but the Beeches are changing rapidly. The soft yellow hue of the last named in early autumn is only less pleasing than the delicate green of the young leaves in spring, and a background of tall Beech trees brings plantations of dark conifers into fine relief now. The Oaks are with a few exceptions less effective than usual, but *Quercus coccinea* is handsome, and on a bright day a fine specimen of this beautiful Oak under my notice has still a grand appearance, though its leaves are falling fast. These are crimson and brown, the under surface very richly coloured, and those not quite so far advanced have rich red margins and yellow or green centres—a pleasing variegation. The Black Oak (*Quercus nigra*) is far from black at the present time, as the leaves are of a uniform deep red and brown that impart a telling effect. The Cockspur Thorn (*Crataegus Crus-galli*) has been heavily laden with its bright red fruits, and now the leaves are assuming varied tints of crimson and yellow in contrast with some remains of their original green hue. Much the richest colouring is, however, displayed by a small tree not by any means widely known, *i.e.*, *Parrotia persica*, a relative of the Witch Hazels. This forms an elegant tree of pyramidal habit, and the leaves, which are turning colour at the present time, present a range of bright shades from crimson to yellow and green. Some of the leaves are wholly crimson of a brilliant tint; others not so far advanced have a fine metallic appearance. Masses of *Cornus sibirica* are also effective, the nearly leafless branches and stems being deep red.

OBSERVER.

The Tamarisk.—It seems strange that the common Tamarisk (*Tamarix gallica*) is so seldom planted away from the sea-coast. Undoubtedly it enjoys the sea air, and it is seldom injured by stormy weather, but it succeeds equally well in-

land, and is so well adapted for a variety of purposes, that it forms an object of grace and beauty in the shrubbery or other parts of the garden. When allowed to grow at will its habit is very elegant, the feathery and supple sprays being full of grace. As a hedge plant, too, where strength is not so much the planter's object as the forming of a screen, no plant looks better or better answers the purpose, for it bears the knife well and grows quickly when young. Quite lately I saw such a hedge near the roadside between Sandgate and Hlythe, and although the plant lost something of its beauty by the formal shape into which it had been cut, most other hedge plants would have suffered more by the same treatment. The hedge was studded over with small sprays of foliage delicate in form and colour. Sprays cut from freely grown plants are often very useful and last fairly well in water.—J. C. TALLACK.

AUTUMN BERRIES.

THE autumn berries and fruits of many plants are so brilliant and beautiful, offering such rich opportunities for special and seasonable effects, that one wonders more attention is not given them, and good things boldly planted for the development and enjoyment of this feature. Special prominence should be given to those things that are full of variety and seasonable changes in preference to the broad expanse of common Box and Laurel or the muddled, tangled thickets that pass as ornamental shrubberies in public and private parks and gardens.

The Sweet Brier has several aspects of beauty—the budding of the leaves, the delicate beauty of the flowers, and then the after-glow of its hews in autumn, this the most enduring charm of all, for they usually hang upon the bushes till another year dawns. Among single Roses there is for the garden a goodly number of fine things whose autumn display of fruits is very striking. The Japan Rose, with its great Apple-like fruits, is in the zenith of its beauty in autumn, and nothing could be finer than the scarlet fruits in clusters among the rich yellow leaves. The Water Elder everywhere on the margins of our Sussex woods is borne down with the weight of its profuse clusters of coral berries, and proves that we lose something in neglecting it and giving preference to an abnormal form that has no interest whatever beyond the week or two it remains in bloom. Cotoneasters are at their best in autumn, and there is variety among them, too, with microphylla for clothing banks and rocks; Simoni to associate with other shrubs, its long wand-like covered in berries, and the tree-like frigida and affinis, which have their berries in great flat clusters at the ends of the shoots. Hollies and Hawthorns are hosts in themselves for autumn and winter effects, and few things are more brilliant in the sun on an October day than the Spindle tree laden with pendulous fruits. From the wild Roses that are happy in heavy clay to the Pernettyas, rambling shrubs most varied in colour of fruit and lovers of peat and sand, there are berry-bearing shrubs for all situations, and an abundance of them to enable the planter to use them in a bold, free way.

A. H.

Two rare Pines.—In Mr. J. Rashleigh's garden at Menabilly, in Cornwall, are growing two Pines, which are very rarely to be seen in England, and nowhere, I believe, so fine as here. They are *Pinus Montezumæ* and *P. oocarpa*, both natives of Mexico. Of the two, *P. Montezumæ* is the handsomer, and it is now about 18 feet high, broadly pyramidal in habit, and furnished with branches to the base. The leaves are produced in tufts of five together, and give the tree a particularly striking aspect by reason of their length and peculiar blue-green colour. *P. oocarpa* bears a considerable resemblance to its companion, having the same style of growth and foliage. It is not so shapely, neither has its leaves the distinct colour of those of *P. Montezumæ*. Neither of these species can be grown in this country except in the south and west, which is

certainly a matter for regret. They are two of the most interesting objects at Menabilly, full as that garden is of interesting trees and plants.—B

Pseudolarix Kämpferi.—From the time of the introduction of this conifer by Fortune in 1816 till within the last few years its proper position in the natural order was a matter of very diverse opinion, and it was successively known as an *Abies*, a *Larix*, and a *Pinus*. In 1881, however, it was fixed by Dr. Masters as a new genus—*Pseudolarix*, as had, indeed, been surmised by Gordon long previously, and it is now definitely known under the above name. It is a native of Northern China, and is known in English gardens (from its close resemblance in foliage and habit to the true Larches) by the names of Chinese Larch and Golden Larch. According to the "Report of the Conifer Conference" (1892), the largest example growing in Britain is the one in Colonel Tremayne's garden at Carclew, near Falmouth. I had the pleasure of seeing this tree a few days ago, and it certainly deserves all that has been said in its praise. This specimen is over 30 feet high, and the stem measures nearly 1 foot in girth at 2½ feet from the ground, and is clothed from the summit to the base with the beautiful semi-pendent branches. The beauty of the tree is greatest, perhaps, in spring when the tender green leaves are unfolding, but it is also very charming in autumn when they put on a golden colour. At present the species is not common in trees of any size. Fortune described it as very difficult to introduce, owing to the loss of vitality in the seed during transport, but now that plants have been raised from seed ripened in Europe it will, no doubt, be extensively planted as an ornamental tree. From the midland counties southwards it is quite hardy.—B.

ROSE GARDEN.

INSECTICIDES FOR ROSES.

HOWEVER thoroughly the cultivation of Roses may be understood, whether grown in large or small numbers, reliable insecticides judiciously used are one of the chief factors towards satisfactory results. This fact is so fully recognised, that a large number of insecticides have been put upon the market, all of which are probably of equal service when properly used. But there is considerable art in applying them at the exact strength to be effectual, and yet avoid the least injury to the young growth of Roses. One may easily kill the insects attacking the plants, but it is not so simple to do this in a satisfactory manner without occasionally going so far as to harm the tender growth which the majority of insects affect. As we shall so soon be among the young growth of forced Roses, and there is a wonderful advantage in early operations, I propose giving a few practical hints upon this important matter.

The old proverb or "prevention being better than cure" is particularly applicable to the subject now in hand; indeed, I may say that, whereas prevention of serious attacks is easy enough, it is almost impossible to effectually cure or eradicate an insect pest when once a good footing has been obtained. The fact of insect life being capable of surviving the fumes of tobacco or the properties of soluble insecticides to so nearly the same extent as the tender young growth of Roses makes it more than ever necessary to commence operations in time. Immediately the Roses are potted and pruned, they should be carefully looked over to see if any insect pests exist. The only one likely to be upon plants in this stage is scale, one of the hardest insects affecting the Rose. As it is so difficult to kill and mostly affects the older wood, it is, fortunately, easily got at during this stage. It is impossible to eradicate scale after young growth has commenced, the older insects being particularly hardy and prolific. In fact, their miniature tortoise-like covering renders them impervious to most insecticides, and also acts as protection to

the young until they, too, are difficult to kill. Scale spreads over a plant much faster than many would imagine after noticing how permanently the full-grown specimens take up their quarters. It is the young insects which travel in search of fresh spots whereon to camp. As soon as the plants are introduced to a genial temperature, the scale breeds apace, and the young may be seen moving with considerable rapidity; therefore we see an excellent reason why measures should be taken to kill the parents, and at the same time render the bark of the Rose wood distasteful and probably fatal to the young of any survivors. To secure this, I would recommend the use of insecticides at quite double the strength advertised for syringing purposes. It is also more effectual if a few drops of paraffin oil be added. A solution of this strength must not be applied with a syringe. Not only is it too expensive, but the effects when used so strongly are often injurious to the roots. Use a soft hair brush, or else a small piece of sponge; anything, in fact, that will allow of your slightly touching the whole of the Rose wood. Nor is this absolutely necessary if a due amount of the paraffin oil be used. This will cause the solution to spread over the wood freely and reach all parts, while at the same time there will not be enough to run down to the base of the plant, and so cause too large a quantity to accumulate at one point. When applied with a syringe a considerable amount runs down the wood, and is often injurious at one of the most important and vital parts of a Rose. This strong solution will kill the scale and still leave a certain property upon the wood which will be very distasteful and oftentimes fatal to the young of any survivors. It is obvious that such strong measures could not possibly be adopted at any other time than the one pointed out, and this is the only instance in which I can recommend a strong insecticide.

Other insects and diseases attack the young growth and foliage in preference to older wood; and as the insects are, if anything, a trifle harder than the young growth, we need to be very careful in applying any remedies. My own plan is to commence as soon as young leaves appear, whether I detect the presence of aphids, &c., or not. This is cheaper in the end, and invariably effectual if properly done. Use any of the insecticides which have a reputation, but when using them thus early, confine yourself to half the advertised strength. Insecticides sufficiently strong to kill full-grown insects at one application cannot fail to afford more or less of a check to the very tender points of young growth. This is more likely to be the case for the two following reasons; both the young leaves and points of growth naturally retain a greater amount of the solution on account of their closeness through partial development, and also because the insects, through congregating at these points, have more of the insecticide directed against them. A weak solution, applied with more freedom, is equally as effectual and far less likely to do harm.

In fumigation a considerable amount of discretion is also necessary. This is not in favour with me among Roses, because early and judicious syringing is almost as effectual and tends to keep the pores of the foliage open and clean. The drying properties of tobacco close these, and oftentimes injure them; still, there are times, especially during very dull winter days, when the syringe would be keeping the foliage and atmosphere too moist, that a judicious fumigation is preferable to other methods, also when the growth and foliage have become too dense for the syringe to reach the whole. In these cases the tobacco fumes are valuable, but are rendered doubly effectual if a weak application be prolonged for more than the usual time and then followed by a free use of the syringe early the following morning. A short and strong fumigation seldom kills all of the insects, while it invariably injures the young growth more or less; indeed, I have seen scores of instances where the loss of a valuable crop could be readily traced to this cause. Many Roses, more particularly *Niphetos* (the best of all whites under glass), are exceedingly susceptible to the effects of fumigation,

This variety will often cast the whole of its flower-buds during the week or two after fumigation, even when other kinds have apparently received no injury. The buds turn black and the whole crop is lost.

I have avoided recommending any special preparation in these notes, as all of the tried insecticides are about equally effectual; but I may call attention to the free use of soft water at a temperature of 70° to 75°. This will often remove many insect pests from the foliage and is always well worth the trouble of application on account of its cleansing and beneficial properties in keeping the foliage free from dust and other impurities, thus encouraging healthy growth and putting the plants into better heart for withstanding the attacks of the numerous enemies the Rose is subject to.

RIDGEWOOD.

THE PLEA OF CLIMBING AND RAMBLING ROSES FOR A SOAKING.

No rosarian with his eyes and heart wide open can pass through garden or landscape without reading the signs of distress writ large on most of the larger Roses of ruder growth. True, the screens and sprays of beauty have shut out some of the fierceness of the sun's heat from the parched roots. But, on the other hand, these beauty screens have proved drains for moisture as well as displays of grace and beauty, and the signs of distress are everywhere apparent in falling leaves and deepening tints of autumn and traits of winter. These, in spite of many autumnal blooms, are the heavy footprints of the long-continued drought.

Passing along the front of a south wall clothed with Tea Roses the other day, it was deeply marred and scarred with the victims of the feverish heat. Here a plant had been dried up bodily, and there a huge branch, and further on other smaller boughs and branches, and yet others as bare of leaves as the same plants in December or January—all and sundry the victims of an almost unbroken year of drought, so far as reaching or relieving the climbing Roses was concerned. The surface had been sprayed occasionally, dwarf and standard Rose roots just slightly refreshed, but that was all. And still the rain holds off, and the great masses of Rose roots that send those graceful tops far and wide in ever welcome sprays of grace and beauty are as hard as rocks and as dry as bones. The drought has had its way so long, that it may be assumed to have done its worst among the Roses. But it has not. For the latter end of these parched roots may prove worse than the first. They have been semi-parched, baked and starved for months. That must have proved hard measure for our Roses. A water famine of such severity for so long has had to be endured. And now the Rose roots are in imminent peril of a plague of fungi, which may prove far more disastrous. It is, therefore, worth while to turn a deluge of water wherever practicable over our climbing, rambling, and other Roses as our surest antidote to a plague of fungi. Most of the latter may be flooded out or prevented from weakening or crippling our Rose roots through liberal waterings with water, clean or foul. Perhaps as antidotes to fungus on roots, the fouler in reason the water the better, for fungoid pests are fastidious as well as powerful. A fume or a taint in the water may make all the difference between a stimulus to fungoid life or a potent means of death.

As a mere moistener of roots it makes little difference whether the water that shall saturate our Rose root-runs shall be clean or heavily charged with other elements of life or death. But as an antidote to fungoid growth on or among the roots of Roses, and as a source of Rose food, the balance is all in favour of foul—that is, manure water, such as liquid excrements or house sewage.

Watering with such material will virtually kill three birds with one stone—that is, quench the thirst of our Rose roots, deliver them from the paralysis of root fungus, and feed them promptly and abundantly with the richest and best Rose food. Much splendid saving, feeding, strengthen-

ing, and feeding materials are also mostly within easy reach of our Roses. All that is needful is to search out, convey, mix, and apply them. Here also we do two most useful things at once—improve the sanitary surroundings of our homes and gardens, and improve the health, perhaps save the lives, of our Roses. The most dangerous liquid refuse is sent deep down to refresh and strengthen the parched roots of our Roses, and reappears transformed into flowing wreaths of fragrance and beauty.

D. T. FISH.

Pot Roses.—Now that cold and wet weather combined with rough winds is upon us, it seems a pity to lose any of the numerous buds showing on the latest batch of pot Roses, more especially as we are getting so short of these and other flowers. It is always a trying time to provide cut flowers in any quantity between late autumn and early winter, and they are often in greater demand at this time, a sharp frost causing a sudden cessation out of doors. Even if we were to allow these plants to remain out in the open with the object of ripening them more thoroughly, I do not think this would be accomplished in a more satisfactory manner than by givingslight protection during the roughest weather. My own pot plants that were removed from the houses last, and which will not be needed for forcing until I want my latest batch, are now carrying quite a respectable show of bloom. A few days ago I had the whole of them placed in a deep pit, and have found some clean and very acceptable blooms during the recent rough weather. The lights are only put over them upon a clear night when frost threatens and during heavy wind or rain. By this means the complete ripening of the plants is not hindered in the least, and I get the full benefit of this late crop. When Roses are in this stage, and removed to the greenhouse where full exposure cannot be given when needed, mildew generally sets in strongly; nor do we secure such desirable firmness in the wood for next spring's forcing. Frost with rough elements is certain to spoil many of these valuable late blooms unless partially protected in the way I have pointed out.—R.

Rose Aimée Vibert.—My previous note on this Rose was prompted by the profuse bloom of some plants of the climbing variety which grows on a wire trellis. In either of its forms it is a free and lovely old Rose, and happily lives yet in not a few cottage gardens, in one of which I saw it recently clustering round the window a perfect wreath of bloom. I agree with "D. T. F." that it is much harder than Lamarque, but nevertheless very susceptible to injury from severe and prolonged frost. Both these fine Roses, however, have great recuperative powers. One result of this is that they are often bursting into bloom between the summer and autumn displays, and such was the case with Aimée Vibert, which had been closely pruned in spring through injury to its strong, but soft pithy shoots.—A. H.

Rose Caroline Testout.—I was surprised to see Mr. Piper's remarks in THE GARDEN (p. 361) on this Rose and to read that he "liked it better than La France." At the present time, when La France and its white counterpart, Augustine Guinoisseau, are and have been for some weeks the best autumnals of the season, I fear it is a somewhat unhappy sentiment to have expressed. But I do not write this note in defence of about the fairest and sweetest production of Guillot, as La France requires no champion; as yet in her way she has no rival worth mentioning. Caroline Testout I have grown for three seasons, and my opinion of it is very favourable as regards its colouring, fairly favourable as to its growth, but unfavourable as to its value when fully developed. Several times this season when in the bud state I entertained hopes of at last seeing a perfect flower, but as soon as the flower was fully formed it became a ball in the centre, and so it seems to go throughout the Rose season. As to its being declared the best of the Hybrid Teas, I am quite certain it never will be, as, putting La France aside as in-

initely superior, the Rose Viscountess Folkestone is also far preferable to it. I think most people would class other Hybrid Teas also as superior, and I will instance Grace Darling, Kaiserin Augusta Victoria, and the before-mentioned Augustine Guinoisseau.—CHARLES J. GRAHAM, *Croydon*.

GARDEN FLORA.

PLATE 933.

LYCASTES.

(WITH A COLOURED PLATE OF *L. AROMATICA*.)

AMONGST Orchids which require to be grown in cool or intermediate temperatures the Lycastes must always occupy a prominent place, more especially in the collections of those who are just commencing Orchid cultivation. They are all easy to grow, and, given anything like fair treatment, never fail to flower abundantly; their initial cost, too, is with few exceptions very small. To be in strict accordance with the latest classification of Orchid genera, Lycaste should be made to include the older divisions of Colax and Paphinia. But however just such an arrangement may be from a botanical standpoint, it is inconvenient from that of the Orchid grower. Neither Colaxes nor Paphinias bear much superficial resemblance to the true Lycastes, and although of great beauty, they cannot be spoken of so favourably in the matter of cultivation. The present remarks, therefore, apply only to the older Lycastes.

One great point in favour of this genus is the handsome and luxuriant habit of nearly all its species, their leaves (two or three of which are borne on each pseudo-bulb) being large, plaited and bright green. As the older ones remain in most instances until the young foliage is developed, the plants are always ornamental; it may, indeed, be said that no Orchids present a more uniformly pleasing appearance in regard to foliage than well-grown Lycastes. Their flowers, whilst somewhat stiff in outline and pose, are always handsome and striking either by reason of their size or colour. They are produced singly (very rarely in pairs) on upright scapes springing from the base of the matured pseudo-bulbs, and as a rule last long in perfection. Lycastes are now frequently made use of for room decoration, for which purpose the firm texture of the flowers and the robust constitution of the plants make them better fitted than most Orchids. They should, however, be kept in rooms only when the flowers are at their best, and whilst there, should be guarded from the scorching heat of fires, and, on the other hand, from cold draughts. The genus is an exclusively New World one, being spread over an immense area of the tropical part. Representatives are found in South Mexico, whilst others reach as far south as Brazil and Peru.

CULTURE.

One of the good qualities of Lycastes is their amenability under cultivation to different conditions, which enables those without houses specially set apart for Orchids to grow them successfully. In regard to temperature, they may, for instance, be grown in an intermediate or cool house. The temperature which best suits them is probably one between the two, so that if grown in the intermediate house, the coolest part should be given them; if in the

* Drawn for THE GARDEN in Mr. Sander's nursery at St. Albans by H. G. Moon, June 8, 1893. Lithographed and printed by Guillaume Severeys.

cool house, the warmest part. Of the two the former is preferable, although I have seen *L. Skinneri*, *Deppei*, *aromatica* and other species kept in perfect health year after year in a house where *Odontoglossums* and *Oncidium*s are grown. Greater care, however, is required in watering, especially at the time the flower-spikes are pushing up; if given too much, they are apt to decay. *Lycastes* should be grown in pots, or, in the case of large specimens, in pans, and as they require water in great abundance in summer, the importance of perfect drainage is very necessary. The most suitable compost for them as a whole is one of fibrous peat and chopped living *Sphagnum*, but for healthy plants of *L. Skinneri*, *Deppei*, *gigantea* and other strong growers I should recommend a modicum of loam fibre in addition—say a proportion of one-fourth—and a little coarse silver sand or fine broken potsherds may be added along with the loam. Notwithstanding the size of the pseudo-bulbs of *Lycastes*, which seem to indicate a power of withstanding long periods of drought, it is found under cultivation that they should not be “dried off” when at rest; but, on the other hand, kept fairly moist, more especially when grown in the *Cattleya* (intermediate) house.

The number of species now in cultivation is probably not far from thirty. Of these it is not necessary to grow more than one-third, as several of the species closely approach each other and others are scarcely worth cultivation, except by those aiming at a complete collection. The first undoubtedly in beauty and importance is

L. SKINNERI, introduced from Guatemala in 1842. This plant is a remarkably variable one, so variable indeed, that it has been said large importations have reached this country in which no two plants had flowers exactly alike. In what may be termed the typical form the sepals are bluish-white, the smaller petals deep rose and the lip white spotted and stained with crimson; but the range of colour found in this species may be illustrated by var. *nigro-rubra*, with deep mauve and purple flowers, on the one extreme, and var. *alba*, wholly pure white, except for a faint patch of yellow on the lip, on the other. Var. *alba* was for many years a very rare and expensive Orchid; latterly, however, it has become more plentiful and cheaper, occasional plants being imported and the older ones propagated. It is the most delightful of all *Lycastes*. The flowers of *Lycaste Skinneri* measure from 5 inches to 6 inches in diameter, and, considering their large size and the substance of the segments, the number produced by vigorous plants is extraordinary. On one pseudo-bulb of an imported plant I have counted the remains of seventeen flower-spikes, and on plants that have been in cultivation for many years I have had as many as fifteen produced at one time by a single pseudo-bulb. The normal flowering season of this species is the first three months of the year, but one sees them as early as November and as late as May.

L. AROMATICA.—This is a Mexican species introduced in 1828. Its flowers are very pretty, being of a tawny yellow with a greenish tinge on the outside and orange spots on the lip; they are also noteworthy for their pleasant aromatic perfume. Each blossom is $2\frac{1}{2}$ inches across, and the species possesses in the fullest degree the profuse flowering character of *Lycastes*. It blooms in May and June.

L. CRUENTA, which by mistake is named *L. aromatica* in the plate, is really related to *L. aromatica*, but differs in its larger flowers and the more tawny greenish colour of the sepals; the lip also is distinct by reason of its reddish spots and deep crimson blotch. This species comes from a more southern locality than *L. aromatica*, being a native of Guatemala, whence it was introduced in 1841.

L. DEPPEI is an old and well-known kind, of Mexican origin. It is a vigorous growing plant,

and flowers with great freedom. The blossoms are 1 inches across, the sepals being of a soft green marked with purplish brown, the petals pure white and the lip dotted with crimson. In the fine variety *punctatissima*, introduced by Messrs. Williams, of Holloway, the whole flower is freely spotted with dark purple.

L. PLANA, a native of Bolivia, originally found in 1841, has olive-green sepals and pure white petals—a very pretty contrast; the lip also is white, but spotted with blood-red. This species, like several of the *Lycastes*, is variable, some forms having an unspotted lip. One of the best varieties is *Measuresiana*, the sepals of which are reddish brown, the petals and lip white spotted with light rose.

L. GIGANTEA is a strong growing plant, with leaves upwards of 2 feet long. The flowers are large, having olive-green sepals and petals, and a lip rich velvety maroon bordered with orange. It is, however, more striking than beautiful.

There is a section of *Lycaste* not yet mentioned which contains two species different in several respects from any of the preceding. These are *L. Harrisoniæ* and *L. tetragona*. They have four-angled pseudo-bulbs, tapering towards the top and carrying only one plaited lance-shaped leaf. The flowers are distinguished also by the petals being of about the same size as the sepals; whereas in the species previously mentioned they are much smaller. The flowers of *L. Harrisoniæ* are 2 inches to 3 inches across, and produced in pairs. The sepals and petals are creamy white, the lip purple in front and yellowish at the base. A native of Brazil, introduced in 1828. It is known also as a *Bifrenaria* and as a *Maxillaria*. A fine variety of it is named *eburnea*, the flowers of which are pure ivory-white, except that the lip is striped with crimson. The second species, *L. tetragona*, is similar in habit and inflorescence to *L. Harrisoniæ*. The sepals and petals are green with reddish brown lines and blotches, whilst the lip is white, stained with purple inside and crimson without. This species comes also from Brazil.

W. J. B.

THE WEEK'S WORK.

ORCHIDS.

WE are now getting into the period of the year when Orchids try the patience of the best cultivators. The great factor in building up a healthy growth in our plants is light. Those plants that are quite in their resting period do not require so much light, but plants in growth or in the process of ripening their bulbs certainly do require a great deal of light, and this we cannot obtain for them near London at any rate. Next in importance to light is heat; by the use of the modern heating apparatus we can obtain almost any degree of heat we require, that is if the houses are efficiently heated. They should rather have an over than an under supply of hot-water pipes, for if it is necessary to make the pipes very hot, in order to get up the temperature, the air is thereby made unwholesome, and not such as Orchids can thrive in. Air is almost of equal importance to heat; a supply of fresh air for the plants is needed even in cold weather. Orchids feel the effects of the want of air very much indeed, and probably are quite as sensitive to the influence of impure air as human beings. I have often advised admitting air by the side ventilators, so that it passes over the hot-water pipes before it comes into contact with the plants. On all favourable occasions the top ventilators must be open a little, this causing the fresh air to filter slowly through amongst the plants. Lastly, moisture in the atmosphere must be considered, and at this season it is easier to have too much moisture than too little, although over-dryness causes the leaves of *Cattleyas* and some other things to be-

come yellowish. During summer we obtain a great deal of moisture from the water in the evaporating troughs cast on the hot-water pipes, but from the end of October until March it is better not to have any water evaporated in this way. In dull moist days damping down once will be sufficient, but when it is bright sunshine it is better to damp down twice, and on such days the temperature of the houses may be about 10° higher than at other times, for the sun has still considerable influence upon the temperature, and its effects upon the plants are excellent in preparing them for the still more gloomy period into which they have yet to pass. The difference between the temperatures at the cool and the warm ends of the house is greater in winter, and this is rather an advantage, for plants that have quite made their growth and are at rest may be placed at the coolest end, and those yet struggling to make their growth may be placed where they get more heat. Even in our house, only 50 feet in length, there is at present a difference of 5° between the coolest and the warmest end.

The first flowers of the old *Cattleya labiata* opened last week, and they certainly develop best at the warmest end of the house. There also should be the *Lælia purpurata*, *L. elegans* and the slender-growing *L. harpophylla*. All the *L. elegans* and *L. purpurata* types should be at some distance from the side of the house; the cold wind sometimes finds its way through the sashes, causing much injury to the plants. I shall ever remember losing a very fine variety of *L. purpurata* over a quarter of a century ago. The house had been kept up to the regulation temperature, and the slightest opening, not an eighth of an inch, caused the loss of the plant. A frost wind had been blowing directly upon the glass for two or three days and no other plant suffered. If it had been on the centre stage, as it might easily have been, it would have been all right. Houses cannot be, as it were, hermetically sealed, and it would not be well if they could, for the air filtering through the slightest opening at the sides of the closed sashes is essential to the well-doing of the plants. We are now getting some very beautiful flowers in the warmest house, and very lovely indeed are the long handsome spikes of *Vanda cærulea*. This delightful *Vanda* does not succeed equally well in all collections even if the utmost care is bestowed upon it. I bought half a dozen plants about ten years ago and they grew away very freely at the lightest, coolest end of the *Cattleya* house, and for a period of about four years they produced splendid long spikes with a score or more flowers upon each, but afterwards they gradually declined in vigour and seemed as if they would pass out of existence until I removed them to the warmest house, where they have greatly improved in appearance and most of them produce good spikes. The most noteworthy specimens of this *Vanda* have made their growth in the warmest Orchid house, but it is certain they do well for some years after being imported at the coolest end of the *Cattleya* house. The great point seems to be to allow the plants to have a decided season of rest. The resting period of *Vandas* may be known by their roots, which become covered at the tips with a greyish film. *Vandas* of the *V. suavis* and *V. tricolor* type do better in the *Cattleya* house, and those who manage them so that the leaves nearest the base are retained may be thankful, for many good growers fail in this. Probably the form of the house has something to do with it, for the best growers are sometimes baffled to grow their plants satisfactorily. They flower quite as well when the stems are somewhat bare, but the appearance of the plants is not improved by the loss of the foliage. A great deal depends upon the atmospheric conditions and the manner in which the plants are rested. I have seen remarkably healthy specimens in a house wherein the temperature fell to 50° very frequently in the winter.

In the *Cattleya* house the well-known *Lælia autumnalis* and *L. albida* will now be in flower; both are very lovely, but the perfume of the former is not pleasant. These Mexican *Lælias* are not easily managed—at least few growers can keep

them in good health for six years or so; the native energy of the plants seems to be expended in three or four years, and although they will flower for a little while longer, the spikes possess none of the vigour of the native growth. It is certain the plants do better close up to the glass roof, and scarcely shaded at all even in summer. The plants of *Laelia anceps* in variety are flowering very freely this year, and the white varieties are certainly amongst the most beautiful of Orchids, and there is no difficulty at all in keeping them in good health. I think the great charm of Orchid culture is to keep plants from year to year, and see them growing larger and flowering more freely as they get older. It is best to keep the plants of *L. anceps* as near as possible to the glass, but as the spikes develop the plants must be lowered, so that the tips of the spikes do not come into contact with it. Plants of the *Laelia pumila* type that have passed out of bloom should still be kept up to the glass, and when it is seen that the bulbs are fully developed the plants should be kept rather dry at the roots. *Cattleya marginata*, *C. Pinelli*, *C. spectabilis*, and *Laelia Dayana* all come under the *L. pumila* group. They are all charming Orchids, and should be grown in small teak baskets with but little peat and Sphagnum about the roots. Orchid blooms last a long time in good condition upon the plants at this season if the atmosphere is not kept so moist as to cause them to spot; if this happens they soon decay.

J. DOUGLAS.

THE KITCHEN GARDEN.

ASPARAGUS.—In the majority of cases the tops of Asparagus are fit for removing, and they should be cut off close to the surface with a scythe, afterwards clearing off all weeds and rubbish, so that the frost may have free access. It is also advisable to fill in the soil about the stems with the back of a fork or rake. Especially is this necessary if there is a cavity around the stems from the effects of wind-waving, and into which, if not filled in, the wet is apt to find its way and so cause decay of the roots. The practice of surfacing the beds over in the autumn with rotten manure is not a good method, for although injury may not accrue to the roots when growing on light or gravelly soils, on heavy soils it undoubtedly does so by causing the roots to lie cold and wet, and consequently they decay or become greatly weakened. By leaving the surface exposed the roots lie warmer, and there is no fear of injury from frost. Spring is the best season to apply a top-dressing just in advance of growth taking place. The same remarks are applicable to Asparagus growing on any kind of soil; but in those cases where it is decided to surface-dress in the autumn, the best material for the purpose will consist of equal parts of rotten manure and burned refuse. This will keep the soil open, for when manure only is applied year after year, the texture of the beds becomes what is termed soapy, and the roots suffer accordingly. In the case of raised beds, the tops of the crowns are apt in time to become too deep, this also being a source of partial failure of the crop. Where this is the case the better course would be to remove some of the surface soil into the alleys between the beds or to within 2 inches or 3 inches of the crowns, the surface dressing being placed direct on this. Where the beds are raised and narrow, and the produce from them is not satisfactory on account of want of support or through dryness, a course of renovation I can strongly recommend is to fill in the intervening space between the beds with some rich and open material, into which the roots will ramify and the crowns derive great support. Such material as decayed vegetable and burned refuse, road grit, sand, manure and such like material will be found excellent for the purpose. This may be collected together during the winter, be turned occasionally and wheeled on at any time before growth commences. The benefit of this will not be seen the first season, but afterwards, on account of the increased growing force, a marked change will be apparent.

PROTECTING BROCCOLI.—Veitch's Self-protecting Broccoli has grown wonderfully well of late, and although good heads are now forthcoming from the open, yet it is not safe to depend upon these, for although with a continuance of fine open weather good heads might, perhaps, be cut for some time longer, some kind of protection will have to be devised so that the most is made of them. Especially should this be done where, on account of the late dry weather, the plants were slow in starting into vigorous growth. The means at command will, of course, gauge the kind of protection which can be adopted. Rather deep brick pits where the heads would have room for free development without the foliage touching the glass are excellent places; so also are vacant spaces on the floors of vineries or Peach houses, where such a proceeding will not interfere directly with the borders. In either case the plants must be taken up carefully with a fair-sized ball. This is all the more necessary where the heads are not fully developed. To facilitate the work, it is advisable to draw the foliage together and tie with a piece of matting, cutting it after the plants are in position. Some fairly rich and moist soil must be provided for packing about the roots, as if only poor soil is used, and this dry, the plants will not derive sufficient support to develop the heads. A good watering directly to the roots will settle the soil and start the plants into root action. The pits must be freely ventilated on all fine days, protection also being needed during frosty weather.

PROTECTING IN THE OPEN AIR.—Failing any suitable position under glass, the plants may be taken up and planted rather closely together on a sheltered border. In this case erect a framework over the plants, so that mats may be thrown over them at night-time. Often there is a warm corner where such plants may be protected for a long time. Any heads which are already formed will keep for some time if the foliage is well trimmed back and the plants placed rather closely in a cold frame. It is also advisable to keep them covered with a mat, so as to exclude direct light, or the heads will become discoloured. The heads will also keep for some time if cut with a fair length of stem and inserted in damp sand in a cool shed.

FRENCH BEANS.—These must now be kept gently growing. A night temperature of 60° will suit them, for if placed suddenly into a high and moist temperature, both the leaves and flowers are apt to drop. Elevate the plants well up to the light and take care in the watering, this being required more or less according to the size of pot they are growing in. Heavy supplies are not needed. Neither must the plants be deluged with liquid manure, this soon souring the soil. Where the plants are well rooted and growing in 7-inch or 8 inch pots, alternate waterings with weak and clarified liquid will prove advantageous.

A. YOUNG.

PLANT HOUSES.

PROPAGATING STOVE PLANTS.—With a well-constructed propagating frame or box and a good command of bottom-heat, there is no reason why there should be any standstill as regards the manufacture of future plants. For my own part I prefer to strike several things at this season of the year, more particularly such as require some degree of bottom-heat. This essential can now be supplied with less difficulty than a few weeks back, when scarcely any fire-heat at all was required. Now it is different, however, whilst at the same time, by reason of the decline in the sun's power, it will be all the better for the cuttings as regards speedy rooting, without any check through flagging. Every possible use should now be made of the propagating pit before very severe firing comes on with sharp frosts to contend against; the bottom-heat may then be more than is desirable for a week or two.

Ixoras strike freely enough now, making nice stuff to commence the season with, being six months' gain on spring cuttings at the least. Clean and healthy wood should be chosen, that which

does not show any signs of forming a late flower truss being the better of the two as a cutting. Each cutting should be inserted singly in a 2½ inch pot, using peat and sand in about equal proportions. The cuttings may be immersed in the water tank for an hour or two with advantage previous to insertion. Each cutting should be examined for insect pests, so as to have a clean start if possible, the common enemies being the mealy bug, the thrips, and the brown scale, neither of which are wanted. Long cuttings are not desirable, two joints out of the soil being quite enough. For a supply of cut flower or as plants the following are excellent, viz.: *I. coccinea superba*, *I. javanica floribunda*, *I. Fraseri*, *I. Williamsi*, *I. Westi*, and *I. Prince of Orange*. Other flowering plants, as *Dipladenias*, may also be propagated now under the same conditions, except that less moisture is needed in the soil. *D. boliviensis* should not be omitted. *Gardenias* will also strike well now; these will do capitally with the *Ixoras*, but instead of taking single shoots a branch with from four to six shoots will be better; not only being a saving of time in forming a young plant, but providing at once a bushy example. Of course, like the *Ixoras*, these should also be quite clean. Amongst other things (which are indispensable in a stove) cuttings of the *Stephanotis* may also be taken, shoots taken with a heel being the better for striking; these should not be more than 4 inches or 5 inches long. *Allamandas* will also strike very well now, likewise *Bougainvilleas*, *Clerodendron fallax*, *Hibiscus* in variety, and the *Combretums*, but they may take a little longer than the plants first alluded to.

Of fine-foliaged plants, the *Crotons* can be strongly recommended for autumn propagation. With bottom-heat and a close frame, there is never any need for partially striking the cuttings on the plants with Moss, &c. This, which is more of a coddling process, is only advisable when the convenience is not what it should be for rapid propagation. The best-coloured shoots which are growing erect or nearly so make the better cuttings; side shoots will do when the stock of any kind is scarce, but these do not form such well proportioned plants, the growth being sideways. The shoots can be cut off in fairly good lengths according to the variety, from 4 inches to 9 or 10 inches being very reasonable limits. The cuttings should have all but the two lower leaves left on, the others the young plant will retain for twelve months and sometimes longer when a successful strike has been made. Plants that are likely to be too tall another season should be headed down and the best shoots taken for cuttings, good colour, of course, having the priority. After these shoots have lain for two or three hours in the water-tank, insert them singly in 2½-inch or 3-inch pots according to their sizes, and see to it that the soil does not at any time become at all dry. If a future specimen rather than a decorative plant is the object in view, then select a cutting with several lateral shoots.

Tall *Dracenas*, like surplus *Crotons*, often take more room than is desirable through the winter. Where any tall plants can be dispensed with they may also be cut up for further increase, the top going as a cutting and the rest as eyes in the soil with the large fleshy roots also utilised in the same way. There may be a little difficulty about the tops striking, but these do not make such good plants as those started from the eyes, although when they strike all right there is a saving of time. Plunge the eyes in cocoa fibre and keep well moistened, these also having been left for a few hours in the water as in the case of the *Crotons*. Old stools of such as *D. gracilis* should be kept for supplying cuttings after the top has been taken off, each young shoot being afterwards taken as soon as it is long enough. This is a better plan than working a stock from eyes. *Pandanus Veitchi* should not escape notice. Of this the small grass-like shoots make by far the better plants, being more symmetrical whilst still of small size. These small shoots can be found clustering around the base of the stem, each one generally having a root of its own. Sucker-like cuttings of stronger growth are

not nearly so good. A close atmosphere is not needed, nor is it so safe for striking this *Pandanus* as a cozy corner in the house. J. HUDSON.

HARDY FRUITS.

THE PLANTING SEASON.—It is a decided gain to get young trees from the nurseries and plant them properly before the winter fairly sets in. Before the late heavy rains, the ground, both in the open and in particular against walls, was much too dry for transplanting operations to be carried out without risk of failure, and it is doubtful if the borders, sheltered by walls, are yet well moistened. Before, therefore, trees are moved the border should be examined and water given freely if the soil is found at all dry, while if the soil that surrounds the roots after planting is done is also dry, or even on the dry side, a good soaking ought to be given before the surface is levelled over and mulched with straw litter. These waterings help to settle the soil well about the roots, doing this more effectually and better in every way than it can be done by trampling. Especially should water be given when trees are moved while yet some of the leaves are green. In each and every case allowance must be made for a settlement of the newly moved soil, and it should also be remembered that there is a tendency for the soil of a border to increase in depth farthest away from a walk. If, therefore, the trees are not planted rather high, the collars being kept well above the ordinary ground level, there is every likelihood of their becoming too deeply buried, not thriving or proving so profitable as desirable accordingly. More particularly is high planting advisable in the case of trees on cold, heavy soils. The roots are only too liable to strike downwards into cold or poor subsoils; whereas they render the best service when kept active on or near to the surface. A rich compost should not be given to quite young trees, as this may promote a too rank, unfruitful growth. On the other hand, when fairly large trees are moved from strong ground, many roots being unavoidably, and in some cases recklessly damaged, undue exposure to drying winds also doing much injury, then they must not be given a poor soil, or they are not likely to grow satisfactorily next season. Sometimes the trees received have been already badly started in the nurseries, and must be grown out of it before they prove profitable. If newly purchased trees cannot be properly planted soon after arriving, then ought they to be laid in thinly by the heels, taking good care to surround the roots with good fine soil in a moist state. Laying whole bundles of them in together will not do, as in this case the bulk of the roots do not come into contact with the soil.

APRICOTS.—These will not succeed in some districts, and are as easily grown as Plums in others. Where they fail, one more attempt to grow them might yet be made, this time mixing old mortar rubbish or chalk rather freely with the fresh loam used, as it may have been an absence of lime that was the cause of failure. The trees require a south or south-east wall to grow against, and should be planted rather high, the site being also well drained. Starting with maiden trees instead of any that have been cut back two or three times before leaving a nursery is an experiment worth trying. If only dwarf trees are grown, plant these about 15 feet apart, but if the walls are high and bare, allow the low-stemmed trees rather more room and plant "riders" or others with long clear stems midway between. Where the old trees are apt to die piecemeal, cut out the dead branches, bring the rest up closer together, and plant young trees between. In this way it will then be possible to keep the walls fairly well clothed with trees. Early Moorpark, Large Early, Hems Kirk, Royal, and Moorpark are all good, the last being the least reliable.

PEACHES are less fickle than Apricots and more reliable than Plums, always supposing they are grown against a sunny wall not badly exposed to easterly winds. Order either maidens or trained trees, arranging these 15 ft. apart, riders also being worked

in between if the walls are 12 feet or so in height. When long-stemmed trees are planted, it is in some cases intended to either move these or cut them out when the low-stemmed trees want all the space, but it not unfrequently happens that the standards succeed the best and outlive the others. It is not wise to wait till the old trees are completely worn out before planting others to take their place. Failures, partial or complete, should be anticipated by planting young trees where possible between the older ones while yet in fairly good health. Plenty of good fibrous loam with a sprinkling of "burn-bake" and mortar rubbish added suits Peaches well. Waterloo, Early Alexander, Hale's Early, Crimson Galande, Bellegarde, Dymond, Barrington, Sea Eagle, and Walburton Admirable would form a long and good succession of fruit, Salway being added if a few extra late showy Peaches are desired.

Nectarines.—These are far less reliable than Peaches, most of the fruit cracking or refusing to ripen properly in wet or sunless summers. Room might perhaps be found for trees of Lord Napier, Advance, Rivers' Orange and Humboldt. If given the benefit of a glazed coping and blinds during wet weather, the fruit would not crack so badly and ripen more surely.

FIGS will, as a rule, only succeed against the hottest walls, angles formed by the junction of west and south walls suiting them well. The site ought to be well drained, either mortar rubbish or chalk freely added to the soil and high planting being resorted to. Brown Turkey, Brunswick and White Marseilles are the hardiest and most reliable.

CHERRIES.—These are not very fastidious as to the nature of soil, but a deep sandy loam suits them well. They can be had ready trained for walls with either long or short stems and as bushes and standards for the open. Fan-shaped and horizontally trained trees should be planted 15 feet apart, bushes 6 feet apart and standards 20 feet. Some of the best for east or other moderately warm walls are Early Rivers, Frogmore Bigarreau, Governor Wood, Elton and Black Tartarian, Florence being a large late variety. Dessert Cherries will also succeed against north walls, but these might be better covered with Morello Cherries. Frogmore Bigarreau, Napoleon, Kentish and Black Heart are also good as standards, May Duke, Archduke, Morello and Kentish being recommended for bush culture.

PLUMS.—A good depth of loamy soil suits Plums well, especially if the drainage is good without being excessive. They will succeed against walls with either a northerly or easterly aspect. A distance of 15 feet or rather less apart should be allowed and the trees be trained fan-shaped. For walls some of the best are Oullin's Golden, De Montfort, Early Transparent, Kirke's, Jefferson, Guthrie's Late Gage and Coe's Golden Drop, the last being adapted for either moderately early or late sites. For standards some of the best are Rivers' Prolific, Czar, Gisborne's, Early Orleans, Prince Englebert, Sultan and Victoria, and for bushes or pyramids, Green Gage and Kirke's may also be added, Coe's Golden Drop succeeding well in some localities. Standards should be planted 15 feet apart and bushes 6 feet.

W. IGGULDEN.

Fruit and vegetables in London.—The past exceptional summer seems, says the *Daily News*, to have had hardly so great an influence on Covent Garden supplies as might have been expected. Through the drought, supplies of green stuff fell off enormously, so far as our own market gardens within a short distance of London were concerned. The superintendent of Covent Garden tells us it frequently happened that the supplies from the gardens around London were fifty waggon loads short of what they would have been with a normal amount of rain. But the falling off in Fulham and Kent was to a large extent compensated for by an inflow from the Fens and from Yorkshire. The recent rains have, of course, rapidly brought on crops nearer home, and prices will soon drop to a point at which it will no longer pay to send pro-

duce to London all the way from Yorkshire. Very large consignments of Apples have come up to London from our own orchards this autumn, and foreign supplies have been quite out of it. In scarce years we get large quantities of Apples from Germany, Belgium, Holland, and Denmark, as well as France. French growers send us some very fine fruit, and we can always do with some of their Apples, but the other countries named grow chiefly very inferior fruit, and have no chance at all when our own orchards are fairly fruitful. We are getting some from France, but Worcestershire and Devonshire growers have of late years recognised the importance of growing only the finest kinds, and they are able to hold their own against all comers, and this year their consignments are very fine indeed. We get our late supplies from America ordinarily, and a good many Apples of very fine quality have been coming to us from Australia. Both have imported some of our very best kinds, and have been very successful in their cultivation, but English growers who have been careful and enterprising are now holding their own against all comers.

ORCHIDS.

CATTLEYA ALEXANDRÆ.

I AM in receipt of flowers of this plant from several readers of THE GARDEN all asking my opinion. The flowers from "W." are the finest in the colour of the lip, while those from Mr. Seeger are the largest, but the colour is not quite so good; the others, although very pretty, are poor. I observe one marked feature in all the flowers. In the centre of the claw of the middle lobe of the lip is an oblong white spot, which shows out a little on to the blade. This feature is apparently a permanent one, for in all the flowers before me it is conspicuous. It would also appear to be a very free-flowering plant, for "W." says his plant grew upwards of 2 feet high, and had a scape equally as long. He does not say anything of the number of blooms it bore. Its introducers, Mr. Sander and M. Linden, both say it flowers freely. In the flowers from "W." the sepals and petals are nearly equal, the lateral ones, however, being the largest. The petals are beautifully frilled at the edges, of a rich, dark bronzy hue, lip large, distinctly three-lobed, the side lobes of a rosy purple colour, anterior lobe of a rich bright reddish purple, having a large oblong streak of white upon the claw. The flower from Mr. Seeger is larger, but of a paler colour, the sepals and petals being of a light bronzy brown, and the side lobes of the lip white, tinged with lilac, the anterior lobe rose, tinged at the base with a deeper shade of the same colour, and having the oblong white blotch on the claw. We have not yet learned where or at what altitude this plant is found, but growers will do well to treat it as they would C. Mossie or C. Mendeli, and all will go well. I do not complain of importers of a new species not disclosing its native home, but I do think that they should, in justice to the purchasers and the growers of these plants, state correctly whether it is a cold, cool, or hot atmosphere that any such plant requires. This should be ascertained from the collector that sends the plants home.

WM. HUGH GOWER.

Cypripedium Normanianum.—This is a very pretty hybrid now flowering in the gardens at Laurie Park, Sydenham. It has a branching spike and bears quite a quantity of flowers. To speak generally, it has much of C. Sedeni in it, but it is

finer and larger, with more colour, having the whole back of the flower of a rich crimson. The dorsal sepal is greenish white, the colour from behind showing through; the lower sepal large and similarly coloured; petals spirally twisted, ivory white in front, rich crimson at the back. The pouch-like lip is large, deep rosy crimson, the large infolded lobes creamy yellow, profusely spotted with brownish rose. The plant, although rear to *C. Sedeni*, is superior to that hybrid in the size of the flower, in its colour, and in the great number of the flowers borne upon the spike.—W. H. G.

Dendrobium taurinum.—"H. H." sends me a flower which is much crushed and spoilt through bad packing, but it resembles this species very closely, and the growths would appear to be identical also. The colour of the flowers is in the long twisted petals of a purplish lilac, whilst the sepals appear of a greenish white, the lip rose colour. This plant is a very unsatisfactory subject under cultivation. It comes from the Philippines and grows frequently within the reach of the sea.—W.

Oncidium Forbesi.—A spike of a large-flowered variety of this comes to hand from Mr. Crispin, and on the spike is a veritable double flower, having two lips and two columns, three finely-developed petals and three connate lateral sepals and a pair of dorsal ones. This produces a greater amount of colour, but it is not nearly so elegant as when the flower is in its normal condition. This is a valuable kind for flowering at this season. It should be kept in the cool house during the winter and not dried off.—H.

Vanda Kimballiana.—J. Murdoch sends me a bloom of rather a thin flower of this species. It is one of the very prettiest of the small-growing members of this genus, the petals being white and the middle lobe of the lip bright amethyst-purple. I advise "J. M." to put this plant into the *Odontoglossum* house; he will find this the best place for it, the plants which I have seen growing in the cool house at the Messrs. Low's nursery being very much finer than those grown in greater heat. It was figured in *THE GARDEN* three years ago (Vol. XXXVII., t. 747).—W. H. G.

Vanda lamellata Boxalli.—J. Murdoch sends a flower of a very nice variety of this plant asking for its name, which I here give. It is an extremely pretty plant, having creamy yellow sepals and petals, the inferior half of the lateral sepals reddish purple, the lip tinged with purplish magenta. It is a very handsome variety now becoming scarce in collections. It requires a warm atmosphere, as it grows naturally in low places in the Isle of Luzon.—W. G.

Cypripedium purpuratum.—It is seldom one sees this species so fine as I recently observed it. This species remained scarce for many years, through being said to be found in the Malay Archipelago. It was eventually found to be a native of Hong-Kong and the opposite Chinese coast. It has very much the aspect of *C. barbatum* to a casual observer, but if looked into it presents several marked distinctions. It is between fifty and sixty years ago since it first flowered in this country.—W.

Cypripedium Spicerianum.—In the cultivation of this I find the best results are obtained by using a fair proportion of good fibrous loam in the compost, as in this the plants increase rapidly, the foliage taking on a dark green hue. The flowers are also produced on longer stems and are altogether much finer. I must, however, point out that when loam is used, it is very essential that the plants be repotted annually, as the loam, on account of the quantity of water required during the growing season, loses its vitality and becomes too pasty for healthy root-action and free growth.—A. Y.

Odontoglossum Inseayi splendens.—A very fine spike of this variety comes to me from Jacob Armstrong. The scape bears six flowers, which each measure close upon 5 inches across;

the sepals and petals are of a rich deep brown, tipped with yellow, with a few spots on it of the same colour; lip large, very rich deep yellow, having a broad marginal border of reddish brown spots. This is a remarkable variety of a beautiful plant. It belongs to the *O. grande* section, which likes a few degrees more warmth than *O. Alexandræ* and *O. Pescatorei*, and also to be kept drier through the resting season.—H.

Odontoglossum hybrida.—"F. T." sends three flowers for names. No. 1 I certainly think is a poor form of *O. Ruckerianum*. No. 2 is distinct, apparently a natural hybrid between *O. crispum* and some other form. No. 3 is, I should say, the plant that Reichenbach made a species of under the name of *O. hebraicum* when introduced by Mr. Bull, of Chelsea. More recent authorities make it a variety of *O. gloriosum*. The flower sent is a pleasing shade of primrose-yellow, heavily spotted with chestnut-brown. It is by far the best of the three flowers, which are all undoubtedly natural hybrids.—G.

SHORT NOTES.—ORCHIDS.

Masdevallia maculata flava.—This is a variety of the fine old *maculata*, which was imported by Mr. Sander some twelve years ago. It differs from the species in being of a somewhat bright yellow throughout and in the smaller size of the flowers. It is a very handsome variety.—W.

Lælia grandis tenebrosa.—Although late in the season, I have flowers of this plant from "T. M.," of Liverpool, and from C. Malton, but neither of these is equal to the kinds previously noted. I also saw this species recently flowering in the collection of Mr. Dorman, of Sydenham.—W.

Cymbidium giganteum.—The present is a very curious time to have a flower of this species sent for a name. It is a rather small bloom, but it is quite like the flower of the variety known as *giganteum* at the present day. The flowers of the olden times were far greener and not nearly so gay.—W. H. G.

Catasetum Bungerothi.—From G. M. Glover comes a part of a raceme of this beautiful species, having two of its large ivory-white flowers, and between them a small green flower of the opposite sex, but which does not add to its beauty. It is the first time I have seen flowers of both sexes on the one raceme.—W.

Miltonia Schroederiana (D. McLennan).—The flower sent represents a very good variety of this plant. The sepals and petals are pale yellow, profusely spotted and blotched with brownish purple, the lip pure white in front, stained at the base with purplish mauve. This plant thrives best under the same treatment as *M. vexillaria*.—W.

Dendrobium leucolophotum.—This very pretty species is now flowering in Mr. Dorman's collection at Sydenham. It somewhat resembles *D. Phalenopsis* in its growth, and the flowers, too, are similar in shape, but much smaller, each being an inch or more across and pure white, having the inner side of the lateral lobes tinged with very pale green.—W.

Cypripedium leucorrhodum.—A grand specimen of this hybrid is now in full bloom in Mr. Dorman's collection. It is a cross between *C. Roezli* and *C. Schlumi albiflorum*; the flowers are large, pure ivory-white tinged with rose-pink. The plant is a bold grower and a remarkably free bloomer. It must and will always rank as one of the very best of the Veitchian species.—H.

Oncidium heteranthum.—A spike of this comes for a name from Charles Leslie. At first I took it for *O. abortivum*, but the lip of that species is differently shaped. The sepals and petals of the flower now before me are small, of a creamy yellow, with a few bars of brown across them, the lip yellow in front, brown at the base. The plant is of no interest to the amateur, and would only be

grown as an absolute curiosity by anyone, as it never by any chance produces but one flower upon the terminal shoot of each branch.—W. H. G.

Pilumna nobilis.—This sweetly scented Orchid, I find, succeeds best in the cool house along with the *Odontoglossums*. I have three plants of the above species and they keep on improving since they have been placed in this structure. Each of the plants has now two spikes. Whilst the plants were in the *Cattleya* house the pseudo-bulbs became smaller each season, and now they are gradually getting larger.—A. Y.

Lælia præstana.—A flower of this species comes from "W." for an opinion. It is a very pretty and nice coloured form, wanting, however, in the rich yellow in the throat, which sets off so well good forms of the species. A flower of this species also comes from Mr. Crispin, of Bristol, under the name of *L. Pinelli*, which is only a synonym of *L. pumila*. It is very similar to the form sent by "W." and is also deficient of the colour in the throat.—G.

Cypripedium Barteti superbum.—This is a very beautiful plant raised by Mr. Norman between *C. barbatum* Warneri and *C. insigne* Wallisi. It is now flowering for the first time in Mr. Dorman's collection at Sydenham. The dorsal sepal is large and bordered with pure white, the colours of the original hybrid of this name being intensified. It is far superior to it or to *C. Laforcadei*, raised by M. Bauer, of Paris, between *C. barbatum* and *C. insigne* Chantini.—H. G.

ORCHARD AND FRUIT GARDEN.

OUR FRUIT TREES.

FORTUNATELY for fruit growers, the past drought is still with us; had it been otherwise, Apple and other fruit blossoms and second crops of fruit might have been as plentiful as Blackberries this first day of October, 1893. The consequences of such a condition of our fruit trees after such an abnormal season could not fail to have been most serious. Fortunately, however, the drought lasted, and the dry autumn held the trees back out of the more serious difficulties and dangers of a second growth and blooming in September and October. The chief effects of the season's long and persistent drought on our fruit trees are the premature falling of the leaves and a certain thinness and smallness of the buds. The first matters but little, provided the functions of the old leaves were fairly well performed before they withered and fell. Time is hardly the chief factor in the elaboration of the sap, but rather the energy of light and of life, and both of these have been working with compound energy and force throughout this abnormal season. Hence it is not only probable, but almost surely certain that the leaves of fruit trees did as much or more vital work before the middle of this September as they generally get through before the end of the year. If so, then the drought has neither lessened nor weakened the resources of our trees by stripping off their dead or dying leaves a month or six weeks before their normal time. The rest may only be the more profound and complete, and the start and the progress all the more satisfactory in consequence of the longer rest enforced on our fruit trees through the persistent drought in the autumn tide as well as through the spring.

But the rain must needs be coming, and how will it affect our fruit trees? Our first examination of their actual condition suggests two

reflections. The trees need rain, that is obvious on the face of them. The leaves are brown and dry, many of them have already fallen, and the buds, both fruit and wood-buds, are thinner and smaller than usual. But these are small drawbacks—if indeed they prove drawbacks—contrasted with the solid advantages of the fact that, writing generally of the buds of our fruit trees, they are solidly dormant and fast asleep. Enough buds in full growth and brilliant blossom may be found in most districts to make a good crop of newspaper paragraphs. But, nevertheless, the buds in the mass are rather more than less dormant than usual on this first day of October, 1893.

While the drought lasts this state of semi-safe dormancy will continue. The drought may be said to have lasted up till now. Cultivators who have had occasion to disturb the roots of their fruit trees find the roots, as a rule, as dry as they were in June. The rainfall has hardly as yet wetted the smallest fibres of the roots. There has been no penetrating downfall to touch them in the mass, far less to soak them through. Until this comes, the life, the growth, the safety of our fruit trees are in the keeping of the persistent drought. True, the buds will continue abnormally thin and small, but what of that? It is a long call from October to April or May, and all these quiet months are filling times for plumping up the buds to full size before they break into leafage or blossoming. The longer, therefore, the rain is in coming the better for the trees. Provided the buds are healthy and the germs of life are intact, there is every likelihood they will be fully furnished with vitality and material sufficient for forthcoming crops in time. The coming rains are bound to plump up the buds beyond all expectation. The cultivator's chief danger is that these rains will fill the trees too full and plump up their buds too soon and too far. The rains are needed for these purposes, and would do only good to all fruit trees now, only for fear of the coming frosts. But as the ratio of hardness in fruit trees is the exact ratio of their dormancy, it follows that it must be a somewhat risky proceeding to encourage a free circulation of the sap or prodigal filling up of fruit trees with vital force in October. Especially must this be dangerous after such a long spell of drought as we have not yet quite passed through. However, should a wet and mild November set in, we might do something to protect our fruit trees from the severe frosts which may follow on the heels of the rain by cutting off part of the supplies through root pruning.

Most experienced fruit growers are familiar with the fact that newly-planted or transplanted fruit trees, or those recently root-pruned winter more safely or securely, or bloom later in the following spring than those that have not been disturbed. Such restraining influences frequently suffice to save our fruit crops. Through the accidents of the seasons our fruit trees are just now in a very critical condition. On the verge of winter the trees are on the brink of growth. The intense heat and the long drought have thrown them out of season. Should we have early frosts, the trees will be forced into semi-rest or kept dormant through cold, and all may be well with our fruit crops in 1894. But should the coming rains force growth and flood the trees with sap while mild weather prevails, something may yet be done to arrest growth through cutting off excessive supplies of sap through prompt and vigorous root-pruning. This would relax the pressure on bursting buds, moderate the energy of vital force, practically increase the dormancy, and

so augment the hardness of our fruit trees throughout the approaching winter.

D. T. F.

Pear Van Mons Leon Leclerc.—I am rather surprised that this handsome Pear is so seldom noticed in *THE GARDEN*, at least I do not remember to have observed its name once. It is a very fine fruit and of first-rate quality, at least this season. I gathered a fruit from a cordon (single) which weighed nearly 1 lb. I think it will become one of the finest of our exhibition Pears when better known.—T. A.

Apple Chatley's Kernel.—Does any reader of *THE GARDEN* know anything of this variety? In a garden the other day where there is a very fine collection of fruit trees, my attention was called to this Apple as being an excellent late variety, a heavy cropper, and also of fine quality when cooked.—Y. A. H.

Apple Ecklinville Seedling.—My experience with Ecklinville Seedling is very similar to that detailed by "W." (p. 317), and I note also that buyers are beginning to fight shy of it. Very large quantities are grown hereabouts, growers being much taken with its wonderfully healthy and fruitful growth, and also the size of its fruit. But now the cry out is that it is too soft to carry. I had a lot of fine fruit this season greatly injured by hailstones, as where the fruits were marked, there decay very quickly set in. I fancy also its cooking qualities are vastly over-rated. Juicy and of good flavour it may be, but it is most deceptive, as I know of no other variety which shrinks to such an extent as to appear when the pie or pudding is opened as if hardly any fruit had been put in. Two or three trees are enough for any moderately-sized garden.—Y. A. H.

Figs for forcing.—In Mr. Wythes' excellent article on the above (page 319) he asks if there are not various forms of Brown Turkey Fig, some far superior to others. I think most gardeners who have grown this variety will agree with Mr. Wythes' remarks, as there is certainly a very inferior type of Brown Turkey distributed about the country. Its fruit is a little smaller than that of the true variety and not produced so freely, more liable to drop and of very poor flavour. The true variety is still one of the best Figs in cultivation for either inside or outside work. On a wall here facing south-east it has not failed to bear heavy crops of large fruit for years, and is now (October 9) ripening up a very good second crop; in fact, several good dishes have already been picked, which is a very unusual occurrence for Figs on outside walls quite unprotected. Writing on inferior varieties of Figs reminds me that the same remarks as above on the subject apply to Keens' Seedling Strawberry. A very poor variety, which I knew as a youngster as Sir Harry, is frequently bought as Keens' Seedling. On three different occasions I have had this practically worthless Strawberry sent me as Keens' Seedling. When at Syon House at the end of August I noticed that Mr. Wythes had a grand stock of the true variety in pots for forcing.—W.

Bramley's Seedling Apple.—This useful variety was admirably represented at the Earl's Court show recently when over fifty dishes were exhibited from Southwell. The fruits were fine, even, solid specimens, and had been gathered from standard orchard trees which were said to have yielded 25, 30, and even 40 pecks of 16 lbs. each per tree. The variety possesses many excellent qualities. The tree has a strong constitution, makes good clean growth, is free from canker, and is regular in cropping, as the flowers are seldom injured by frost. It is a good cooking Apple, keeps well until the spring months, and with ordinary care in packing it can be sent to any distance without the slightest injury, as its firm substance and skin protect it to some extent from the bruises which so readily show in several varieties, disfiguring and spoiling them for sale or keeping. Several accounts have been given at different times, but the following is the most authentic, as it comes direct from Mr. H. Merryweather: "It is

a chance seedling, raised by a lady named Brailsford, but she did not live to see the tree produce fruit. The garden was taken by Mr. Bramley, who soon found out its good qualities and took some scions for grafting to Mr. Merryweather thirty years ago, at the same time praising it highly. A stock was gradually worked up and the merits of the variety fully established, but years elapsed before it became known out of the district except to a few, who turned their knowledge to profitable account. It was first brought into prominent notice at the Chiswick conference in 1883, when a first-class certificate was awarded to it, and in the ten years which have elapsed since then many plantations have been made that are now yielding handsome returns for the expenditure."—OBSERVER.

HOW TO TRANSPLANT A PEACH TREE.

MANY amateurs would like to be able to grow a few Peaches and Nectarines under glass, and there is no reason why they should not succeed if only they go the right way to work. In the first place it must be thoroughly understood that they will do no good under the shade of Vines, though there is nothing to prevent the successful cultivation of both Peaches and Grapes in the same house. High back walls of either lean-to or three-quarter span-roofed houses suit Peaches and Nectarines well, always provided the Vine rods are not less than 5 feet apart up the roof. The trees do remarkably well when trained over or to wires strained 9 inches to 18 inches away from the glass of the roof, and there is, therefore, no good reason why a tree or trees should not share a roof with Grape Vines. Instead, however, of planting the trees along the front similarly to Vines, the better plan is to purchase trees with stems long enough to reach the roof not far from the centre of the house, the branches spreading in all directions, that is to say down as well as up the roof. It is not my intention, however, to enlarge upon Peach culture generally, the original idea being to advise owners of good-sized trees at present growing against open walls how they may transplant these to a house without the loss of a crop next season. Not a few amateurs' fruit houses—"orchard houses" many prefer to call them—have been constructed against walls where there were already one or more good-sized Peach trees, and this is one way of getting a good return for their outlay during the first season. Intending builders who cannot well cover in trees—and there is no sense in constructing a house at inconvenient spots—may do the next best thing, and transplant trees to where they have built houses or intend building. Transplanting the trees, instead of having an ill effect, may even prove most beneficial to them, the roots having the benefit of a fresh loamy compost being soon followed by an improvement in the health and productiveness of the top-growth. Very much depends, however, upon the work of transplanting being done well. The best times for doing it is either in the autumn before all the leaves have fallen or directly after, or else in the spring just when the buds are moving. I have already moved several trees under glass while yet in full leaf, and most of those in the open will also be sufficiently matured for lifting before these lines are in print. The exceptions to this rule are comparatively young, strong-growing trees, the younger wood in this case being soft and green. If transplanting is attempted while yet the young wood is green it is liable to shrivel badly, and all such trees should be left where they are till nearly all the leaves have fallen. In the case of trees that have been planted five or six years, or say long enough to arrive

at a good bearing state, the young wood will be quite firm, and moving now will be followed by a re-commencement of root-action before the winter arrives, so that they will have partially recovered from the severe check given.

Before interfering with the roots first prepare the new site for the tree. There must be no cramping up of the roots into holes much too small to hold them properly. If a wholly new border is not made—and it is not always convenient that this should be done—then for each fairly large tree dig a circular hole with a radius of about 2½ feet. Throw the best of the top soil, unless all is very hard and poor, on one side, and wheel away any had subsoil there may be down to a depth of 30 inches. Next throw in about 6 inches of brick ends, stones, clinkers, cinders, or old mortar rubbish, the coarsest at the bottom and the finest at the top. If the site is badly drained, then a small pipe drain should be taken from each station to the nearest main drain, but in most gardens the ordinary drainage is ample. Over the drainage dispose either fresh turves, grass downwards, or else some strawy litter, and on this form the border. Some of the common garden soil that was reserved may be placed in the bottom, the rest of the soil used being a mixture consisting principally of the best loam, fibrous if possible, good garden soil, a little old mortar rubbish or pounded chalk, some of the burnt soil and ashes from a garden slow fire or “smother,” with a very little good flaky manure being added, this latter in the event of the soil being somewhat poor. A compost thus formed and well mixed would grow any kind of fruit, and Peaches and Nectarines in particular. Place some of it over the soil in the hole and make all firm.

All being thus in readiness, the next proceeding ought to be the lifting of the tree or trees. Commence by cutting a trench 4 feet to 5 feet away from the tree to be moved and two spits deep. Then gradually undermine and fork away the soil from the roots, taking the greatest care of the latter, till within 18 inches of the stem of a large tree, and 6 inches nearer if not more than two years planted. The aim ought to be to preserve a ball of soil about the roots about 1 foot in depth, and not any larger generally than two strong men can lift out of a hole. Undermine this ball so as to leave it at last resting on a pedestal of soil. Have a stout board about 1 foot in width and rather shorter than the diameter of the hole in readiness for sliding the ball on to directly the branches of the tree are loosened from the wall. If the tap or deep running roots have been cut through, no difficulty will be experienced in sliding the ball on to the board, but if the hole has not been kept cleared of loose soil and the tree not properly undermined, there will be no getting it well on to the board without greatly loosening or breaking up the ball of soil. With the latter nicely balanced on a board, a strong man at each end of the latter, and the owner steadying the tree, the removal to the fresh site will be a success. Once more let me strongly advise that the bottom of the ball be made quite flat, and also that the top soil, in which there are but few roots, be reduced somewhat with the aid of a pointed stick or fork, as, unless these precautions are taken, there is every likelihood of great lumps falling away, carrying valuable roots with them. Before placing the tree in the fresh site see that there is enough soil in the hole to raise the ball slightly above the ordinary level, some allowance being made for sinking. It is a golden rule to keep the collars, or that part of the stem where the top-most roots are connected, slightly above the or-

inary ground level, those that are much deeper never thriving so well, the disease known as the “yellows” being a frequent outcome of too deep planting. After the tree has been carefully slid off the board and is deposited well back against the wall, or in the exact position desired, spread out the roots and then do what trimming of these is necessary. Cut out all the badly bruised or broken roots, and cleanly shorten the broken ends of all the rest, this being done to facilitate healing. Do not throw soil on to the roots in a haphazard fashion, thereby driving them all closely together, but dispose the latter in different layers, and very much as they start from the stem. Surround all with some of the finest of the soil, the topmost only being just covered. Give a good soaking of water, this well settling down the soil, and next day level over the rest of the soil, the top tier of roots not being buried more than 2 inches deep. At first the trees should only be lightly fastened to the wall or trellis, as the case may be, as the mass of soil will be certain to settle somewhat. When trees are transplanted before the leaves have fallen, flagging is apt to take place on bright days, and a little shade and frequent overhead syringings will be necessary by way of a preventive. The time has also arrived for transplanting or regulating the distances of trees against open walls. Very much the same methods should be adopted as in the case of any moved to a house, the advice to keep the collars high being carefully observed, and a mulch of strawy manure given after first the watering and then the final addition of soil have been made.

M. H.

Doyenne du Comice Pear.—The fine qualities of this Pear are becoming gradually known, but it is destined to become far more popular than it is at present. Many of the leading fruit growers and exhibitors have proved its merits, and most first-class collections now include specimens, but it has made but little way with those who are specially concerned in the cultivation of fruits for sale, and perhaps this is due to the uncertainty that characterises so many fine Pears. It does not apply to this variety, however, with so much force, and wherever a moderately warm and sheltered position can be devoted to Doyenné du Comice good results may be safely anticipated. In the Channel Islands it has been planted largely by at least one grower, and both from there and France grand fruits are now finding their way into Covent Garden Market, and will probably do so throughout October and November. In quality this Pear is unsurpassed, the flavour is delicious, and fine even fruits weighing over 1 lb. each can be grown on dwarf trees on the Quince stock, which seems to suit it best. The fruit is rather more turbinate in form than that of Duchesse d'Angoulême, being broad and flattened at the apex; the colouring is somewhat like that of Louise Bonne, but not so deep.—OBSERVER.

—If asked to name the best all-round Pear that I know, I should name the above. It is equal in flavour to the famous Marie Louise, and will succeed either on a wall or in the open. If allowed to hang on the trees as long as possible, the fruit will keep until the end of November. Some trees trained as cordons annually give us some grand fruit, many of them over 1 lb. each, but the heaviest crops are borne by our bush trees. When other trees have failed to crop, Doyenné du Comice has always had a fair to heavy load, excelling such prolific varieties as Louise Bonne of Jersey and Marie Louise d'Uccle in that respect. As a market Pear it fetches a very good price if put on the market in a fresh and attractive state, and buyers that have purchased once soon inquire for more of the same kind. With such fruit the home grower need fear no competition, as the demand is always greater than the supply. I find that this Pear succeeds best and gives the best crop of fruit if the

trees are lightly pruned, merely thinning out any weak or crossed shoots and shortening back any growths that tend to throw the head out of balance. If care were taken that every portion of the tree had plenty of light and air for the development of the wood and buds, little or no root-pruning would be required to bring trees into a fruitful state.—W.

PLUMS FOR MARKET.

ACCORDING to the Board of Trade returns, vast quantities of Plums have arrived in this country from the Continent, in spite of heavy crops and low prices realised at our best markets. Unfortunately, the actual grower does not obtain so much for good fruit as he ought to do. This year the first Victorias only sold for about 9s. per cwt., or say 1d. per lb., while the consumer had to pay double and treble that price for the same fruit. It has been stated repeatedly that growers do not put their fruit on the market in the best form to secure the highest value, the same people urging the producer to pack his finest Plums in shallow boxes tastefully, each box to contain two or three dozen fruits. If such advisers would only start fruit growing and put their theories into actual practice, they would alter their statements or advice considerably. With many other growers I have tried the system, and have always found it did not pay, but was an actual loss, the box and tissue paper costing as much as the Plums realised. The best mode of packing that I know is to use the ordinary half sieve, putting a thin lining of soft hay or similar material at the bottom and round the sides, covering the whole with clean paper and allowing a sufficient quantity of paper to hang over the sides to turn over the fruit when the half sieve is full. Then the paper is turned over and a little straw or bracken is placed on the top and two pliable sticks are crossed over the top securely, the fruit being rolled as it were in paper, and the sticks keeping all tight, they arrive in the market looking as fresh as if just picked from the trees; consequently the highest prices are made. Large packages for Plums are objectionable, as the bottom fruit becomes crushed, and if allowed to stand a day or two without unpacking, sweating sets in, and the whole very soon decays.

Early Prolific is still the most profitable of all Plums, as it always meets with a good sale, and the trees being relieved of their fruit about the end of July or early in August, they have ample time to recover from any weakness in producing a crop and form plenty of fruit-buds for the next season. The Czar is a fine market Plum, as it comes into use as soon as the Early Prolific is over and before the Victoria is ready, thus filling up a gap in the succession. The trees are also very prolific, vigorous, and grow into good shape. No doubt the Victoria is the most popular of all Plums and the most largely planted for market, but it is an open question if there is not danger of the markets becoming glutted in the near future with this fine variety; it has been planted by thousands in counties suitable for fruit culture, and it will be wiser to not put in such large quantities for the future, but rely more on varieties that will come into use before or after the Victoria. Pond's Seedling with me is about a week or ten days later than the preceding and realises good prices, as Plums are getting less plentiful at that time and the demand is improved. Another advantage of Pond's Seedling is the fruit will keep a week or so in good condition after it is ripe. On some soils the tree is not so prolific as could be wished, but on the

majority of soils it is very free, the fruit of extra size and splendid colour. Where Pond's Seedling will not succeed properly Cox's Emperor or Denbigh Seedling will be almost certain to do so, and come into use about the same time. The fruit is large, varying from oval to round, of a deep red in colour, and produced in great abundance. Coe's Golden Drop is a magnificent Plum for home consumption, but not very profitable for market, being too shy in bearing, and though such a late Plum this does not compensate for its light crop. A great number of varieties of Plums are not advisable for market, rather a few sorts well known to be suitable to the district and in demand in the market. Not only with Plums, but with Apples, Pears, &c., there is a great tendency to plant too many varieties, some of which are of little or no market value, and consequently entail a serious loss. W.

Pear Souvenir du Congrès.—This Pear with me is far superior to its parent, Williams' Bon Chrétien, as it crops more heavily both on walls and on bush trees in the open. The fruit attains a larger size, is of a more attractive colour and does not go bad so quickly in the centre. Very heavy fruit of a beautiful rosy colour on the sunny side may be secured by liberal feeding, and I have never yet tasted a Pear that was inferior in flavour owing to its size; in fact, rather the reverse. A large well grown fruit is generally of much better quality than a smaller one of the same variety, and appreciated accordingly by employers.—W.

Apple Duchess of Oldenburg.—This is a good early cooking Apple, and, as far as appearance goes, I think it is the prettiest of all. The quality is also excellent when cooked. In growth the tree is very free and of remarkably fruitful habit. One or two trees, however, are enough for private use, as the fruit does not keep very long and is best when used from the tree. As stated by "W.," it shows its bruises very quickly, so requires very careful handling. It makes a fine standard and comes very quickly into bearing.—Y. A. H.

Plum Coe's Golden Drop.—This is one of the best Plums, and certainly has been the most profitable this season. There is no fear of a market glut when this Plum is ripe; consequently it will always realise a good price. Another great advantage is that it comes too late for the wasps, as in most seasons the fruit will hang on the trees till quite late in the autumn. Birds are very partial to the buds. From a tree in the garden I have never secured a crop, and I suppose nothing short of netting will save the buds, but in the open plantation the young bushes have been heavily laden.—E. W. B.

Nectarine Darwin.—This delicious Nectarine deserves more extended culture than at present, as the tree is of vigorous growth, a very free bearer, and the fruit of large size and beautiful appearance. For early or midseason forcing it has no superior, and during the eight years I have grown it no failure has occurred. A dish of this variety in a collection of fruit will carry a full number of points, and in a single dish class it will be difficult to excel. At the Shrewsbury show a fine dish of Darwin took first honours in a spirited competition.—W.

Pear Thompson's.—This variety was one of those selected by the editor of THE GARDEN a few seasons back as being worthy of being placed in his list of standard Pears for Britain, sure evidence of its high quality. My reason for just now calling attention to it is to note how admirably it is adapted for growing as an orchard standard, as very few of the higher quality Pears will conform to this mode of culture. In fact, I find that to bring out the character of the variety a more natural growth appears necessary, as under this form the tree is most fruitful, the flavour also being first-rate. As a bush on the

Quince stock it will not succeed at all, the growth being quite stunted. Marie Louise will not succeed at all with me in the open, the ends dying back in the winter, but Thompson's does splendidly. Its natural season of ripening is November, but this year it will be a little earlier. It may be as well to mention that this cannot be strictly classed as a vinous-flavoured Pear, having more of a honeyed sweetness, so it might not suit all palates.—A. H. S.

Pear Beurre Superfin.—This is very fine this season, the fruits being of a good size and the flavour also superb. I also notice that the fruits are more russety than usual. I allowed the fruits to hang on the trees as long as possible, knowing that this is a variety that does not deteriorate in quality when allowed to hang. With me it succeeds the best on a west wall, but further south it does well in the open. As a cordon it succeeds well, being admirably adapted for growing under this form of culture either against a wall or against a trellis in the more southern counties. It is often offered as a standard, but I never yet met with it succeeding well under this method, the fruits being small and not nearly so freely produced as when the tree is grown under more favourable conditions.—Y. S.

PRUNING: SHALL WE LOP OR THIN?

TO THE EDITOR OF THE GARDEN.

SIR,—If anyone desires to read a suggestive sermon on this subject, I would recommend him to peruse carefully the first article on Apples in the second volume of "The Fruit Grower's Guide" (Wright) just issued. Before dealing with the article here, however, it is needful to recapitulate a bit. Since the articles on the extension system appeared in THE GARDEN about thirteen years ago, and afterwards in book form from your office, a good deal has happened. It is pretty well known that previous to that time the extension system had no defined existence, never having been previously described in books on fruit culture, nor found a place in them. I am speaking just now of Apples and Pears more particularly. Since THE GARDEN dealt with the subject, it has, however, been often enough discussed in the gardening papers. Some have condemned extension out and out; some adopted what they cautiously described as a "mean between the two extremes," not being quite sure on which side of the fence to sit just at the time, especially those who were committed to extreme restriction beforehand. A few—wise in their generation—adopted extension here and there at once, and now you can hardly go in any direction without meeting good examples of the system which is fast superseding every other. True, there is still some reluctance in certain quarters to acknowledge the situation, but the facts are too strong to be ignored; and while the extension system is advocated and its merits acknowledged, no one need mind very much the occasionally transparent device of writers disguising their obligations under new names, however questionable such a course may be in itself, especially in writers whom we know have studiously thrown cold water on the system before and lauded to the skies those practices which they now condemn. In what I think Mr. Iggulden has called the "pioneer" papers in THE GARDEN by an extension-trained Apple or Pear tree was meant and described a tree that was "permitted, under proper guidance, to extend itself naturally and to grow, &c.," and it will be seen, as I proceed, that this is exactly the tree that is now coming to the front with quite a high character for general utility.

The "Fruit Grower's Guide" does not, I apprehend, so much aim at advocating particular

systems as it does at simply describing faithfully the merits of each and their application. In the chapter on Apples (applicable also to Pears) three systems of training are described that I purpose alluding to here. These are the much "restricted pyramid," the "ordinary bush," and the "open bush." The "ordinary bush" appears to be a hybrid that I confess never to have seen before, unless it happened to be in the form of a neglected pyramid, of which Mr. Wright's fig. 5 is a faithful representation. I would like to know what particular niche this abortion is supposed to fill in the fruit garden and where the author discovered it, but the next edition would be much improved by its omission, and with that it may be dismissed here.

The next in importance is the "open bush," or, in better understood parlance, the naturally formed extension-trained dwarf tree. An actual portrait of a tree of this kind is given, and is, I believe, the only figure of its kind ever published, except the photo described in THE GARDEN articles of an Apple tree "naturally inclined to grow in an open manner," of the same age or thereabout, and which, but for the difference in kind and time of year, might well stand for the twin-brother (cf fig. 7 or 8 in "The Guide." It is the position assigned to this open bush or extension-trained tree, and its comparison with the pyramid and other restrictive trained forms, that I wish to draw attention to. First, however, it should be pointed out that the term "bush" does not clearly denote the kind of tree now catalogued by Mr. Wright, because a bush tree can be, and sometimes is, just as easily subjected to the restrictive method of pruning as a pyramid, and it was to distinguish the one from the other that the better term "extension" was adopted, and I notice that Mr. Wright very properly uses the words "restriction" and "extension" in his instructions as regards the branches. So far as I am aware, Mr. Wright's pretty little extension-grown Apple tree (p. 14) is not found in any of the English books acknowledged in his preface, and I take it it is an original portrait. The simplicity of the extension system, as applied to Apples and Pears, has often been dwelt on in THE GARDEN, and it speaks volumes on this point that in the "Fruit Guide" two simple cuts and two paragraphs suffice to make the whole system clear to anybody, and this is supplemented by a description of the advantages of the system that completely cuts the ground from beneath the feet of the restricted pyramid and its near neighbours. In fact, Mr. Wright has shown that there is no reason for the latter's existence except it be in the eyes of those who prefer to grow their trees in the shape of candle extinguishers, with all the attendant trouble. Why Mr. Wright under these circumstances has devoted some ten pages, twelve elaborate figures and nearly sixty references to particular "quips and cranks" in the training of the restricted pyramid is beyond my comprehension, more especially as he gives the pyramid no character for utility worth recording; whereas, his description of the "bush" form is worth giving in full. First of all, the portrait of the tree given shows an example in which hardly any more pruning is required than the shortening of the tops of the wobbly branches and no training at all, and the tree delineated, aged three years "*from the maiden*," shows on the side next to the spectator nearly four dozen fine large Apples; whereas, the figure of an "advanced" pyramid—a "restricted tree in bearing"—makes no pretensions to equal this. In short, I can conceive of nothing more likely

to frighten the learner from the study of a stupid system of culture than the chapter on pyramid training in the "Fruit Grower's Guide," although, in the multitude of diagrams and references to operations given, I do not suppose there are more than are necessary to make the system understood as long practised by its advocates.

The character given to the general "bush" or extension form of tree by Mr. Wright is as follows: "Bush Apple trees are the simplest and most easily managed of all forms. . . . They are especially adapted for small gardens, generally very productive, and require but little space, affording much interest and enjoyable, profitable occupation. For planting in borders along the sides of paths they are ornamental and readily accessible for manipulating the growths and supplying all cultural necessities." Referring to the "open bush," he continues: "These trees are principally employed for commercial purposes. The principles upon which they are managed are, first, allowing varieties to assume their natural forms; second, reducing pruning to a minimum. . . . Such trees are equally adapted for garden and field culture. They are excellent for cottagers and persons generally who are not skilled in the art of training, and who cannot devote a great amount of time to their trees." Fig. 8 represents this form—three year-old from a maiden—with the heavy crop of fruit before mentioned. Now in this description every good quality that the restrictive-trained pyramid possesses is given, with the additional advantages that the "natural form" is much more prolific, better for commercial purposes, and, according to the measure assigned to it in the "Fruit Grower's Guide" in the shape of illustrations and space, &c., it is just about ten times easier to manage. It is with much pleasure that I welcome the author of the "Fruit Grower's Guide" as one of the champions of the new school. There is just one hitch here that wants explaining, and that is the remarkable difference between Mr. Wright's opinions on "training in the abstract and training in practice." How does he reconcile his opening statement in the second vol., that cultivated Apple trees "if left to Nature assume forms not pleasing and proportions exceeding the limits available for them" with the words italicised in the above quotations? J. S. W.

STOVE AND GREENHOUSE.

THE JAVA HYBRID RHODODENDRONS.

Go when one will to Messrs. Veitch's nursery at Chelsea, flowers of this valuable class of Rhododendrons will always be seen, and every year their value is more clearly shown. They have no rivals amongst those plants which require an intermediate course of treatment; nor, indeed, is there anything to approach them during this the dullest season of the year either among stove plants or those that only require the temperature of the greenhouse. We frequently see some twenty or more trusses shown at the Royal Horticultural Society's meetings, but the effect of a large number can only be partially imagined in comparison when seen upon the plants. These most distinct and ornamental Rhododendrons have undoubtedly a brilliant future in store for them. There is already a great call for the better-known kinds, but I am fully persuaded that many more will be grown in the near future than in the past. Once their culture is more thoroughly under-

stood, and in which there is no difficulty at all, their cultivation will considerably increase. They have this most decided qualification in their favour, *i.e.*, they are not in any sense common flowers, nor will they be met with in every florist's window for a long time to come. Their very appearance when in flower, as seen in the many varied shades—from pure white to the richest and deepest crimson, the lovely tints of orange, the full and deep (also pale) yellows, and the delicate shades of pink gives such variety as to betoken a decided superiority in every way. There is also a great diversity in the kinds now in cultivation. Some have large flowers, and trusses too, looking splendid upon the plant, while others are comparatively small; hence they are most useful for button-hole bouquets and sprays. Then there are the double varieties, which last a long time in flower, each pip of the larger sorts rivaling a Tuberose bloom in size. Added to these, there are those of the multicolor section. These are quite distinct from the foregoing; the individual trusses are smaller, but the growth of the plant is very compact—more like that of an Azalea. They flower freely, even plants in 3-inch and 4-inch



Rhododendron multicolor Mrs. Heal.

pots. These were obtained by crossing the Java hybrids with *R. multicolor*, a species from Sumatra. The variety (Mrs. Heal) here figured belongs to the multicolor section. The parents are *Rhododendron multicolor*, with a lemon-coloured flower, and *R. Princess Beatrice*, a javanico-jasminiflorum hybrid, the flowers a pale yellow, suffused with pink and a light pink centre. This is the only pure white kind amongst the Java or Sumatra hybrids. It is of free growth and dwarf, bushy habit, and a very profuse bloomer. Plants in 3-inch and 4-inch pots flower freely. J. H.

The zonal Pelargonium house.—No brighter display of colour right away from Michaelmas to Christmas even from Chrysanthemums is obtained than that to be found in the above structure, always supposing the temperature is maintained at a sufficient height. Amateurs starting the winter culture of Pelargoniums are apt to make a mistake in this matter, and to imagine that simply keeping out frost is all that is required; whereas, to maintain a constant supply of flowers and the plants in good health a mean temperature of close on 55° is necessary with the house always rather on the dry side. To the admirable varieties in the double and round-flowered single sections adapted for this work must now be added the gigantic

nosegays as represented by *Aurora Boreale* and *Gloire Lyonnaise*. These throw very fine trusses of flower with individual pips of immense size, some of them measuring nearly 3 inches across; flowers, too, of good substance, not the light flimsy petals of such sorts as *Stella*, *Bonfire* and other old varieties. Pelargoniums for winter flowering may be propagated in March, single cuttings in 3-inch pots. These may be transferred to 6-inch pots so soon as they are well rooted, using a compost that is nearly all a friable loam, the object being to secure through the summer a short, stocky growth. Keep all the flowers off until the beginning of September, when they may be allowed to stand, and stimulants can then be freely employed. The plants should be in their winter quarters about the third week in that month. A nice airy position fully exposed to the sun suits them best all through the summer. In a season like that we have just experienced—I mean with any amount of sunshine and a hot, scorching temperature—it is advisable to shade lightly, say with thin tiffany, for a few hours during the middle of the day to prevent the plants drying out so quickly.—E. BURRELL, *Claremont*.

Dwarf Abutilons.—A great many garden varieties of Abutilon are apt to run up tall and naked at the base, but still there are among them some forms much dwarfer than others, and a couple sent from the Continent about seven or eight years ago are the dwarfiest and most free flowering that I am acquainted with. They are *roseum compactum* and *Vivid compactum*, the flowers of the former being soft rose, and of the other bright red. They will both branch freely when not more than a foot high, and produce an abundance of flowers not only on the central or main stem, but also on the side shoots at the same time. For small greenhouses these two Abutilons are very useful, for effective little plants can be grown in pots 5 inches in diameter, and it was a pleasing group of them grown in this way that suggested this note. A few good varieties are very useful

for flowering during the autumn and winter, but there are far too many names to be met with in some nursery lists, as the range in colour among them is really not great.—T.

Siphocampylos Humboldtianus.—This has been referred to as a summer-flowering plant, but while it often does bloom at that time, there are really very few subjects to which the term perpetual blooming might be more appropriately applied. It is a member of a large genus (for according to the "Dictionary of Gardening" it consists of nearly 100 species), and among them are several very pretty flowering plants. That under notice (*S. Humboldtianus*) forms a freely branched plant of a half-shrubby character, and when grown in pots it is usually as a neat little bush clothed with dark green leaves, while the flowers are freely borne on the points of every shoot. They are somewhat tubular in shape and of a bright scarlet colour, with the interior of the throat yellow. Plants of this *Siphocampylos* will often bloom throughout the greater part of the summer, the entire autumn, and well on into the winter. It is not at all difficult to strike from cuttings of the young growing shoots taken during the spring months. A soil consisting of loam with a liberal admixture of leaf-mould and silver sand will suit it perfectly. So free-flowering is it, that when the young plants are required to grow freely the blooms should be pinched off in order to encourage growth, for they will

often flower even in the cutting pots. Grown in suspended baskets, too, it does well, and in this way displays the bright coloured blossoms to great advantage. An ally of the above and another continuous flowering plant is *Centropogon Lucyanus*, said to be a hybrid between *Siphocampylus betulæ-folius* and *Centropogon fastuosus*. The long curved flowers of *C. Lucyanus* are of a bright rosy carmine colour, very telling at all seasons, but especially so during the dark days of winter.—H. P.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 24.

COMPARISONS are at times very difficult to make, but it is extremely doubtful if ever during the time the R.H.S. has held its fortnightly meetings in the Drill Hall a better display in all respects has been at any one time seen there. It mattered not to what particular branch of horticulture one turned his attention, each was represented thoroughly well both in quantity and quality. Four tables as long as could be arranged for in the body of the hall were filled to overflowing, whilst another extended around the other end with several exhibits as well upon the floor. The facts of such displays as these being so repeatedly held should be a sufficient reason for the revival in some form or other of a permanent building exclusively devoted to horticulture. It must be further borne in mind that the present is usually considered a dull season of the year prior to the advent of the *Chrysanthemum* in all its glory. All who visited the show on Tuesday last could but be gratified with the inspection. Orchids were present in great profusion from the large trade growers, the most noteworthy features being the magnificent display of *Cattleya labiata*, finer than which has never before been seen. These came from various sources and added largely to the attractiveness of the show. Hybrid Orchids were also largely shown, hybrid *Cattleyas* and *Cypripediums* being of very superior character, these testifying to the skill and patience of the hybridiser. Miscellaneous stove and greenhouse plants were not present in large quantities, well-coloured *Crotons* being the best things; but *Chrysanthemums* were of first-rate quality, indicating a good season without a doubt. As an illustration of the still remarkably open weather, the *Dahlias*, which were staged in large numbers, may be taken as an example. Of these the *Cactus* varieties and the singles were pre-eminently the best. A further instance of the mild weather was to be seen in the fine quality of the tuberous *Begonia* flowers from plants grown in the open ground. Fruit was chiefly confined to Grapes (of which there was a fine exhibit of Black Alicante) and to collections of Apples and Pears, highly coloured and in all respects excellent. A splendid exhibit of Onions was made, showing superior culture as regards size and perfect finish, but of doubtful utility as far as the kitchen is concerned, smaller ones being favoured by the cooks. Other vegetables and salads were to be seen, all showing first-class culture. Shrubs were represented by some fine examples of deeply tinted autumnal foliage and by densely-berried plants of *Pernettyas*.

Orchid Committee.

First-class certificates were awarded to the following hybrids and species, viz.:—

CATTELEYA LORD ROTHSCHILD (*C. Gaskelliana* × *C. aurea*).—A truly splendid hybrid in which traces of both of the parents can be most clearly seen. The lip in size, colour and general contour is that of *C. aurea*, having the deep golden veins and markings in the throat, whilst the labellum is broadly margined with velvety crimson tending to a purplish shade, and of large size, with a beautifully fringed edge. The sepals and petals are of a faint blush-pink, paler than in *C. Gaskelliana*, but with no tracing of the colour peculiar to *C.*

aurea. The plant is of vigorous growth and good free habit, having been raised from seed in a little over five years. From Messrs. Sander and Co.

CATTELEYA LABIATA SANDERIANA.—A choice and distinct variety almost self-coloured, the sepals and petals, also the column of the labellum being of a deep rose-pink, inclining to mauve, the lip itself of a purplish crimson, but not of extra size, the whole flower of beautiful form and outline. From Messrs. Sander and Co.

CYPRIPEDIUM CLONIUS (*C. caudatum* Lindeni × *C. conchiferum*).—This is a remarkable hybrid, entirely distinct from both the parents, being one of the very best yet raised in this section of the Slipper family; the pouch is large and of an ivory white shade, with faint spots, the inside of a purer white, with larger chocolate-coloured spots; the tail-like petals were as shown about 10 inches in length, but had not probably reached their limit; these were faintly striped with light green on a lighter ground. From Messrs. Jas. Veitch and Sons.

LÆLIO-CATTELEYA PISANDRA (*C. Eldorado* × *Lælia crispata*).—In form and size this very pleasing and distinct hybrid resembles *C. Eldorado*, the sepals and petals being of a bluish shade suffused with purple; the lip is large and of a rich crimson-purple colour, being slightly reflexed; in the throat is seen the golden yellow of *C. Eldorado*. From Messrs. Veitch and Sons.

CIRROPETALUM ORNATISSIMUM.—A remarkable novelty, the plant bearing slender spikes with a crown of flowers on each; the colour of the central portion of the flower is a deep maroon; the sepals, which are about 4 inches in length, are of a lighter or tawny orange shade. From Sir Trevor Lawrence's collection.

CYPRIPEDIUM STATTERIANUM (*C. Spicerianum* magnificum × *C. vexillarium* superbum).—A very distinct and remarkably fine hybrid, having the dwarf habit and character of the former parent, more particularly its distinct dorsal sepal; the colour is, however, of the darkest, a deep vinous-purple, white around the edges and greenish at the base; the pouch and the petals are of a deep bronze shade, the spike twin-flowered. From Mr. Statter, Stand Hall, Manchester.

Awards of merit were given to—

CATTELEYA HARDYANA (Selwood var.).—A fine form of this excellent Orchid, with the sepals of a pale bluish shape, the petals deeper in colour with lighter veins; the lip extra large and of a bright velvety crimson, with two distinct yellow spots and golden veins in the throat. From Mr. G. D. Owen, Selwood, Rotherham.

CYPRIPEDIUM INSIGNE ALBENS.—The ground colour of this is a pale green with faint shades of bronzy brown; the dorsal sepal, which is the most distinctive feature, is large, the upper half a pure white, the lower portion pale greenish-yellow; a distinct variety. From Messrs. Heath and Co., Cheltenham.

CATTELEYA LABIATA (Appleton's var.).—This is a distinct looking variety, the sepals and petals rather pale, but the lip remarkably rich in colour, a deep crimson with violet shading, and a clearly defined white edge, with an edging finely fringed; the plant bore nine flowers. From Mr. W. W. Appleton, Weston-super-Mare.

DENDROBIUM PHALÆNOPSIS SCHREDERIANUM (Appleton's var.).—A bright looking form of this lovely Orchid, the sepals and petals at the base being pure white, and deepening into rosy crimson towards the extremities; the lip of a deeper crimson. From Mr. W. W. Appleton.

CYPRIPEDIUM INSIGNE CLARKI.—A vigorous form of this old species, the distinctive feature of which was the dorsal sepal, the spots upon the lower part of which were unusually large, whilst the upper half was a pure white, the ground colour of the flower being a pale greenish-yellow. From Mr. W. C. Clark, Sefton Road, Liverpool.

CATTELEYA WAROCQUEANA (LABIATA ?) VAR. **IMSCHOTTIANA**.—An extra fine variety, shown in remarkably good condition; the flowers of large size, the sepals and petals of a deep pink-mauve, a very rich shade; the petals were of unusual breadth

and the entire flower of fine proportions, the lip being of a deep crimson shade, with a lighter edging. From Mons. Linden, Brussels.

PAPHINIA GRANDIS.—A singular, but attractive looking Orchid of *Lycaste*-like character; the lower part of the sepals and petals was of a dull yellowish brown blotched and barred with dark chocolate, the rest being entirely of the latter colour in a deep shade, the lip lighter and fringed. From Mons. Linden.

Botanical certificates were awarded to *Pholidota convallarioides*, a choice and attractive little plant, with erect spikes of small greenish white flowers, in fragrance closely resembling the Lily of the Valley, the foliage also and style of spike, save that the flowers are more densely placed thereon, being likewise after that well-known plant; and *Dendrobium lamellatum*, an Orchid not remarkable for the beauty of its flowers, the most singular feature being the flattened bulbs, after the manner of some Cacti. Both from Mons. Linden. Cultural commendations were given to *Odontoglossum intermedium*, a finely-grown plant bearing two fine spikes of handsome flowers, with seventeen or eighteen blooms including buds on each spike, and *Cynoches chlorochilum*, another vigorous example, with several of its singular looking, greenish white flowers of wax-like substance. Both shown by Mons. Linden.

To Messrs. Jas. Veitch and Sons a silver-gilt Flora medal was awarded for a very comprehensive group of choice species and hybrids, amongst the latter being several of their choicest seedlings. Of the hybrids there were two plants of the lovely *Cattleya Harrisii* (*C. labiata* Mendeli × *C. guttata* Leopoldi), in which the form and substance are those of the latter parent, the petals being of a deep bluish, suffused with violet, the lip self-coloured, a rich crimson-purple. *Lælio-Cattleya Cassiope* (*C. exoniensis* × *C. pumila*) was also shown. *Lælio-Cattleya Eumæa*, another hybrid, with light purplish mauve sepals and petals and a light lip, partaking most of the former parentage, and *Cattleya porphyrophlebia*, another beautiful light hybrid, were also shown. The *Cypripediums* were well represented by the finest hybrids, amongst which were *C. T. B. Haywood*, with grand flowers; *C. Arthurianum* and the variety *pulchellum*, a fine hybrid; *C. macrophyllum*, with large flowers; *C. Leeannum* superbum, *C. Galatea*, *C. Ianthe*, *C. Ashburtonæ majus* and *C. cananthum* superbum, a grand hybrid. Of species there were *Cattleya labiata* and *C. Bowringiana*, both in good form; *Dendrobium Phalænopsis Schrederianum* and *D. P. Statterianum*, also *D. Dearei* and *D. formosum*, the latter remarkably vigorous. *Aerides suavisissimum* as well as *Oncidium tigrinum* were shown, the latter being particularly fine.

Messrs. Sander and Co. had a silver Flora medal for a very fine group of *Cattleya labiata* in great diversity of shades, both light and dark forms being well represented; all were, however, beautiful varieties of this grand old *Cattleya*. The flowers were individually of large size, whilst the labellum in each case was notable for the fine colouring. One of the light varieties had but the faintest trace of the crimson colour in the lip, being a very delicate combination of shades. With these was a good example of *Vanda cœrulea*, three spikes upon the plant; also three plants of *Dendrobium formosum*, with large flowers; the beautiful little *Lælia pumila* Dayana was also shown here in good condition, having faint bluish-coloured sepals and petals and a velvety crimson lip.

Messrs. Charlesworth, Shuttleworth and Co., Bradford, were awarded a silver-gilt Banksian medal for a very fine and extensive display, composed chiefly of *Cattleya labiata* in great profusion and variety, the dark and light forms being alike well represented. The light variety *C. labiata vivicans* was particularly beautiful. These plants alone of *C. labiata* made a splendid show. *Cattleya Schofieldiana*, a very fine variety of *C. guttata*, distinct from it, however, in the dense violet spotting on the sepals and petals, was also shown in excellent condition. Another form called *C. Scho-*

fieldiana aurea was much less spotted. The plants of this *Cattleya* appeared to be flowering for the first time since their importation. *Lælia grandis tenebrosa*, of intensely deep colour, was shown here, also *Cattleya granulosa*. *Cypripediums* were represented by *C. Charlesworthi*, previously certificated; also by *C. selligerum majus*, *C. euryandrum*, *C. Spicerianum* and *C. nitens*. *Oncidium tigrinum*, *O. varicosum*, and *Sophranitis grandiflora* were shown well.

Messrs. Hugh Low and Co. received a silver Banksian medal for a smaller group comprising several varieties; the best of these were *Phalenopsis grandiflora*, a good spike, *Odontoglossum Rozei*, *Cattleya labiata* (the old variety), *Oncidium tigrinum*, fine spikes, *Odontoglossum Alexandræ* and *O. grande*, *Saccolabium bellinum*, *Pleione lagenaria*, *Cattleya Bowringiana*, *Cypripedium Haynaldianum*, very fine and distinct (its use by the hybridiser should be productive of good results), *C. bellatulum* and *Lælia Dormani*, with *Vanda Kimballiana*. Messrs. Lewis and Co., Southgate, also received a silver Banksian medal for a neatly arranged group, comprising *Cattleya labiata* in good variety and capital condition; also *C. Bowringiana* and *Lælia elegans*, with *Oncidium orithorrhynchum* and *O. crispum*, both bearing good spikes.

Other exhibits comprised a fine plant of *Cattleya labiata* from Mr. W. C. Clark, bearing two spikes of six large and finely coloured flowers. Mons. Linden also showed *Odontoglossum Mooreanum* (*tripudians*?), *Cattleya Alexandræ elegans*, paler in colour, but larger than the type, and *Maxillaria callichroma*, with chrome-yellow and maroon shaded flowers. Mr. Little, The Barons, Twickenham, showed *Cattleya labiata* (Little's var.), a very brightly coloured form with flowers of medium size; also *Cypripedium Nicholsonianum*, a form of or closely allied to *C. Rothschildianum*. Sir Trevor Lawrence had *Cypripedium concinnum* (previously certificated), a fine hybrid bearing three flowers on the one spike. Messrs. Heath and Co., Cheltenham, showed *Lælia Euterpe* (*L. crispa* × *L. Dayana*), a hybrid which has quite inherited the distinctive lip of *L. crispa*, but has the other parts of the flower much after *L. Dayana*. *C. Swinburniana* came from the same source. From Mr. G. D. Owen came a lovely form of *Cattleya labiata*, delicate in its colour, the lip having a faint trace of clear lemon-yellow; the flowers of this plant appeared to be hardly fully expanded. Mr. W. W. Appleton exhibited *Cattleya Hardyana*, a fine variety in beautiful condition, also *Oncidium Jonesianum*, a very pretty autumnal variety.

Floral Committee.

First class certificates were awarded to—

ANTHURIUM LINDENI FLORE-CARMEINEO.—A remarkably fine variety, with stout erect spathes of a deep carmine colour, medium in size, the spadix of a pale purplish shade. From Sir Trevor Lawrence.

BEGONIA GLOIRE DE LORRAINE.—A most decided acquisition to the late autumn and winter-flowering varieties, with medium-sized flowers produced in the greatest profusion, the colour a bright rosy pink; in habit and flower it is not at all unlike *John Heal*, and is, we surmise, a hybrid with some affinity to the tuberous section. From Mr. Jennings, Ascott, Leighton Buzzard.

Awards of merit were voted to the following:—

CHRYSANTHEMUM THE TRIBUNE (Japanese section), having pale sulphur-coloured flowers of medium size, with reflexed and broad petals, a distinct variety. Shown by Mr. C. E. Shea, Foot's Cray; by Mr. H. J. Jones, Ryecroft Nursery, Lewisham; and by Messrs. J. Laing and Sons, Forest Hill.

CHRYSANTHEMUM HERBERT FOWLER (Jap.).—A deep yellow, with fluted petals, darker, but of the form of *Sunflower*. From Mr. Owen, Maidenhead.

CHRYSANTHEMUM MISS M. SIMPKINS (Japanese).—An incurved variety with a large and full flower, creamy white in colour, extra fine. From Mr. Owen.

CHRYSANTHEMUM RYECROFT GLORY (dec. Jap.).—A most promising decorative variety with deep golden yellow flowers of medium size, freely produced, the habit good. From Messrs. H. Cannell and Sons.

CHRYSANTHEMUM MME. RICHAUD (Jap.).—A distinct variety with large, bright, rosy pink flowers, very full and reflexed. From Mr. George Stevens, St. John's Nursery, Putney.

CACTUS DAHLIA SIR MOSES MONTEFIORE, an intensely dark new variety, darker than *Empress of India*, and richer in its shading (from Messrs. Cheal and Sons), and Cannell's *Brilliant*, an extremely bright variety, velvety crimson in colour, flowers of medium size (from Messrs. H. Cannell and Sons).

SINGLE DAHLIA MRS. PARROT.—The flowers of excellent form, the colouring irregular, lake and white predominating, very distinct and showy. From Messrs. J. Cheal and Sons.

A silver Flora medal was given to Messrs. Jas. Veitch and Sons for a group of finely grown *Chrysanthemums*, amongst which were many flowers of unusual size and good quality; the finest were Col. B. W. Smith, extra large, full and fine in colour; G. C. Schwabe, also large and very bright; *Bouquet des Dames*, large, massive flowers; Miss Anna Hartshorn, one of the finest whites, pure in colour, and above average size; Wm. Seward, very fine bold flowers; Mrs. C. Harman Payne, with six large blooms on the plant, very fine; Vivand Morel, with magnificent flowers of remarkable size and quality; Edwin Molyneux, very good; W. H. Lincoln, one of the best yellows, extra fine; G. W. Child, rich dark velvety crimson, a fine colour; Louis Boehmer, good; and Mons. R. Bahuant, large and full. Also bush plants in decorative style of O. I. Quintus, a rosy lilac, and Madame F. de Cariel, a terra-cotta colour, a variety of much promise. These made in all a splendid group, and were a very fine feature.

To Messrs. Jas. Cheal and Sons a silver-gilt Flora medal was awarded for a truly magnificent display of Dahlias, amongst which the singles and the Cactus varieties stood out as the finest. Of the former all the best known kinds were represented, many of which are of the firm's own raising. The latter were of very superior quality and in large variety, the colours surprisingly rich and the flowers very fresh. *Crawley Gem*, a deep crimson, with medium sized flowers and dwarf habit, was shown in quantity. Shows, fancies and other sections were also represented.

To Messrs. B. S. Williams and Sons, Upper Holloway, was awarded a silver Flora medal for a large group of exceedingly well-grown and coloured Crotons of useful sizes, from small specimens downwards, the best being Williamsi, Queen Victoria, majesticum, Princess of Wales and Mrs. Dorman. To Mr. T. S. Ware a silver Flora medal was awarded for a fine selection of Cactus and decorative Dahlias in large bunches, the finest kinds being represented. As in other instances, the colours were rich and the flowers fresh and good. Mrs. Peart, a straw-coloured new Cactus variety, stood out as one of the best. With these were a few good examples of *Lilium neilgherrense*, a rarely seen Lily, but a very beautiful one, with pale straw-coloured flowers of large size, tubular in shape.

Messrs. J. Laing and Sons were awarded a silver Flora medal for a well-grown group of miscellaneous stove and greenhouse decorative plants, amongst which were a few Orchids, tuberous Begonias and *Chrysanthemum blooms* being also included. Of the fine-foliaged plants there were good examples of *Dracena Doucetti*. Mr. A. Waterer was awarded a silver Flora medal for *Andromeda arborea* with exceedingly brilliant foliage, and for *Quercus coccinea* of remarkably deep colour; the latter was a very fine example, the leaves being retained in quite a fresh state, although of such an intense colour. A silver Banksian medal was awarded to Messrs. W. Cutbush and Son for a group of *Pernettya mucronata* in the utmost profusion of berry, both light and dark kinds being shown; when grown thus these *Pernettyas* are valuable as late autumn decorative plants. A bronze Banksian medal was awarded to Mr. E. Holden, The

Park, Ealing, for an immense specimen of *Sour Melanie Chrysanthemum* some 8 feet through, bearing nearly 2000 flowers and buds, an excellent example of good culture, the training being free and informal.

Other exhibits comprised several cut spathes of Anthuriums of the large-flowered section from Sir Trevor Lawrence; the finest of these were *A. Andreanum sanguineum* with intensely deep blood-red spathes, and *A. Laingi*, with large ivory white spathes of extra size. Messrs. J. Veitch and Sons showed blooms of *Papaver glaucum* (the Tulip Poppy), with deep scarlet-coloured flowers; also *Begonia Burkei*, a species from Burmah. Messrs. H. Low and Co. had fine examples of *Lilium nepalense*, a splendid Lily of novel colouring. From Messrs. H. Cannell and Sons came a grand display of cut blooms of tuberous Begonias of extra size and fine quality, all colours from the darks to the yellows and whites being represented; with these were Dahlias and several capital cut blooms of *Chrysanthemums*, a Japanese variety called *International* with large, light coloured flowers being one of the best. A bronze Banksian medal was awarded to the above. Mr. Owen staged some grand flowers of *Chrysanthemums* other than those to which certificates were awarded; these were chiefly English-raised seedlings possessing remarkably good quality. Messrs. Keynes, Williams and Co. had several varieties of the single Cactus Dahlias, which bid fair to be capital novelties; the most promising as shown was a yellow called *Meg Merrilies*, with true Cactus character.

Fruit Committee.

There were numerous exhibits both of fruit and vegetables, taking up quite half of the hall. Probably the finest collection of Onions ever staged was put up by Messrs. Deverill, and a very large collection of vegetables came from Messrs. Sutton. The prizes given by the society for Grapes, Apples, and Pears were poorly contested, and only medium quality fruits were staged. This is unfortunate, as with such a favourable fruit season in many parts of the country there should have been a brisk competition for the limited number of prizes offered.

An award of merit was given to—

APPLE BOW HILL PIPPIN.—A valuable fruit on account of its fine brisk flavour. It is above medium size, highly coloured, and of fine shape. It is a seedling between *Blenheim Orange* and *King of Pippins*. From Mr. A. S. White, Bow Hill, Maidstone.

Seedling Melons were sent by Mr. Perkins, Thornham Hall Gardens, Eye, Suffolk, and Mr. Thomas, The Royal Gardens, Frogmore. Seedling Apples came from Messrs. Paul and Son, Waltham Cross, and Cooper, Taber and Co., Rivenhall, Essex. A variety named *Captain Tom* came from Mr. Crump, Madresfield Court, Malvern. It is a variety of local origin, and not much known. Gros Colman Grapes, fairly well coloured, grown on an open wall, berries of large size and of good flavour, and a dish of Tomatoes grown entirely in the open were sent by Mr. Allis, Old Warden Park, Biggleswade. A collection of about 100 dishes of Apples was contributed by the Nova Scotia Government. Some of the fruits were small, and others did not come up to home-grown fruit. Only a few of our really good varieties could be distinguished, such as Cox's Orange, Winter Nonsuch, Beauty of Kent, and King of Pippins. The flavour of these was not of the best. A silver-gilt Banksian medal was awarded to Mr. S. Mortimer, Farnham, for a very fine exhibit of black Grapes, no less than forty-eight bunches being staged; this was a most meritorious collection, as each bunch was good, well finished, and nicely staged. The bunches of Alicante and Gros Colman were large and well coloured; Black Hamburg was also good and of fair proportions. A small collection of Apples and Pears was also staged in front of the Grapes by the same exhibitor, the fruit being good and forming a pleasing finish to the group. Mr. J. H. Goodacre, Elvaston Castle Gardens, Derby, sent a collection of Pears and Apples of

well-known kinds. The best Pears were Thompson's, Vicar of Winkfield, Marie Louise, Marie Louise d'Uccle, Beacon, Marie Benoist, Beurré Bachelier, Catillac, and Pitmaston Duchess. Among the Apples were good Waltham Abbey Seedling, Stone's Pippin, Rymer, Mère de Ménage, The Queen, Peasgood's Nonsuch, Margil, and Adams' Pearmain (silver-gilt Banksian medal). Messrs. Rivers and Son, Sawbridgeworth, sent a collection of Apples and Pears, notable on account of the rareness of the varieties, several being seedlings and of considerable merit. Some of the finest Pears were Triomphe de Jodoigne, La France, Nouvelle Fulvie, Marguerite, Doyenné du Comice, and Beurré Rance. Among the Apples were Bijou, Belle Dubois, very fine; Rymer, Belle Pontoise, Wagener, good; Cox's Orange, Schoolmaster, Peasgood's Nonsuch, and several seedlings (silver Banksian medal). Messrs. Sutton, Reading, occupied one side of the hall with an extensive collection of vegetables. This was a fine exhibit, but marred by a group of huge Cauliflowers, some being past their best and of little value. The Magnum Bonum Cauliflower was excellent, the heads of a nice size, white, and compact. Kales of the curled green type named Arctic Green Curled and Purple Arctic Green were shown in very fine condition; also very fine Early Gem Carrots. This is distinct, and should be excellent for shallow soils, having little core with a great depth of flesh. A large quantity of Sutton's A 1 Onion, selected Ailsa Craig, Crimson Globe, and others were also staged; and a collection of their Snowball Turnip, nice roots of medium size, solid (silver-gilt Knightian medal). Messrs. Deverill staged a magnificent lot of Onions occupying much space. Lord Keeper was extra large, six bulbs weighing 15 lbs. Jubilee was shown in quantity—hard, solid bulbs of immense size; Ailsa Craig, Anglo-Spanish, Rousham Park Hero, Cocoa-nut and others were equally good. A silver-gilt Knightian medal was worthily awarded. A nice collection of Endives was sent from the society's gardens at Chiswick, the Broad-leaved Batavian being staged both blanched and green; this is an excellent kind. Queen of Winter is also a large type, but not so good as the first-named, being more bitter and of looser habit. These were sent to Chiswick by Messrs. Vilmorin, Paris. Broad-leaved Green Batavian, Messrs. Barr's selection, was also very good. This is a dwarf, compact grower, with full heart and readily blanched, of excellent flavour, much like Cos Lettuce. Improved Round-leaved, a very hardy and compact grower, was also shown. A new Savoy named Silver-laced, a variety with white edges, but of no special value from a culinary point of view, was sent by Mr. Carmichael, Edinburgh. A new variety of Savoy, intermediate between the old green Curled and Drumhead, also an early Cabbage called Early Dwarf, with firm, close heads, were shown by Mr. T. Basham, Monmouth.

The prizes given by the society for the best six bunches of Grapes (three varieties) brought only one competitor—Mr. Osman, Ottershaw Park, Chertsey, who was awarded first, having Alicantes, Trebbiano and Lady Downe's. The same exhibitor had the only lot of six bunches for flavour, staging good bunches of Mrs. Pince, some small Muscat of Alexandria and Alicante. For four dishes of dessert Apples and six cooking, there was no competition. For six dishes of Pears there were three lots. Mr. J. Nicholson, Sewardstone Lodge, Chingford, was first, having a nice dish of Beurré Dubinson, a little-known variety, good; Beurré Baltet père and Beurré Diel. Mr. Osman was second, with smaller fruits. Mr. Iggulden, Marston House Gardens, Frome, staged very fine dishes, but overripe.

Mr. A. Dean, in the course of his remarks on the Onion, said that the subject of his lecture was appropriate, as the society had this year an extensive trial at Chiswick, some forty varieties being grown. Some of course were duplicates, but on the whole the rows were very even, the bulbs solid and true to name; indeed, there was great credit due in these trials, as in many places there

had been failures, and the drought was not favourable to the Onions. These Onion trials had been severely handled; some people would not give certificates to varieties if not new, but new or old if good should be recognised. Only seven certificates were awarded by competent judges, and at the vegetable conference at Chiswick in 1889 no less than twenty-two certificates were given. Passing on to varieties, the shape of bulb and colour of skin were the distinguishing features. The green section was very hardy, the Southport Globe or Silver Globe being a grand type. He would not refer to mere names, as there are about a dozen of the distinct Globe section, and these comprised the largest bulbs. He found the white-skinned or flat types were the earliest to decay. Such varieties as James' Keeping, Brown Globe, and Bedfordshire Champion were noted keepers, but why should flatter kinds decay sooner than others? He thought this a point worth attention. He considered the Globe kinds ripened more thoroughly, therefore contained less water. As to soils, a light soil was considered suitable for this crop, but he quoted an instance where heavy clay land had produced at the rate of £20 an acre, so that little could be said on culture. If the soil was light, much treading and rolling were necessary, so that in seasons of drought heavy land was not unsuitable; indeed, if well worked, it would annually give good results. As he had previously stated, there was little to add as regards culture, but no doubt those who grew large bulbs for exhibition went to more trouble, as they could not produce the big bulbs under ordinary culture. Of late years there had been a great increase in size of bulb. He could scarcely call this improved culture, as these large bulbs were not the best keepers; they entailed more trouble, and he questioned if they paid for the labour and expense. To get these extra large bulbs, sowing in heat in January was necessary, gradually hardening off and pricking out on a warm border 18 inches between the rows, and 12 inches from plant to plant. These require very rich soil, abundance of liquid manure, and attention to details. He mentioned several growers who made a speciality of these bulbs, and recently he had had an opportunity of seeing some of the largest ever grown, and here the ground was simply a mass of manure. He would ask what was the market value of such large bulbs, and he failed to see what advantage there was in this fattening process. No doubt Onions after such a season would keep, but it was not always so. Large Onions were only grown for prizes, and if it was not so, they would soon die out. Even for seed or stock purposes medium-sized bulbs were more reliable. We should fight against mere size, as often size meant water and not quality. Onions were liable to several diseases; the maggot was a great scourge. Those who suffered badly would do well to adopt the old plan of sowing in boxes and planting out. It was also essential to remove all traces of disease by burning the refuse of the previous crops. Quassia chips, soft soap, petroleum and soot were excellent remedies; gas lime was also beneficial used between the rows. The Bordeaux mixture also cured mildew, the latter a troublesome pest. He went at length into the various ways of cooking. He explained the formation of the various types, and in doing so discarded those large, coarser kinds.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the floral committee of this society was held on Wednesday last at the Royal Aquarium, Mr. George Gordon occupying the chair. The meeting was largely attended, and there was a very fine display of novelties staged for the inspection of the committee. The principal exhibits came from Messrs. Cannell, of Swanley; Mr. R. Owen, Mr. H. J. Jones, and Mr. N. Davis. Among the best flowers we noted Belle Janne, a remarkably fine deep yellow Japanese, exhibited by Mr. C. W. Knowles, which was commended. Richard Dean, a deep crimson Japanese with

golden reverse, but too closely resembling W. Seward; W. H. Fowler, a perfectly formed flower of the Japanese type, colour deep yellow; Ada Strickland, a deep cinnamon-yellow self Anemone; Mme. Richaud, a Japanese of bright deep rosy blush, reflexed petals, and golden centre, shown by Mr. Geo. Stevens, and commended; G. W. Childs, an American Japanese, of a peculiarly bright chestnut-crimson and golden reverse; and Snow, a large white Japanese with long drooping petals, which the committee wished to see again, and many other good sorts were shown. For the choice collections of new varieties staged at the meeting the committee passed special votes of thanks to Messrs. Cannell and Sons, Mr. H. J. Jones, of Lewisham, Mr. Rd. Owen, Mr. N. Davis, and Messrs. Rochford and Sons, all of whom really contributed to make the meeting a very interesting and unusually busy one.

The following Chrysanthemums were awarded first-class certificates:—

THOMAS WILKINS (Owen).—A Japanese with flat spreading petals, colour deep chrome-yellow.

MRS P. BLAIR (Owen).—A very large massive bloom of the Drover type. It is deep in build, and the inner florets incurve, while those of the exterior are long and drooping; the colour is light purple with silvery reverse.

VIOLETTA (Beckett).—Another very large Japanese with deep drooping petals; colour a soft shade of rosy violet.

Mlle. NATHALIE BRUN (Rowbottom).—An Anemone with a fine high disc, light lemon-yellow, and quilled guard florets of pure white.

TRIBUNE (H. J. Jones).—An American seedling Japanese of globular form, colour light lemon-yellow, rather deeper towards the centre, but very pure in tone.

YELLOW LADY SELBORNE (Rochford).—A yellow sport from Lady Selborne, which was a sport from James Salter about eleven years ago. Certificated as a market and decorative variety.

MME. CAMRON (C. Gibsen).—An enormous flower as shown. It is of the Japanese incurved type, and has long twisted incurved petals, dull chestnut-red inside, but pale straw reverse, the higher tone of colour being almost hidden by the folding over of the florets.

A first-class certificate was also awarded to—CACTUS DAHLIA BRILLIANT (Cannell).—A very fine brilliant crimson flower of the true Cactus type.

The light in the room where the meeting was held was very bad during the meeting, rendering it very difficult at times to form a proper opinion of some of the colours.

NOTES OF THE WEEK.

Apple tree bearing fruit and bloom.—I send you a photograph of a branch of an Apple tree carrying a truss of bloom and a fully developed fruit. It was picked last week. The Apple is a Hawthornden, full-sized, ripe, and full of colour.—W. R. BLOXHAM, *The Gardens, Tapton Grove, Chesterfield.*

A white Tritoma.—*T. modesta* is now in flower here, and a really beautiful plant it is. It is of the purest waxy white, the scape is quite 3 feet high, and the flower portion about 1 foot; the leaves are narrow and the scape very tapering, so it is distinct in every way from the ordinary kinds.—T. SMITH, *Newry.*

Hardy Heaths from Matlock.—Herewith I send you a few hardy Heath flowers. They are the last of the season. I also send a sample of *Kalmia rubra*. It is the second time of blooming this year. Some few of the hardy *Rhododendrons* are also blooming the second time. I suppose it is the extraordinary weather that is the cause.—C. REEVES, *Flash Nursery, Two Dales, Matlock.*

Solanum jasminoides.—This beautiful climber was in full bloom a few days ago in Mr. Kingsmill's garden at Harrow Weald. It was a picture of bloom, and the growth had rambed

considerably, being smothered with the clusters of large white flowers. The position is sheltered and many tender things thrive well. From quite a distance one could see the bold flowers of the *Solanum* standing out against the dark green leafage.

Rhododendron retusum.—Since the first week of September a large bush of this *Rhododendron* has been flowering here with about 200 trusses of ten to twenty flowers each. When so profusely in bloom this *Rhododendron* is very beautiful and valuable, as no other *Rhododendron* is flowering at this season. Why is this fine plant so rarely met with? Its culture is very easy, as it only requires a greenhouse temperature. Even a degree or two of frost does not harm it.—O. FORSTER, *Lehenhof*.

The winter Daffodil (*Stenbergia lutea*).—This was in full beauty recently at The Holt, Harrow Weald, and clumps of it on the rocky were delightful in the bright sunlight of an October day. The soil is warm and the position sunny, exactly the conditions that suit the bulb, as mentioned in THE GARDEN by "F. W. B.," Oct. 21, p. 365, where an illustration of it is given. It is a charming companion to the autumn-flowering *Crocus*, *Colchicums*, and *Cyclamens*.

Anemone japonica var. Lady Ardilaun.—This form of the white Japanese Windflower we noticed in Mr. King'smill's garden at Harrow Weald. It seems to be a really good form and the plant more robust. It remains to be seen whether it will revert to its original form, and we think this probable, unless the plant is grown unusually well. The common white alba or Honorine Jobert is so beautiful and graceful, that it is very hard to get anything better.

Bocconia cordata.—A fine mass of this, which we saw recently in a clearing in the wood in Mr. King'smill's garden at Harrow Weald, showed how much beauty is lost by cutting away the beautiful nut-brown stems of decayed flowers. They are an autumn picture and as pleasing as the gradations of tones one gets earlier in the flowers. The *Bocconia* is a fine plant in a suitable place, the leaves veined, and the spikes of flowers, if not showy, are very charming in the wilder spots of the garden.

Lilium auratum.—I take the liberty of sending you a bloom of this grown in the open ground and cut to-day. I send it not only on account of its size, but as showing that *L. auratum* does as well in the open as under glass. I have had a succession of bloom since the middle of summer—magnificent spikes as well as flowers. The principal petals measured each over 6 inches long and 3 inches broad.—J. B. D., *North Laurielnane, Dumfries*.

* * A noble flower.—ED.

Dahlia serratipetala var.—This comes to us from Messrs. Kelway, and is very bright and singular looking. What a lovely improvement has taken place in the *Dahlia* owing to the *Cactus* and other forms having "knocked the sawdust" out of the old dumpling-like forms. Pretty as they were in their stodgy way, surely no flower shows better the folly of a few men setting up rules that flowers shall be all made like buttons. Alas! poor old Glenny and all the long-clay and gin-and-water set, and all their lost ideas. Happily, the *Dahlia* is ten times better than ever it was under their stupefying influence.

Plumbago capensis in the open.—A few days ago we saw a large number of plants of this in full bloom in the Chiswick gardens, where it is planted in small beds and flowers freely through the summer if the weather is favourable. In wet years the plant runs too much to leaf, but in a dry bright summer, leafage is not produced at the expense of bloom. In Hyde Park and other parks large specimens are grouped on the turf, but we like the *Plumbago* in small beds quite as well, and there is no difficulty in getting a good display. The position must be sunny, not too exposed and the soil light.

The Hop-leaved Vine (*Vitis heterophylla humulifolia*) is very charming in Mr. King'smill's

garden. This is a quick, vigorous-growing climber that might be planted in the place of many common things one sees constantly repeated in gardens. Even the best plants are tires of when present everywhere. The leaves are small and like those of the Hop, as suggested by the English name, the berries of a pure turquoise-blue colour. This climber or creeper is exceptionally beautiful this year through the profuse crop of berries, although it rarely fails to fruit freely. It is also fine at Syon House this year.

Water Lilies in October.—In the future we shall have Water Lilies blooming for quite six months. I did not record the date when the first flowers opened this year, but it was some time during the month of May. The low temperature of the water now prevents the buds of many kinds expanding, but the new *N. Laydekeri rosea* has two brilliant flowers out in this the last week of October. *N. tuberosa* has been opening flowers throughout the month, and the canary-coloured kind has buds showing colour. These if cut and put in tepid water indoors open after a day or two, and, though not quite full-sized, they have all their charming delicacy and freshness of colour.—A. H.

Violets from Wales.—Mr. J. Roberts, The Gardens, Tan-y-bwlch, N. Wales, in sending us a very beautiful lot of these flowers says: "Having to-day (Oct. 24) gathered and sent away some hundreds, if not thousands, of Violet blooms, I find after supplying all commissions that I have still a few left in the bottom of the basket; therefore I take the liberty of sending them to you, well knowing their delicious scent will be highly appreciated by you in town. They are picked from the open off the quarters they were grown on during the summer, which speaks much for the fine autumnal season, and I also trust they are a slight proof of the soundness of my way of growing them I have so strongly advocated in the pages of THE GARDEN. We have had a good supply of bloom—even this scorching summer—since July, and, as the foliage shows, no red spider."

Notes from Almondsbury.—I was pleased to see *Camellia Sasanqua* illustrated. I have had four varieties; one, pure white, I gave to Kew; one perished; one, the variegated form, has made no growth in three years; one is now (October 25) nearly past its best. It stood out all the summer and bloomed in the open on October 1. I feel sure it would make a fine plant to grow in the open. We have had magnificent rains here, more than 6 inches in thirty days. *Brugmansias* are blooming with me for the third time, the yellow and the red forms doing as well as the two commoner forms. I conceive this dry summer and wet autumn will make the treatment of some plants very difficult. *Eremurus robustus* refused to show any bloom and withered away early in the summer. The vigorous leaves now appearing make me anxious lest the spike should also appear, and how to protect that I do not know. *Anemones* are in bloom; *Crocus Imperati* is showing strongly; *Irises* like *aurea* and *Monnieri* are throwing up strong shoots, and a few *Hepaticas* are out. We want a little cold weather very badly down here, or else spring flowers will be soon appearing.—C. O. MILES.

Mr. H. J. Veitch.—La Société royale d'agriculture et de botanique de Gand. At a meeting of this society held on the 16th inst., Mr. H. J. Veitch, of the Royal Exotic Nursery, Chelsea, was unanimously elected a membre d'Honneur in recognition of his services to botany and to horticulture.

The weather in West Herts.—Another warm week, with lower temperatures towards the end of it. During Friday night the exposed thermometer never fell lower than 45°, and on the following day the temperature in shade rose as high as 65°. On the coldest night (Sunday) the thermometer on the lawn showed 3° of frost. The temperature of the soil at 2 feet deep is now 7°, and at 1 foot deep 8° warmer than at the same period last year, but then it must be remembered that October last year proved a singularly cold month throughout. More than 4 inches of rain has already fallen during the present month, of which amount over 2½

inches has come through the percolation gauges—equivalent to 12½ gallons through every square yard of uncropped ground.—E. M., *Berkhamsted*.

PUBLIC GARDENS.

Metropolitan Public Gardens Association.—The Prince of Wales has been pleased to signify to the Earl of Meath that it will afford him much pleasure to accord his patronage to the Metropolitan Public Gardens Association, and at the same time to send a contribution of ten guineas to its funds.

A riverside improvement.—Battersea, which is already fairly well provided with open spaces, is to have yet another. The vestry has lately improved the Vicarage Road, which runs by the side of the Thames near Old Battersea Church. It is decided now to claim the foreshore adjoining the road, and by building a concrete embankment enclose an open space of 2800 square yards. This space when railed in and planted with shrubs and trees will make an open and delightful promenade with a river frontage. The cost is estimated to be £2040, towards which the Metropolitan Public Gardens Association will contribute £1000.

Gladioli in 1893.—Will you permit me to correct an error I inadvertently made in my paper on Gladioli, viz., the statement that Messrs. Kelway and Sou were awarded third prize at the Agricultural Hall; whereas I am informed their collection was not staged for competition.—DELTA.

Names of plants.—*Plant.*—*Sedum Ewersi.*—W. A. G.—1, fine form of *Oncidium Forbesi*; 2, *Ornithocephalus grandiflorus*.—N. B., *Moor Hill.*—*Dendrobium Draecenis*; *Dendrobium Lowi* is a yellow flower with a fringed lip; *Catasetum* species near *luridum*; *Epidendrum longicolle*.—W. Appleton.—1, the *Epidendrum* I cannot name, now at least; 2, *Zygopetalum maxillare*; the *Phalaenopsis Esmeralda* are only varieties.—G. H.—Beans certainly.—C. Dunning.—*Trichocentrum orthoplectron*.—C. S. P.—*Centaurea ragusina*.—C. Gardner.—1, *Coronilla varia*; 2, *Poinciana Gilliesii* (?).

Names of fruit.—G. B.—1, apparently a small *Blenheim Orange*; 2, King of the Pippins; 3, *Yorkshire Beauty*; 5, *Hanwell Souring*; 6, *Ribston Pippin*.—W. Cunningham.—Hoary Moring.—W. J. C.—1, *Uvedale's St. Germain*; 2, *Brown Beurré*; 3, probably *Vicar of Winkfield*; 4, *Doyenné du Comice*.—W. Thompson.—1, *Golden Noble*; 2, not recognised; 3, *Round Winter Nonsuch*; 4, *Vicar of Winkfield*.—A. H.—1, *Swan's Egg*; 3, *Emile Bivort*; 4, *Duchesse d'Angoulême*; 5, *Comte de Lamy* (?); 6, rotten; 10, *Pearson's Plate*; 11, *Bess Pool*.—W. G. Novell.—1, *White Doyenné*; 2, *Beurré Bachelier*; 3, *Beurré Diel*; 4, *Souvenir du Congrès*; 5, *Beurré Superfin*.—H. Prothero.—1, send better specimen; 2, very small *Adams' Pearmain*; 3, *French Crab*; 4, looks like small specimen of *Golden Noble*.—T. Denny.—*Pear Baronne de Mello*; *Apple next week*.

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"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

ORCHARD AND FRUIT GARDEN.

EFFECT OF HEAT ON PEARS.

A HOT summer is undoubtedly most favourable to the production of extra fine clear-skinned Pears. During the average British summers it is only in favoured localities and under high culture that they attain anything like their full size or are so attractive in appearance as could be wished, though the keeping and eating qualities of the under-sized fruit may yet be perfectly satisfactory. All things considered, however, it is doubtful if we are the gainers by the improved size and appearance of the fruit this season, as far at any rate as the bulk of Pears obtained from wall trees is concerned. In many cases there is little or no improvement observable in the quality of the fruit, and even if the fruit were rather more luscious and richly flavoured than usual, this gain would have been more than counterbalanced by the trick nearly all have developed of ripening too soon and keeping badly afterwards. When Pears are most wanted, or, say, during November, December, and January, there will not be many available, that is, unless some of the naturally late varieties keep very much better than they give promise of doing. At the time of writing this (October 14) we have not a sound fruit of Marie Louise left, Beurré Hardy, Brown Beurré, Louise Bonne of Jersey, Pitmaston Duchess, Comte de Lamy, Conseiller de la Cour, Marie Louise d'Uccle, and several other varieties that ought to be available to the end of October, if not later, being also either used or spoilt. Beurré Diel is coloured and will soon be at its best, and so also are Hyshe's Prince Consort, Duchesse d'Angoulême, Beurré Clairgeau, Durondeau, and Van Mons Leon Leclerc. Winter Nelis, of which excellent crops were stored, is likewise, I regret to observe, beginning to soften, and late-gathered Doyenné du Comice will scarcely keep till the second week in November.

There are, however, a few varieties of which I hope better things. A hot summer evidently suits Glou Morceau, Easter Beurré and Beurré Rance admirably. With us these are usually badly spotted, the fruit being attacked by one of the Cladosporiums or fungoid diseases so difficult to combat and very hard of prevention. Instead of being disfigured by these black patches, and badly cracking in the worst cases, the fruits are perfectly clear skinned and of large size. Even Glou Morceau in the open has done well, good gatherings of fairly large, clear-skinned fruit being had from our pyramids. It is my belief the quality of these three varieties will prove better than usual, and in any case those who have a good supply of them will have every reason to be well pleased that they have not destroyed their trees owing to previous disappointments. With me Josephine de Malines is generally presentable from wall trees, but the crop is heavier and the fruit finer than has been the case for several years past. The question now arises, ought we not to pay greater attention to the cultivation of the last four varieties I have alluded to? Instead of the trees of these good old sorts being relegated to

the coldest walls and the open ground, they ought really to have the warmest positions that can be assigned them. With me much the best crops are had from trees growing against a high wall facing south-west, and which was previously occupied by a long row of comparatively valueless Fig trees. Glou Morceau nearly always does well against a wall facing south-east, and in spite of the poor opinion Mr. Blackmore has of this variety, I would yet advise planting it most extensively against moderately warm to quite the sunniest walls. Pyramids, if planted in a warm part of the garden and kept rooting near the surface, also crop freely, and the fruit, if sometimes spotted, is yet of excellent quality. As much cannot be said of Easter Beurré, as there are seasons when the fruits are never really good, being somewhat dry and mealy. It is a late variety, however, and fills up an awkward blank at times. I do not say plant it extensively, but give it a good trial, preferably on the Pear stock, and in a warm position. Josephine de Malines sometimes fails to ripen at all unless the fruit is subjected to a dry heat for a few days before it is wanted for use, but this treatment will scarcely be necessary this winter, and I also anticipate a treat as regards quality. That Beurré Rance does best in warm positions and favoured localities is demonstrated by the fact that it is by far the best late Pear grown in the neighbourhood of Bath. Fruit from one large old tree has been repeatedly shown and invariably took the first prizes at both the bulb show and also the May show when these used to be held at Bath, good quality being the test. It is anything but attractive in appearance even when ripe, but is juicy and fairly melting, keeping, as before hinted, remarkably well after it is ripe. In Essex I have seen really good crops gathered from standard or orchard trees, the crops being particularly heavy this season, while the quality is generally passable. On our heavier soil the fruit from trees in the open and cool sites generally is liable to crack badly, and that is my principal reason for assigning the trees warm positions. Beurré Sterckmans is not so free bearing as the foregoing, otherwise it would be a worthy companion. According to the "Fruit Manual," it is an abundant bearer, succeeding well on the Quince. My only tree is a three-branched cordon on the Pear stock, and it only bears a crop occasionally. Instead of ripening in January I am afraid our fruit will have to be used in November. There is yet another old and somewhat despised variety that the hot summer of 1893 has developed to an extra large size, and, as it happens in this case, done exactly what was desired. I refer to Ne Plus Meuris. Unless this variety can be grown to its full size, the individual fruits weighing on an average say about 9 ozs., they are largely composed of core. Given the benefit of a warm wall and good root culture, the Pears, which form in great clusters, being also freely thinned out, will attain a good size, the quality being passable during January and the next two months. On a tree against a north-east wall the fruit was too small to be of any value, and it is a warmer site the neglected Ne Plus Meuris should receive.

Assigning late Pears the warmer sites may necessitate the removal of early and successional varieties to cooler positions, but it does not necessarily follow that this is greatly to their detriment. As a matter of fact, too much of the best wall and garden space is devoted to early and successional Pears, to the almost complete exclusion of the more needed later varieties. If this were not the case, there would be far better stocked fruit-rooms than at present,

the weakness of the prevailing fashion becoming still more apparent long before November is past. The fruits of Jargonelle, Williams' Bon Chrétien, Beurré d'Amanlis, Beurré Superfin, Marie Louise, Louise Bonne of Jersey, Doyenné du Comice, Pitmaston Duchess, Durondeau, Beurré Hardy and such like may not be so fine and clear-skinned from pyramids, bushes and standards as they are from wall trees, but there is ample compensation in the shape of heavier crops of richly flavoured fruit, the quality not unfrequently proving much superior. The fruit generally produced by trees in the open during 1893 was finer than usual, but at most other times it is quite large enough for all ordinary purposes, and why, therefore, continue to let those varieties that do not require so much heat occupy the positions that the extra heat of the past summer has amply proven would be all the better for more warmth!—W. I. M.

Notwithstanding the clean and fine appearance of Pears this year, the fruits are keeping badly after ripening. This, combined with their earliness, is a serious matter to those who have to keep up a varied supply of dessert fruit during the winter months. Unless some kinds, which usually are only fit for stewing, ripen up sufficiently for dessert, I shall be practically without good Pears by the end of November. Even now I have plenty of that good old stewing Pear Vicar of Winkfield quite ripe and buttery, with no grittiness. The flavour is by no means rich or pronounced, but many worse Pears have before now had to play their part as part of the dessert. Already I have almost finished the following varieties: Beurré Clairgeau, Beurré Diel, Brown Beurré, Conseiller de la Cour, Doyenné du Comice, Duchesse d'Angoulême, Pitmaston Duchess, Forelle, Knight's Monarch, Louise Bonne of Jersey, Marie Louise, Marie Louise d'Uccle, Napoleon, and Thompson's, to say nothing of earlier kinds. Seasons like the present go far to prove your contention (which was published in a somewhat similar year, viz., in 1887) that we are overburdened with kinds of Pears, most of which are far from good. This is certainly the case with midseason fruit. Late kinds I find to be either very shy bearers or of very poor quality, and only fit for stewing. The ground on which the trees stand would be better employed in growing recognised stewing kinds which bear good crops of large fruit or in growing good Apples.—J. C. TALLACK.

Apple Golden Harvey.—With early Apples and Pears keeping badly, good late kinds are sure to be doubly valuable. The useful little Apple mentioned above is larger and better in appearance this year than I have ever before had it. Last winter I had a very large and handsome old tree of this variety well thinned out, as the branches had become very thick and the fruiting spurs long and straggling, so that the fruits were very small and insignificant looking, giving a lot of trouble when picking. The improvement is so marked, that I hope to do some further thinning when the crop is off. I estimate the present year's crop at from six to eight bushels, and almost all the fruits are of a very useful size. They will be very useful when all but the latest kinds are over.—J. C. TALLACK.

Manuring Strawberry beds.—To get fine fruit it is necessary to feed, and when the plants remain more than one season in one place it is of advantage to mulch at this season. I have noticed on light thin soils that the plants suffered much by drought this season and are much weaker than usual, so that it is more than ever necessary to give some support to plump up the crowns for next season's fruit. In many instances the quarter is patchy, and before mulching is a good time to make any losses good, taking care when planting to firmly tread round the newly-planted roots, also to firm light soil by treading before planting, as this prevents injury by frost and creates a sturdy growth. The late autumn rains well wash the

manure down to the roots, and the small portion of fine material left will serve as a protection to the roots in severe weather. When manuring at this date it is essential to use rich or well-decomposed material, strawy litter being of little use now. Before mulching I would advise a slight hoeing between the rows to get rid of weeds, removing also old or useless leaves and thus making the beds neat for the winter months.—G. WYTHES.

GRAPES NOT KEEPING WELL.

CAN you give me any information respecting the Grapes enclosed? I took charge of the Vines about a month ago, and finding the Grapes were shanking and shrivelling very badly, I examined the border, which I found was very dry from top to bottom. The border is inside and out on the ground level, about 2 feet deep, resting on the solid limestone rock. The house is a lean-to facing west, about 100 feet long, and glazed with rolled glass a quarter of an inch thick. The front ventilation is obtained by small shutters 18 inches by 6 inches, 6 feet apart. All the top ventilation that can be put on is 6 inches, which runs the whole length of the house. A soaking of water was given to the Vines on Oct. 4. The ventilation is open day and night, and if at all damp a little fire is put on to keep the house dry. Some of the berries have small drops of purple juice oozing from them, some are split across, and when the bunches are cut most of the berries drop off. The Vines have finished growth; the leaves are yellow, covered with red spider and mealy bug. I thought the cause was owing to the Vines being kept so dry and then having a supply of water started the sap again, and there being no growth to carry it off it flowed to the bunches. The bunches that were shrivelled are quite plump now, but of no good, as you will see by the enclosed. The house has been filled with plants for about ten days.—A. G. H.

* * The cause of the Grapes cracking and the berries afterwards dropping from the bunches is the ultimate result of excessive drought during the intensely hot weather towards the latter end of the summer. The watering afterwards given was without doubt essential to the health of the Vines for another season; this, as described by "A. G. H.," caused the berries to plump up again after having shrivelled when the border was dried up. The leaves at the time through not being in a healthy condition could not take up the sap which was again set in motion more actively; hence it flowed to the berries, and when these were swollen up again to their full capacity the cracking commenced. The case in point is an illustration of the old saying, "Of two evils choose the less;" the lesser evil has resulted in the decay of the berries, the greater evil would have resulted in the weakened condition of the Vines another season. Such instances will at times occur, making it extremely difficult how to act for the best. The after treatment could not, I think, be improved upon from the description given. I would advise the continuation of a gentle warmth in the pipes as one of the best remedies. Probably the worst of the case has already been seen, and that some at least of the bunches will survive. By the further information as regards insect pests, it is evident that the previous treatment was far from what it ought to have been, independent of the dry state of the border. The insects would weaken the foliage and render it less capable of taking up the additional flow of sap, and from the description of the leaves as being "yellow," the lateral shoots would presumably be in the same state with no real growth. The amount of ventilation at the top of the house does not appear to be sufficient to meet the case. Additional ventilation in the back wall would undoubtedly be desirable before another season. This instance of Grapes not keeping well induces me to relate my own experience of the past two seasons, the result of which has solved in my mind one at least of the causes of shrivelling. About this time last year my Vines in the lateinery were carrying rather too heavy a crop of fruit; the consequence

was the colouring was longer about than I thought desirable. In order to render assistance, the fire-heat was kept up longer than usual. This ultimately produced shrivelling, more particularly in Lady Downe's Seedling, this being the variety carrying the heaviest crop. The Vines in this case were healthy in every way and the border as moist as was desirable, but with the extra late firing the growth continued longer than it should have done; and when the roots were not so active, through the border, an outside one, being cooler, the leaves drew without a doubt some of their sustenance from the berries themselves. I thought this matter out for some time, and could come to no other satisfactory conclusion than that the leaf growth had robbed the bunches. This year I resolved to reduce the lateral growth in good time, and gradually remove it so that only the main shoots with about two leaves beyond the bunches were left. Less firing was also needed, this of course being explained in a measure by the condition of the weather. The border would have had another watering had the manual labour and convenience been sufficient, but, as it was, I do not think it actually became too dry. The result has given me every satisfaction; there is no sign of shrivelling, and the fruit keeps well in every other respect. Proportionately I have a heavier crop of Grapes fit for the table than last year, the berries individually larger and the colour excellent. This instance has convinced me that one at least of the causes of shrivelling has been unravelled in a satisfactory manner. I have no doubt others have had similar cases to contend with. Only last week I saw two of our finest autumn Grapes exhibited in a shrivelled state; these were Muscat of Alexandria and Mrs. Pince's Muscat. I can only surmise of course as to the cause, but I think it may be plainly put down to one of the two described—either drought, as in the case of "A. G. H.'s," or, as in mine, through the leaf growth robbing the fruit. I am quite convinced that with late firing and too much leaf growth there is a great danger of shrivelling. It is only natural, if viewed in a practical light, that the foliage when excessive would, as the roots become less active, rob the bunches. By the early removal of lateral and sappy growth this is prevented. In support of this, it should be borne in mind that it is not the fully matured leaves that take the most sustenance late in the season, it is rather those of later formation. To prove this one has only to cut examples of each and see which will wither up the first under similar conditions. There is an additional cause in "A. G. H.'s" case that should be noted; it is more than likely that through the previous drought and the presence of the insects the fruit had not arrived at a state of maturity. The skin would in such a case be thinner and the flesh more watery. I have noted more than once that Black Alicante conforms to this description when not thoroughly ripened. When well managed in other respects I have never found it necessary to cover borders so as to ward off the autumn rains, and I very much doubt if it ever need be done at all. I hope other observant readers will give their opinions on this subject for one common good.—VITIS.

A PLEA FOR SECOND-RATE PEARS.

LOUISE BONNE OF JERSEY, Marie Louise, Doyenné du Comice, and the delicious Thompson's possess every good quality that is to be expected in a Pear, but then even in ordinary seasons, and more particularly in the present exceptional one, all or nearly all of these will be clean gone long before the month of November is over. I admit there are other good sorts which ripen at a later date, but most of them are somewhat capricious in growth, and will not grow everywhere. Of these, Winter Nelis and Glou Morceau are amongst the best, but both require a light sandy soil, resting on a perfect drainage. The latter grows and fruits best in gardens close to the sea, the finest examples I have ever seen having been at Gunton Park and Blickling Hall, Norfolk. It does constantly and well in our own garden, but in a

garden some four miles from here, and planted in a holding loam, it fails, and is doomed to be headed back and grafted with other varieties. It is a mistake to allow all the best walls in any fruit garden to be entirely occupied by such varieties, however good they may be, that will only tide over a portion of the winter to the utter exclusion of later sorts, which after all have to come to the rescue, and help us out in time of need. My experience proves that circumstances alter cases as much in fruit culture as in any one thing, and that as soil, situation, and general surroundings influence in a great degree both the growth and flavour of Strawberries and Grapes, so do they in an equal degree both the growth and flavour of Pears. I know that Beurré Clairgeon, Vicar of Winkfield, and the old Beurré Rance here had hard things said against them from time to time, but I for one cannot afford to lightly regard them, inasmuch as, favoured with a southern or western aspect, planted on a somewhat elevated position in a warm and genial soil, and further judiciously nourished by manurial waterings, they have produced fruit which has often stood us in good stead by bridging over a period of scarcity.

Many would, I am sure, be astonished were they to give these second-rate sorts the treatment above referred to, so great is the change wrought in them. Moreover, fruit is often found on these when after an untoward spring it is looked for in vain on the higher class, but more delicately constituted varieties. So much then for second-rate Pears from a dessert point of view.

Speaking now of their value for stewing, I would ask what is more delicious and refreshing than a dish of these prepared by an experienced and competent cook? Why, then, should they be planted, as more often than not they are, behind north walls, or in some other unfavourable situation, where the sun's rays and southern breezes, which are alone capable of laying on luscious pulp and of developing the flavour, never reach them? I apprehend that after such a superabundance of sap as we have had during the past summer, our stewing Pears will be richer and better than ever—at least, where they occupy respectable positions—and that hoping for a continuance of it in the seasons that lie before us, those who are rather partial to them will throw more and more enthusiasm into their culture. Finally, I would say, plant Pears of the richest flavour by all means, even though their fruits be of short duration, but do not ignore those which, if only second-rate, often fill a blank.

JOHN CRAWFORD.

Coddington Hall, Newark.

Late crop of Raspberries.—In addition to the ordinary autumn-fruiting Raspberries doing better than usual this season, all the other varieties are also producing ripe fruit freely. We have gathered several quarts of large full flavoured fruit, and there are many more to ripen. They are produced by the young canes in some instances at the points, but principally about three-parts up the stems. Not being very thickly produced by the individual canes, I do not anticipate any ill effects from this abnormal state of affairs, though the precaution will be taken of laying in rather more for next season's fruiting in case they break irregularly. Unfortunately, our Red Currants are not keeping well, or otherwise the popular mixture of these and Raspberries would have been more often sent to the table this autumn.—W. I., Somerset.

Apple King of the Pippins.—Years ago, before so many new varieties came into general cultivation, I used to say if I had to choose one Apple to the exclusion of all others for propagation, it should be King of the Pippins (or Prince's Pippin). Although I may not hold to that opinion now, it has still so many recommendations, that a place should be found for this variety in every garden, plantation and orchard. When well grown, of good size and colour, growers for market will find a demand for any quantity they may produce. I have had returns up to 32s. per cwt. for prime samples. As is the case with fruit in general this season, the quality of this Apple is much better

than usual. Unfortunately, it is an off-year with me, the crop having been unusually heavy the last season. The tree is a strong, upright grower and does equally well as a standard, pyramid or espalier. When the wood is liable to canker, which on some soils it is, as little pruning as possible is to be recommended; but where pruning is really necessary, the shoots should be cut clean away in preference to shortening them, as the latter is apt to induce a lot of young sappy growth, which is frequently killed by the frost, giving the tree a very cankered appearance. Seek-no-Further is somewhat similar to King of the Pippins, but inferior as regards flavour and keeping properties. —E. W. B.

MONSTROUS PEARS.

VISITORS to the last of the exhibitions of hardy fruit at Earl's Court must have been interested in the great size of very many Pears there shown. But so little do the leading salesmen in Covent Garden Market care about having them, that they could not be induced to fetch one of the best exhibits at Earl's Court. A few extra fine Pears are seen in shop windows, and also as centre dishes at banquets, but no fruit should be put on a table that is not fit to eat. Even if large Pears were in demand, the Jersey growers have such an advantage in the important matter of climate, that those who are situated on this side of the English Channel cannot hope to eclipse or even equal, as far as great size is concerned, what is sent across in large quantities. Quite recently a Jersey fruit grower said that English growers knew next to nothing about Pears, and boasted of having fruit of Doyenné du Comice 3 lbs. in weight. Some of the more delicious Pears we own are very small ones, and we think many persons who have to eat them prefer them of convenient size rather than as big as a small ham. Doyenné du Comice, Pitnaston Duchess, Duchesse d'Angoulême, Glou Morceau, Easter Beurré, Beurré Diel, and Chaudmontel are all very extensively grown in Jersey for the London and provincial markets, and, thanks to careful packing, arrive in excellent condition. The question is, however, who eats them? They are distributed and do duty at various luncheons and dinners, and on side tables at restaurants, but they are of such dimensions that very few people venture to eat them—more probably being spoilt by being kept about too long than there are eaten.

In the more favoured parts of England it is possible to grow remarkably fine Pears, and, as a rule, of superior quality to Jersey fruit; but it is to be hoped that the more serviceable varieties and ordinarily good cultivation will not generally be superseded in favour of large and often ill-flavoured fruit. What are most wanted are small or medium-sized and well-flavoured fruit. Such a variety as Marie Louise is worth a dozen of these large, over-grown fruit. Wall trees, pyramids, bushes and standards under ordinarily good cultivation rarely fail to produce fruit of the best quality freely. In Louise Bonne of Jersey we have another very handsome and sure-cropping variety, and, though the flavour is not always approved of, there are plenty who do like it. Both Beurré Brown and Beurré Hardy are suitable for all methods of culture, and these good sorts ought to be included in most collections. Comte de Lamy, not being a large variety, is too often overlooked, yet it is one of the most delicious Pears in cultivation, being perhaps a trifle too sweet. British Queen, which also ripens in September and October, is somewhat neglected, owing to being rather small, yet it is remarkably sweet, especially from trees against a sunny

wall. Large varieties are also crowding out the good old Fondante d'Automne; but this ought not to go on. Emilie d'Heyst, to which nearly all the foregoing remarks apply with equal force, ripens later. Thompson's, another October Pear, does not succeed well other than against walls; but it repays for being thus grown, as it is one of the very best-flavoured varieties. Passe Colmar is still to be found in gardens where good quality is preferred to great size, and those who have large old trees of it will this season have good reason to be thankful. It should have wall protection, and is early productive on the Pear as well as on the Quince stock.

There are a few still smaller varieties that ought not to be ousted out of cultivation, foremost among these being Winter Nelis. Given the benefit of a wall with any fairly warm aspect, the trees of this excellent small Pear never fail to bear very freely. This season the fruits are particularly good, and will be of first-rate quality in November. If Jersey growers would turn their attention to the cultivation of the last-named and also Josephine de Malines, sending both over in large quantities in November and December, they would find a ready sale for them. Josephine de Malines is essentially a wall Pear, the habit of growth not lending itself to open gardens. Both the old Bergamote Espere and Olivier de Serres are much neglected in favour of the large-fruited varieties, but they are good Pears. In all probability they will be amongst the very latest to ripen this season, and, if they are small, will be welcome next March and April. Instead, therefore, of raisers of novelties and planters generally turning their attention to none but large Pears, they will do better service by looking up the smaller sorts. The proper and only course is to grow well-flavoured Pears that ripen in England, and not Pears like Duchesse d'Angoulême, which rarely ripen in England, however good they may be in other countries. People say that they grow these Pears for stewing—as if it were worth while for anyone to grow more than one Pear for this purpose.—*Field*.

LIFTING FRUIT TREES.

THE lifting of fruit trees is often overlooked, and many good fruit growers object to this. I question very much if the term lifting is not often misapplied, and root-pruning practised instead. I think there is no surer or safer system than lifting or relaying nearer the surface the roots of gross-growing trees. I am fully alive to the serious difficulties of root-pruning in the case of old trees with only a few large roots deficient of fibre. The safest method is not to allow too long a time to elapse in the case of young trees before lifting is undertaken; then I contend the work is beneficial. We see this work going on continually in our large fruit tree nurseries. It is quite impossible to have a mass of fibrous roots unless lifting is done when required. It is clear to everyone that the greatest success is obtained where lifting is systematically carried out, as such trees being a mass of fibrous roots rarely fail when planted often in adverse soils and with only scant attention. With large trees root-pruning needs special care, and I have secured the best results by doing the work piecemeal. When the Pear is grafted on the free stock, a coarse, gross growth results. This is often aggravated by hard pruning, and when severely root-pruned there is a total collapse. With large trees much may be gained by doing the work by degrees, and I am a great advocate for lifting as early in October as circumstances will allow. Of course the season, state of soil, and other details must be taken into consideration, and just now everything is favourably for lifting trees. We have had some very heavy

rains that have made the soil suitable for the work. Two years ago I root-pruned a large Beurré Diel Pear tree half round and completed the other half last year. This year it has done grandly, giving a heavy crop of very fine fruit, clear-skinned and of perfect shape. To have lifted or root-pruned so old a tree all at once would doubtless have ended disastrously. Trees often get too low down, but it is an easy matter to bring the roots nearer the surface, and they remain there if given good food in the way of fresh loam. One of the great advantages of lifting young trees is that the roots can be brought nearer the surface. Apples on the Paradise stock should get similar treatment, doing the work before severe weather sets in. I prefer to lift Cherries, Apricots and Peaches in October, as there is then little fear of loss of vigour. After lifting, mulching is important, but in no case should manure be incorporated with the soil for young trees, as it is far safer to apply it to the surface. G. WYTHES.

PEACHES IN THE OPEN AIR.

"D. T. F." on p. 354 rather surprises me when he says that an east wall for Peaches has been looked on as a certain road to failure. I certainly cannot boast the same length of experience as "D. T. F." in Peach growing, but that which I have gained in several good gardens convinces me that an east wall is better than a west one for Peaches, Nectarines, or Apricots. In these gardens there is a Peach case 180 feet in length on an east wall, the trees in which, although it is unheated, bear heavy crops annually; the only difficulty experienced is when the trees are in bloom. In a cold house there is the risk of the flowers being injured by frost, which in some springs is very severe about the time the Peaches are in bloom. If the genial west is so much more preferable, why was it this house was built over thirty years since on the eastern side of the garden when the same extent was available on the opposite side? On the lofty west wall the sun shines but a short time in early spring when the trees are in bloom, and without this aid they often set indifferently. In my last situation a Peach house facing west gave a deal of anxiety at the time the flowers were setting, and, indeed, before that time, for all the trees had a great tendency to cast their buds on the first movement of sap. If this occurs under glass where the trees are assisted by fire heat, is it not feasible enough that the same failing will happen outdoors? In my first charge I had trees on south, east, and west walls, and, therefore, ample proof for comparison was furnished, and, as I intimated in my previous article, there was less blight on the trees facing east than on others with a southern exposure. I could point to one instance where south and east walls are completely furnished with Apricots from thirty to fifty years old, which seldom fail to bear well; and another instance I know of where Apricots furnish but indifferent crops on a west aspect, so much so in fact, that the space is fast being filled with Pears. I may be reminded that Apricots are not Peaches, but "D. T. F." will, of course, admit that the same favoured positions are needful for the one as the other.

I can give yet another instance of the greater length of sunshine, or at least the favourable influence of sunshine, obtained from east over that of west walls in the earlier ripening of Plums. We have trees of several sorts growing on both sides in duplicate, including Kirke's, Jefferson, Washington, Green Gage and Pond's Seedling, which not only were earlier in maturing, but were of better colour and larger sized than those gathered from the west side. All these facts seemed to point out that the east wall was more favourable than the west one for open-air Peaches, and I certainly did not expect that the experience of other growers would differ from mine in that respect. South walls are not always available for growing outdoor Peaches, because usually a large portion of these is utilised for the erection of fruit and plant houses, and this creates the necessity of using the warmest portions of the east and west walls

for these tender crops. As regards extremes of pruning, I am no advocate for either, nor do I practise it, but I am in favour of the dis-budding being carried out in such a manner that the growth remaining has sufficient space to develop without any crowding, and if the bearing wood is cut away as soon as the crop is gathered, it must effect a good as well as a two-fold purpose in relieving the tree of the unnecessary strain in maintaining useless branches, and exposes that which is to furnish the next year's crop to sunshine in order to bring about a proper maturity in leaf and branch. In doing this no extremes need be permitted, because if disbudding is well done in spring and summer, there will be no pruning away of waste growth other than that which has done duty in fruit bearing. Individual judgment alone must govern the details in pruning and training, there being no general regulation standard as to what should constitute a proper distance for training the growths asunder, opinions differing in this matter, although I think the crops under notice would be greater if crowding of the trees was less frequent.

W. STRUGNELL.

Rood Ashton Gardens.

NOTES OF THE WEEK.

Single Dahlia Mrs. Bowman.—This is one of the finest single kinds for effect. A large bed at Kew has been bright with the large rose-purple, smooth, well-shaped flowers until recently. Many of the single Dahlias are of this shade of colour, at least similar, but not so bright and pure as in this variety.

An October gathering of Raspberries.—I have to-day (October 31) picked 7 lbs. of good fruit. Previous to this I have been picking daily for dessert, and should the present fine weather continue I shall be able to gather for a considerable time yet, as there still remains a good crop.—H., Witney, Oxon.

Schizostylis coccinea.—It is not often one sees this fine plant grown better than at Syon. When there a few days ago we noticed several specimens in $4\frac{1}{2}$ -inch pots in full bloom, and the Gladiolus-like spikes of carmine-rose flowers are very bright. In favoured spots in the more southern counties of England it may be grown in the open.

Trichosma suavis.—This is a delightful Orchid, easily grown and very robust. A plant in quite a cool house at Syon carries ten sturdy spikes, and only in a $4\frac{1}{2}$ -inch pot. The flowers, borne closely together and deliciously fragrant, are ivory white in colour, the lip yellow on the side lobes. It requires little heat, and is a good Orchid for amateurs.

Cereus hexagonus is not a plant for ordinary gardens, but it is interesting to know that the immense specimen towering up many feet in height in the conservatory at Syon House is blooming freely. The long gaunt stems bear very large flowers of a creamy white colour, and individually are extremely handsome. This *Cereus* was introduced from Surinam in 1690, and the specimen at Syon is probably the finest in the country.

Pernettya mucronata.—In Mr. Kingsmill's garden at Harrow Weald there is a large bed of *Pernettyas*, and the plants are covered with berries, the pink variety in particular. We have noticed how freely the *Pernettya* is fruiting in other places this year. There is a long list of varieties, the berries ranging in colour from white to deep purple. The soil must be peaty or of a loamy character, and if too heavy be made light by the addition of well-decayed leaf-mould.

Tropæolum Fireball.—As a greenhouse climber in the winter season nothing could be brighter than this *Tropæolum*. It is commencing to bloom freely with Mr. Wythes at Syon, and

before spring the growth will have entirely covered the rafters, being smothered with the deep scarlet flowers. The way to treat it is to put in cuttings in March, stand the plants out during the summer, and transfer to the greenhouse in September. The brilliant flowers are of much value for decoration, and the only drawback near London is the injury fog inflicts upon them.

Asparagus plumosus nanus.—It is not often that this is seen seedling freely. At Messrs. Miles' nursery, Hassock's Gate, I saw two plants seedling freely. I was under the impression that it was only in a dry atmosphere that the plants would seed, but those in question were growing in a moist stove. I have seen plants bloom freely under the same conditions, but all the flowers have fallen off. I also find it difficult to get *Asparagus decumbens* to set, although the plants bloom freely enough.—F. H.

Amasonia punicea is very handsome at this season of the year. We noted a number of plants in full beauty a few days ago in Messrs. Veitch's Chelsea nursery. It is a pity this fine plant is not more grown in private gardens, as it remains in perfection a considerable time, the bracts, arranged in pairs, being of a brilliant crimson colour, and the tubular flowers pale primrose. A warm temperature is necessary, as it comes from British Guiana, from whence it was first introduced in 1825. It was lost to cultivation, but was reintroduced.

Choisya ternata.—We noticed this blooming freely recently at Kew, where a large bed near the pond is planted with it. It is not, however, a shrub that can be recommended for general planting, and, except in the extreme southern counties of England, it should be grown against a wall. It grows quickly, and the fragrant pure white flowers are in exquisite contrast to the wealth of foliage. It often succeeds in northern counties where the position is very favourable, but as a rule it should have the shelter of a wall. The position must be sunny to well ripen up the growth, and either in a bold mass or singly the *Choisya* is effective.

Cypripedium inaigne is one of the most interesting Orchids in bloom now. It is an old and familiar kind, but not too much so for a note when a mass of it is seen in bloom. This is the case at Syon House, where Mr. Wythes has a large number of plants in full beauty. We may remark that they receive no fire-heat whatever, except a little in the winter to dispel damp, and that this treatment is suitable is evident from their appearance. Of course they are not exposed to actual frost, although bordering upon it. In the summer months they are grown in a cold frame. The *Cypripedium* is one of the only Orchids practically unhurt by fogs. Amateurs should treat *C. inaigne* more as a hardy plant, and not coddle it in warm houses.

Vine with crimson leafage.—In THE GARDEN of October 14 (p. 353) I observe a notice of a Vine growing at Chiswick under the name of Tra-hurrier with crimson leafage. I think this must be a Vine which I sent to the Royal Horticultural Society some years ago, and which is remarkable for the beauty of the autumn foliage. The true name is Tinturier. The Grapes produced by this Vine contain a juice so deeply coloured, that it is easy to write with it by simply dipping a steel pen into the Grape. This Vine is well worth growing in the open air in the south of England for the sake of the beautiful foliage, but it should be worked on to a strong stock such as Muscat of Alexandria or, better still, on to a wild American stock such as Othello, Riparia, or Noah, which are strong growers and resist several degrees of frost.—A. W. TAIT, *Oporto*.

Saxifraga Fortunei.—A few days ago several plants of this were in full beauty on the Kew rockery. It is the latest species to bloom and is really a delightful plant, the white flowers being produced in long panicles, which spring from the rosette of foliage. Usually it gets cut down by frosts, but less than a ago week it was in perfection in the open. Such a Sax'frage is worth

growing well in pots, and a few examples in the greenhouse in November or December would create variety. There is too much sameness in the plants used as a rule in greenhouses. An interesting note appeared on this Saxifrage in THE GARDEN, November 26, 1892 (p. 471). It there was said that S. Fortunei enjoys division every two years. The reason why so many plants suddenly collapse is often because "the big white grub of the coal-black weevil eats its way up and scoops out the vital part of the crown." S. Burseriana is often troubled in the same way. The remedy advised is to repot or transplant a portion of the stock annually, preferably about the month of August. After the roots have been thoroughly shaken out they are not only cleared of the pest, but have time to get established again before the winter.

Angræcum pellucidum.—This very interesting and uncommon Orchid is flowering now in the Kew collection. It is, perhaps, the smallest-flowered of the *Angræcums* worth cultivating, the flowers individually being about a quarter of an inch in diameter. They are, however, produced in great numbers on scapes 6 in. to 8 in. long, several scores occurring on one spike. The flowers are of a pure sparkling white, and are interesting because of the peculiar pouch-like form of the tiny spur which is filled to over-flowing with sweet nectar. The general appearance is quite pretty and distinct from that of any other cultivated Orchid, and the species is well worth growing, especially by those who like to possess out-of-the-way plants. It is also handsome in habit, having its erect stem clothed with strap-shaped leaves 7 inches long, unequally notched at the apex and deep green. It is a native of the west coast of Africa, and was first introduced from Sierra Leone in 1842.

Winter-blooming Carnations.—I herewith send you a few blooms of various Carnations. The plants are now safely housed, and promise to afford an almost unlimited supply during the coming winter. No. 1 is Ale-gatiere, an old and tried variety, and not easily beaten as a scarlet. It is somewhat shy of making grass, perhaps, but its free-flowering habit partly atones for this. No. 2 is the newer Winter Cheer. I am somewhat disappointed with this variety this season, as many plants are producing striped flowers instead of pure scarlet, thus showing it to be inconstant. No. 3 is Mme. Carle, which was for many years the best white in cultivation, so far as my knowledge goes. It is, however, a poor grower. No. 4 is the new white La Reine, which promises to eclipse its predecessors in every respect; in fact, I am so pleased with it, that I intend growing no other white in future. One great recommendation is its fragrant clove perfume. The flowers sent of it are, however, small, having been cut from lateral shoots. No. 5 is the old Miss Joliffe, still indispensable.—JOHN CRAWFORD, *Coddington Hall, Newark-on-Trent*.

* * Very bright and fragrant.—ED.

Market flowers.—For many years London has not been so abundantly supplied with flowers in late autumn as is the case this season. The flower hawkers' barrows are loaded with Dahlias in prime condition. What a fine time by the way growers of this flower for profit have had this autumn, and Michaelmas Daisies, Cornflowers, Corn Marigolds, Violets, perennial Sunflowers, and other things are brought into Covent Garden in quantity. Some things, such as Camellias, Paper-white Narcissi, Freesias and Bouvardias are weeks in advance of their usual season, and hardy flowers being so abundant, they are but little needed. As they cannot in this warm autumn be retarded, they have to be sold for what they will make, which is very little. Chrysanthemums are abundant and cheap, and unless there is soon a change in the weather there will be a difficulty in keeping the late kinds till after Christmas. Zonal Pelargoniums are as fine and plentiful as two months ago, and can hardly be got rid of even at exceptionally low rates. The outdoor hardy Chrysanthemums are naturally unusually good in quality, the fine weather giving them size and colour.

FLOWER GARDEN.

THE PRICKLY RHUBARBS.

(GUNNERA MANICATA AND G. SCABRA.)

It seems to be fairly settled at last that the largest simple-leaved plant in our gardens to-day is *Gunnera manicata*, which has wrested the palm from the Victorian Water Lily. A few days ago I saw the gigantic *Gunnera*—a tuft about 30 feet in diameter—in the rock garden at Narrow Water, Co. Down, the largest leaf out of the twenty-five or more which it bears having a blade 9 feet 6 inches across, and standing fully 10 feet in height. When well grown, no hardy foliage plant can compare in size of plant or in leaf dimensions with this stately inhabitant of deep valleys and gullies full of rich alluvial earth and decayed leaves in Southern Brazil. *G. scabra*, a nearly allied species, seems to have a still more southern distribution, being found in Chili and on the outlying islands, including Juan Fernandez, or Robinson Crusoe's Island, while travellers tell us that it extends still further south on the mainland into the colder regions of Patagonia. One of the earliest allusions to these giant *Gunneras* is that of Charles Darwin in his now celebrated first book, viz., "The Voyage of the *Beagle*," unless we take the language of the shipwrecked Crusoe where he mentions "the luxuriant leafage of plants tropical" around his lonely hut, as applying to these as then almost unknown herbaceous giants of the vegetable world.

As a genus, *Gunnera* consists of some ten or twelve species distributed over the South American, Malayan, and Australasian regions. They exist in the more sheltered valleys of the Andes, as far north as the Gulf of Mexico, and some are found as far south as New Zealand, but the finest kinds, so far as at present known, for garden uses are *G. manicata* and *G. scabra*. Of the latter I grow two distinct forms, the one having spreading leaves with green venation, while the other variety has longer foot-stalks or petioles, with more erect or cupped leaf-blades and bright red veins.

The name of the genus was given by Linneus (in his "Genera Plantarum") in honour of John Ernest Gunner, a Swedish or Norwegian bishop fond of plants, who wrote a flora of his native land some time about 1766–1772. In general appearance these plants remind a careless observer of ordinary Rhubarb much magnified, but the stout prickly petioles, often 6 feet or even more in height, and the scarious and spiky, club-like inflorescence and leaves at once distinguish these plants from all others.

To see these plants at their best they should be grown quite near to the margin of a pond or stream, or in a swampy spot, and in the deepest and richest of soil. Even then their most ample dimensions are only reached after a copious addition of cow manure top-dressings, or by deluging the ground around the leaves with liquid manure.

The illustration represents a portion of a plant beside the pond in the College Gardens at Dublin, and some idea of its size is indicated by the figure in the boat below. The leaves are about 7 feet in diameter, but the plant is a small one as compared with the gigantic specimen at Narrow Water Park above described. It is, nevertheless, a most effective and picturesque object as seen here, contrasted with light and feathery Bamboos, the cardinal and golden Osiers, and other water-side vegetation. A good deal has been said of these fine-

leaved plants in THE GARDEN from time to time, but they are so strikingly handsome as well grown, that too much cannot well be said of their management.

F. W. B.

Tropæolum tuberosum.—This handsome Peruvian species is not often met with in cottage gardens, and it was recently an agreeable surprise to me to see it growing up and around a cottage porch which was veiled in beauty of leaf and blossom by this plant alone. It is not quite hardy, and therefore generally neglected. As its roots may be lifted and easily preserved through the winter, and it requires but average soil to grow in, a little spot might be found for it in most gardens. Flowering in late summer and autumn, it is valuable when the beauty of most things has vanished.—H. H.

The blue Rock Bindweed.—We have previously called attention to the graceful growth and exceeding beauty of the blue Rock Bindweed, but it merits another note, for no plant in the garden has given such a long and beautiful display of bloom. Even now late in October its effect on fine days is splendid. Apparently it will not



Portion of a plant of *Gunnera manicata* in the College Gardens at Dublin.

cease to bloom till it dies down for the winter, and as it commences in early summer when its shoots are but a few inches long, its blooming season lasts for several months. All who have a sunny, fairly dry border under the wall of the house should try and grow this plant, for its greatest vigour and longest profusion of bloom follow upon its being thoroughly and permanently established. Where it will not stand the winter very good results are obtained by treating it as a summer plant.

Oxalis rosea.—This is one of the few annual species of this large family, and is a very pretty little plant to have near the edge of a border or in a nook on the rockwork. It grows about 6 inches high and branches into a compact tufted plant of a very light green colour. It blooms long and freely, the flowers in little racemes being of a deep rose colour. There is also a white variety which comes true from seed.

The Belladonna Lily.—Several notes have appeared recently in THE GARDEN about the Belladonna Lily, which seems to have been very fine everywhere this year. The present summer suited this warmth-loving bulb, and a few days since a bold clump was in full beauty in a warm border in Mr. Kingsmill's garden at Harrow Weald. We do not advise too free planting of such capri-

cious things, but they might be tried in many places, as in warm, sheltered spots where the soil is light they grow to perfection. It is useless to put them in cold, clayey ground or exposed positions.

LILIES.

LILIES are perhaps, on the whole, the greatest of all our garden favourites, or if not quite that, they share their position in our esteem with Roses. Dr. Wallace gives Lilies the first place, I believe, and I am inclined to agree with him. Lilies are more or less troublesome plants to cultivate, and they require some attention to their respective demands regarding the soil in which they are grown and the situation in which they are placed. Nevertheless, I feel inclined to protest against such a very depressing article on Lilies as that which appears on p. 91 of the July number of THE GARDEN, written by "J. C. L." "In the death-rate," he says, "I am always up to date," so we need not be surprised to hear of the "trouble and disappointment" which are supposed to be the fate of all who try to cultivate Lilies in any quantity or variety. *L. chalcedonicum* is very highly

spoken of, and it deserves such praise. "No better Lily than this when well grown," and "J. C. L." acknowledges that, although he fails, he sees this Lily doing finely in one or two cottage gardens in his neighbourhood. Surely, then, he makes a mistake in attributing the failure of his own plants to soil. I have been most successful with this beautiful Lily without taking any special care of it, and I very much hope that no one will be deterred from trying to grow this scarlet Turk's-cap on account of what is said about it in the article referred to above.

Following Ruskin's advice, I placed in a somewhat shady spot on the lawn a very large stone. The stone itself is half covered with green Moss, and some Saxifrage grows luxuriantly under the highest part of it. Amongst this Saxifrage some plants of *L. chalcedonicum* grow

and flourish, coming up in increasing numbers every year and looking extremely well when they flower amid the green of the Saxifrage and by the side of the grey tints of the stone. My own experience with this exceedingly fine Lily would lead me to suggest its cultivation to a much larger extent than we now see it. In one old-fashioned garden in this place it grows like a weed, and notwithstanding all my protestations it is treated as such. There are just two things necessary for success in growing this Lily, and they are first, shade, or partial shade, and secondly, a good rich loamy soil.

Under these conditions I have had no trouble with *chalcedonicum*, though moved at the very worst time apparently, viz., in the flowering season. Plants so moved have flowered well with me the following year and increased and multiplied afterwards. Of *L. pardalinum* we hear enough to deter any ordinary person from attempting to grow such an ill-natured thing. "They gave up flowering," and yet for some unexplained reason a lot given away to a lady friend "had been highly successful." What is this but to acknowledge some failure in the cultivation? All the Turk's-cap Lilies are great favourites with me, and this one specially bears looking into, with its gracefully recurved petals so beautifully spotted with dark spots on a

yellow ground. Given deep rich soil, plenty of water and semi-shade, pardalium will improve after a period of rest subsequent to transplantation.

One of the glories of our summer days is *L. tigrinum* when well grown either in pots or in the open. In pots a group of this Lily is a fine ornament either for the conservatory or the drawing-room; but I prefer seeing them out of doors, where they will best show off their large heads of finely spotted flowers. As the very finest bulbs of this Lily can be had for 1½d. each, they are certainly within the reach of all. I send herewith a photograph of a group of this Lily growing in my garden last summer. They cover the ground with their black bulbils before they die down in the autumn.

I have only had *L. Martagon dalmaticum* one year. It was sent to me from Scotland in the autumn of 1892, and this year it sent up a fine tall spike of its very dark purple Turk's-cap flowers. There are few things in our gardens so nearly black as this Lily. One of the herbaceous *Geraniums* comes, perhaps, nearest to it in colour. This *Martagon* is a remarkable and striking plant, as well as a beautiful one, and I hope I shall succeed in increasing it. The common *Martagon* grows like a weed with me, but I should be sorry to treat it as such. That at least will give no trouble when once established in any shrubbery or shady garden. "J.C.L." does not notice the tallest and most stately of all our Lilies—*giganteum*. Why not? It cannot be because it is unworthy of a place among its congeners, but because it too has been perhaps laid aside as a difficulty. It seems to be a shy bloomer; at any rate, you cannot depend upon having flowers every year unless you have a strong group of this Lily, but it will grow away well enough in a warm corner and with plenty of good food. I expect flowers next year, but if so, I shall probably have none the following. Still, this Lily is such a grand thing that it is worth while growing it, even if it does try your patience a little in waiting for its fine spike of bloom.

To pass on from Lilies to Fritillaries, I have not found that Crown Imperials will grow anywhere at all. On the contrary, mine have dwindled until I have found it necessary this year to replenish them with a fresh importation. I am very fond of them, they come so early in the year, and stand up so well to exhibit the fine crown of bell flowers on the summit of their strong stalks. The smell of the roots is remarkable, rather "foxy" in its nature, and it is not easy to get rid of it after handling the bulbs.

Crown Imperials are very soon out of the way when done flowering, so that in later summer other things may be grown close to where they stood. This is a great advantage shared by these with other liliaceous plants, so that they do not take so much room in small gardens as they otherwise would. The common Snake's-head (*Fritillaria Meleagris*) looks very pretty in spring when dotted about in Grass or about the roots of trees. It likes damp retentive soil, but I do not think it is very particular. It grows wild at Pinner in the stiff London clay, and it does well with me here in our less retentive soil. Other Fritillaries, unless it may be aurea, are not so pretty as the common *Meleagris*. A GLOUCESTERSHIRE PARSON.

Hardy flowers in kitchen gardens.—In the kitchen garden at The Priory, Horsey, flowers are largely grown, and late in October the annual *Coreopsis*, *Salpiglossis*, *Marigolds*, perennial *Sundewers*, *Dahlias*, and *Stocks* were still in bloom. The *Coreopsis* were delightful, giving a wealth of bloom and of varied colour, yellow to deep purple-maroon. These plants may be cut from without spoiling those in the more conspicuous parts of the garden.

The origin of Carnation Gloire de Nancy.—At page 367 of THE GARDEN G. H. Engleheart appears to have doubts as to the origin of this fine Carnation, so perhaps you will kindly allow me to say that in the autumn of the year 1891 I planted a small bed of the old crimson *Clove Carnation*.

During the following summer of 1892 the plants bloomed very profusely, and during the late summer they also bloomed, if anything, still more abundantly. But, to my surprise, several of the plants produced pure white instead of dark crimson flowers, and the blooms on careful comparison were found to be in all respects identical with those of *Gloire de Nancy* which grew in another part of the garden, so that I think there can be little doubt as to the origin of this beautiful Carnation. The plants in question continued to produce flowers in abundance of both the white and the crimson varieties until about the middle of last month, when the white-flowering varieties were taken up and given to a friend who has facilities for striking such plants from cuttings, and which has no doubt been by this time effected, and should either you or your correspondent wish for a plant, I have no doubt I can procure the same, and will have pleasure in forwarding it. It is remarkable that the plants produced no sport during the first season, but did so in abundance during the second. Still I think there can be but little doubt of *Gloire de Nancy* having originated as a sport from crimson *Clove*; and while each variety may be considered as unrivalled in its respective class as a pure white and a dark crimson Carnation, the only improvement that can be desired for each is a stronger calyx, as this in each variety is very apt to split.—P. G., *Bury St. Edmunds*.

Aster tataricus.—One of the finest things in flower in the garden at the present time is a group of this *Starwort*. It is late, being just now at its best, and therefore valuable for succession, in addition to which it is so very distinct, that in this large family there is nothing at all like it. In growth and before the flower-stalks begin to shoot up it might be regarded as anything but an *Aster*. It has a rambling disposition, spreading underground and shooting up, making a large wide mass of leafage. The leaves for an *Aster* are very long and broad, ranging from 1½ feet to 2 feet in length and from 2 inches to 5 inches in width. The flower-spikes stand up quite erect from a carpet of rich leafage, the tallest and best of them being 6 feet high and terminated by a branched head of flowers, large, handsome and of a rich deep purplish blue. The buds have a decided reddish tint. The flower-stalks are so thick and strong, that they need not the slightest support, and they stand apart from one another just sufficient to give the plant a bold and stately character, yet sufficiently close to produce a fine rich effect.—A. H.

AUBRIETIAS.

I AM frequently surprised to find how little *Aubrietias* are grown in private gardens. Were we limited to the old forms of *purpurea* and *Campbelli*, such total lack of interest in these very beautiful hardy creeping plants might be understood. There seems to be some sort of impression that *Aubrietias* transplant badly. That may be so in the case of small plants, but if cuttings be inserted thickly under a handlight in the spring, or, simpler still, seed be sown, it is very easy to have a good stock of plants in the autumn to lift and plant out where needed to give a good mass of colour in the spring. Certainly *Aubrietias* do best when planted where they may grow as they like, especially on the margins of stone or rubble work, as they are particularly fond of the cool clean base which such material affords. One of the best examples of what *Aubrietias* could do in this way used to be seen at Ealing Park, where they grew down over rough rockwork to a depth of 2 feet or 3 feet, and produced in the spring a charming effect, whilst all the summer and winter a bright green covering was produced.

But many gardeners appraise hardy plants of this description for the facility with which they may be transplanted and the effect they produce in masses in the spring. The *Aubrietias* are naturally long and thin, going down deep, and doubtless are most at home when they can penetrate into fissures such as are found in rockwork, natural or artificial. For that reason perhaps they do not

constitute ideal stuff for transplanting, but young plants from cuttings or seed have not developed such long roots, and will transplant very well. The bunchy or tufted nature of the plants also fits them well for transplanting, and if when this work is performed the roots be shortened back somewhat, they the better produce clusters of fibrous roots close home, which so much accord with the short, dense growth of the plants. Whilst *Aubrietias* are so hardy, that in my experience they seldom die from frost, yet the growths often are killed back by severe frost; but no sooner is the frost gone than they break up again with wonderful reproductiveness, and are only a week or two later in blooming than would have been the older growth had it remained uninjured. The older sorts, such as those named previously, seeded but very little. Some of the stronger-growing, larger-flowered and altogether more effective varieties seed freely. That is particularly the case with the variety named *violacea*, of which I have had tufts 20 inches across, literally masses of violet-purple flowers early in the spring and then as full of seed-pods later. Seed almost invariably reproduced the parent variety, certainly always in size of flower and robustness of growth, but varying slightly in shade. That, by dint of following up the richest colours and selecting the reddest tints, it would be possible in time to obtain a good distinct red, I believe. Such varieties as *Hendersoni* and *Leichtlini* have been termed red, but they do not very materially differ from *violacea* in colour, especially in the reddish tints seedlings will produce. In all cases, however, the flowers have more of violet or purple in them than red; hence, there is a good deal to do ere true reds result. All the same, the present best forms are most beautiful and create masses of colour that in the spring are exceedingly attractive. As a rule, where it be practicable, it is best to plant high, as the plants are impatient of moisture hanging about them.

A. D.

Transplanting the white Martagon Lily.

—I shall look forward with very great interest to the future of those Lilies that were transplanted on August 5, as detailed in THE GARDEN, p. 325, for I am fully convinced that a good deal of the non-success in Lily culture is owing to the bulbs being moved too late in the season, or if lifted early allowed to become too dry before they are replanted. It is more than probable that these white *Martagons* will continue to improve in their new quarters, and I trust such will be the case.—H. P.

Aster Arcturus.—This is a fine *Aster*. It blooms rather early as a rule, but is constant; the stems almost black, the leaves deep green, and the flowers rich lilac-rose. A good group of it would be very effective, and even a single plant shows up above others for its very rich colouring of leaf and flower.

Alonsoa Warscewiczii.—This charming little annual should be included in any selection however small, the flowers being very bright and glowing with colour, while they are produced with great freedom. The past summer has suited it admirably, and I never remember to have seen it in quite such good form. Even now, in the middle of October, groups of it are still flowering freely, many of the flower-stems being over 2 feet high and much branched.—J. C. T.

Hardy Fuchsias in autumn.—Anything that keeps fresh in spite of heavy autumn rains and makes the garden gay commends itself to special notice. At the present time the hardy *Fuchsias* are delightful. One sometimes meets with great bushes in old gardens, but they should be freely planted by all who have the slightest opportunity of growing them. They are quite at home, with in a few cases slight protection, from Land's End to John o' Groats. If we cannot have the great tree-like bushes that grow in the west and south, there is still a lot of brightness and beauty to be seen and enjoyed from these *Fuchsias*. They always spring up with renewed vigour, make a

goodly growth during the summer months, and from then till the time of sharp frosts their shoots are covered with bloom. Masses of them are delightful. Colour effect in the garden is their chief value, as they do not last well as cut flowers. The chief kinds are *globosa*, *Riccartoni*, *gracilis*, *myrtifolia* and *coccinea*.

Cassia corymbosa.—This is a really fine plant for the garden in summer and autumn. We recently saw a bed of it which was quite a picture, the foliage luxuriant, of a tender green shade, while the bunches of yellow flowers were borne in profusion. One may go into many gardens without seeing the *Cassia*, a good thing to group on the outskirts of the lawn or to create a fairly bold effect in the flower garden. It may be treated like *Fuchsias*, as it will not live out through the winter. It is grown in greenhouses, and is useful there, but it is as an outdoor plant that one wishes it were more used.

Carnations.—These from layers in the open ground have in my case made better progress this season than usual, in spite of the hot and dry weather. Probably the fact of the ground being so dry was the cause of more frequent waterings being given, the layers profiting thereby to a large extent. All are now planted out in their flowering quarters save the old crimson *Clove*, which has to wait a while longer for convenience sake, but I observe that the layers are making rapid growth, and the plants will be of large size when put out in their place. Seedling Carnations, of which a few are grown every year, have also have put out; these also are good plants, quite large enough for any purpose. In preparing the ground soot and lime were used in fair quantity; both are good manures for the Carnation, and should be more freely used. Neither the wireworms nor the slugs fancy the soot and lime, but as these both lose their effectiveness as preventives after a time, other surface-dressings will have to be given. Some plants of *Winter Cheer* which flowered in pots last winter and were afterwards cut up for cuttings, after a time broke away fresh from the base. These were planted out early in the summer, and in due course grew sufficiently to be layered. A young stock has thus been got which should prove useful for early flowering next year. I see no reason why this system should not be followed both with this kind and *Miss Joliffe* also when large plants to flower early are found to be of the most service.—GILLIFLOWER.

NOTES ON VIOLETS.

RED SPIDER is the greatest enemy the cultivator of Violets has to contend with. In some gardens it is always more or less troublesome, this being especially the case where the soil is of a gravelly nature, and therefore not retentive of moisture. This year the great heat and long-continued drought proved particularly trying, and a breadth free of red spider was quite a rarity—no matter how suitable the soil for Violet culture and how much care was taken of the plants. In many cases the crowns are very weak and the foliage is quite yellow, and, as a consequence, the flowers will be both small and sparingly produced. Acres of plants in this bad plight have recently come under my notice, and, judging from inquiries that are being made for Violets by London and other florists, the supply generally is not equal to the demand. This means a considerable loss to the growers, some of whom depend largely upon Violets for their livelihood, and doubtless a certain amount of disappointment to very many buyers, for it is almost needless to add that Violets will usually sell readily when other flowers will not. Where, as in my case, the plants are only partially injured by red spider, that is to say, leaves have not been wholly overrun by them, flowers are being freely produced and are of good size and colour. All the same, the plants will not stand against either a very wet, foggy time or a severe frost nearly so well as when wholly free of red spider, the leaves lacking the substance and vitality to survive any ordeal out of the com-

mon. These remarks apply not merely to the Russian section, but are equally applicable to the less hardy Neapolitan section, including the popular *Marie Louise*. Well sulphuring the leaves of the plants when growing in the open did much in our case towards keeping red spider in check, but it is a very difficult matter to reach the undersides of all the leaves with an ordinary syringe.

The weather since the double-flowering varieties were lifted and replanted in pits and frames has been very favourable to a quick recovery, and it is not often that double Violets are so plentiful in October as they are this season. Owing, however, to the weakening effects of red spider, more than ordinary care will have to be taken of the plants, or otherwise there is every likelihood of wholesale damping off, first of the leaves, and then of the crowns. More than ordinary care does not mean more coddling than usual, but quite the reverse. Violets must not be coddled. Instead of being given the benefit of either a moist or dry bottom heat, accompanied by a somewhat close atmosphere in the pit or frame, the first should be wholly dispensed with, and abundance of air be given whenever severe frosts, very cold frosty winds, or snowstorms are not being experienced. Instead of the lights being merely run down a short distance at the backs or else blocked up a short distance, they ought to be pulled clean off when the weather is at all mild, the next best thing being blocking up from the centre of each light. What is wanted is a good circulation of air, and not a close, stagnant atmosphere. The former serves to keep the foliage strong and the plants free flowering, while the latter ends in either an early collapse or a leafy growth, flowers not being produced at all freely after the first burst. It may be that Violets that receive a little bottom-heat flower the most freely early in the winter, though this is questionable, and in any case those the least forced hold out very much the longest. The advice I invariably give to those who solicit it in the matter of growing Violets in frames is to prepare strong young plants, and transfer these to the pits and frames about or not later than the middle of September. They ought to have the benefit of good loamy soil, be planted firmly, thinly, or well clear of each other and raised well up to the light, not being more than 6 inches from the glass when the lights are put on. Supposing the plants are moved with a good ball of soil about the roots, there is no need to put the lights on till frosts are anticipated, a good soaking of rain doing the plants good. Being grown hardily, they will stand a moderately severe frost, but rather than run any risks of loss of flowers it is advisable to cover the frames with both mats and strawy litter whenever an extra severe frost is imminent.

GROWING IN POTS.

Where Violets are in great and constant demand, a few score or even hundreds of plants ought to be flowered in pots, that is if there are suitable conveniences for the purpose. These also are best dug up from the open ground, and should include the old Neapolitan as well as *Marie Louise* and *Comte de Brazza*. There must be no coddling in this case any more than in that of Violets in frames. At present my pot plants are in a shallow pit, the bulk being in 7-inch pots. They are very freely ventilated and will be kept where they are till there are signs of hard weather setting in—whether this be in December or not till January—when their destination will be swinging shelves in a greenhouse kept warm enough to suit Chinese *Primulas* and such like. Then if those in the pits either fail, owing to excessive cold, or are snowed in, there will yet be a quantity of bloom available from the pot plants at a time, too, when they will be most probably of the greatest service. The plants in pots are at the present blooming quite as freely as those in pits, but will be sustained in their free flowering by the aid of weak liquid manure. Moreover, they will not be so closely gathered from as the rest, and most probably will have large numbers of fine, because fully-blown flowers on them. Here let me add that owners of Violets in frames will do well not to insist upon

the flowers being so closely gathered as of old. If left on the plants long enough to attain their full size, one such Violet is equal to three of those too often seen bunched up. It is the double-flowering varieties that are too closely gathered, very few people thinking of gathering single Violets in a bud state.

VARIETIES.

Next a few words concerning the relative popularity of varieties. *Comte de Brazza* has never been much sought after, probably because the flowers are white. Where, however, button-hole flowers are in great demand, several dozen little bouquets having to be made nearly every evening throughout the winter, this good double white ought certainly to be grown. It certainly is not so free-flowering as *Marie Louise* and *Neapolitan*, but it pays well for frame room all the same, and with me is already blooming very well in pots. *Marie Louise* and the forms closely resembling it, curiously enough, are not so popular as they were, and we find more asking for the *Neapolitan*. The latter also does well in pits and is very free-flowering under frame culture, the delicate shade of blue being well brought out in the former case. Personally I have not met with many instances of single Violets being preferred to double ones, but am assured by a florist in a fashionable town that well-grown flowers of the *Czar* are disposed of in larger quantities and more readily than anything else, and that, too, at good prices. Anyway, the singles are not likely to be despised in most private places, and seeing that the plants are liable to be badly crippled by the first severe frost experienced, the question is, would it not pay well to give a few dozen plants the benefit of frame or pit protection? Strong, healthy and not very old plants could be moved without sustaining a severe check, and not being coddled or covered in any way other than during the prevalence of wintry weather, they would most probably produce a serviceable lot of fine richly coloured long-stemmed flowers when none were forthcoming from the open. M. H. F.

FLOWER GARDEN NOTES.

TUBEROUS BEGONIAS.—I have been greatly struck this year with the very excellent strain of these obtained from a packet of seed, and the cheap and easy manner in which a nice collection of these favourite flowers, either for in or outdoor work, can be obtained is worth a special note. Some years back if one purchased a packet of seed, the chances were that very few doubles worth keeping were obtained; whereas, now a large percentage—I should say 75—of really excellent flowers are forthcoming, the only drawback being that in nearly every case one gets a large majority of the colour more common than any other—a light pink, with white centre. The seed was, as usual, sown the last week in January, the seedlings pricked out in boxes so soon as they could be handled and planted on the trial border the first week in June. They were by no means happy for some time this year, the weather being too hot and dry for them, and although shaded with light tiffany during the hottest part of the day, mulched and watered, they were a long time in making headway. It appeared, indeed, at one time as though many would not flower, but the showers and spell of cloudy weather in the early part of September, although of short duration, freshened them up wonderfully, and the frost holding off, I was able to run through them a fortnight ago and select the best. Nearly all the flowers are good, but the object is to secure varieties of dwarf, compact habit, free, and with an erect-flowering tendency.

Autumn flowers hold out wonderfully, and at the time of writing (October 25) the mixed borders are very gay. A very pleasing contrast is afforded by *Aster ericoides* and pompon *Dahlia Dandy*, a crimson-purple variety, wonderfully free and throwing its flowers well above the foliage, also between the same *Aster* and the old *Fuchsia coccinea*. I never remember such a splendid display of flowers on the

hardy Fuchsias. They have for some time been among the brightest of border plants. It may not be generally known that both the flowers and foliage of these Fuchsias stand well in a cut state at this season—very different to the experience with them during the summer months before the wood is matured. We are cutting them in considerable quantity just now, finding them among the most graceful of present flowers for vase work. The autumn of 1893 will be memorable for furnishing delightful contrasts in flower and foliage, such as we shall probably not see again for many years, owing to the exceptionally brilliant colours of the leaves and the long endurance of the flowers. A portion of an old wall covered with *Ampelopsis Veitchii* has a good batch of *Nicotiana affinis* facing it. The Tobacco was planted somewhat thinly, so that now portions of the bright foliage show through as well as over it, and the effect is very pleasing. A somewhat similar contrast in colours is effected on a portion of a large border where clumps of the white Japanese *Anemone* are associated with bushes of *Spiræa prunifolia*. In any alteration in large beds that may be contemplated this autumn it would be well to consider the advisability of a more extensive planting of ornamental shrubs either alone or as suggested above in connection with larger herbaceous plants. A large bed, for instance, that has been started with a few clumps of *Prunus Pissardi* may be filled in sparingly with *Hydrangea paniculata* and sown down in spring with *Mignonette* or any dwarf free annual that would serve as a carpet for the shrubs. Varieties of *Ribes* and *Weigela* may also be cited as interesting shrubs for similar planting, and they can always be kept within bounds by the judicious use of the knife, just heading back strong leaders and any such straggling shoots as threaten to get beyond bounds. The same remarks apply with equal force to many varieties of conifers of bushy habit which have been planted in prominent positions, and which, if left entirely to themselves, would encroach too much on their surroundings. I aware that wherever practicable such trees are best left alone, save, perhaps, to nip out a straggling shoot and help another into a better position, but it is impossible always to avoid the knife, and where this is necessary it should be seen to every year. If a longer time intervenes and there is two or three seasons' growth to tackle, a hard pruning is often required, and this means a hedge-like appearance that is decidedly objectionable. It cannot be too often enforced that the true aim in pruning such trees (I am writing of nice specimens, say from 12 feet to 20 feet high by the side of walks or at the back of large borders) should be the endeavour to leave them so that no trace of the operation is visible save that the trespass on forbidden space or against surrounding objects has been decidedly checked. Where labour is somewhat scarce, work of this description may be contemporary with the fall of the leaf from deciduous trees, so that one general clearing up may suffice. Other pleasure ground work that will be put in hand as soon as time will permit will be the replanting portions of a slope from whence the depredations of rabbits have compelled us to move a nice collection of Starworts. In such positions there is nothing for it but to fall back on small seedlings of *Rhododendron ponticum*, and to relieve, at any rate for some portion of the year, the flat surface, I shall dot in liberally seedling Foxgloves and occasionally clumps of the giant Mullein, reserving the bottom of the slope for some good breadths of Daffodils, if we can get these in sufficiently early. To all three of the above-named flowering plants as well as to the *Rhododendron*, the rabbit has a decided objection, and they are consequently in great request for all work in the wild garden where they can be used with advantage.

Claremont.

E. BURRELL.

Aster paniculatus.—This is a graceful Michaelmas Daisy. Its slender habit is one of its special charms, and if left untied it falls about

in a pretty way, always showing itself to the best advantage. It has very long panicles of bloom, and differs from most of the Asters, nearly all of which have their flowers at the top of the shoot. In this kind the flowers are borne on slender branchlets, one of which springs from the axil of each leaf for quite three parts of the length of the shoot. The opening buds have a reddish tint, but the flowers are of a rich purple-blue.—A. H.

NOTES FROM A NEW ZEALAND GARDEN.

As many as eleven years ago, *à propos* of Crocuses, I wrote in your journal these sentences: "But the most poetic of the bees, the big, lazy, hirsute bumble (*Scoticæ*, bumble)—'the red-hipped bumble-bee' of good Monsieur Cobweb—we have not yet succeeded in importing, notwithstanding the praiseworthy efforts of the late Frank Buckland to send us some. Our wish to have the humble-bee is not a mere matter of sentiment, its presence being necessary to effect the fertilisation of the red Clover, of which at present we must receive all the seed supplies from England and America." Now for a few years we have had the humble-bee. Seven or eight years ago it was introduced into the Canterbury province, from which, thanks to mild climatic conditions and immunity from enemies, it has spread over the greater part of this island. Whether we now raise our own supplies of red Clover seed I cannot say, but that the humble-bee is having a very appreciable effect on the fertilisation of plants I need not go outside my own garden to see. I need instance only two plants to show the results of the introduction of this bee—the Primrose and the common Ivy. Before the arrival of the bee I cannot remember having seen a single self-sown Primrose or Ivy plant in the garden; now the borders would be full of seedlings of variously-coloured garden Primroses if they were not dug in. The first time I observed such seedlings was some two years ago round a mixed patch of yellow and crimson self-coloured Polyanthus. The experience was so new to me, that I transplanted the seedlings carefully, and when they bloomed I had some fairly good border flowers. If I were to go on transplanting the seedlings, I find I should never be doing anything else, and the humble-bee's principles of hybridising are not such as to make it worth while to save the seedlings. There is, however, now the possibility of seeing some of the varieties of Primrose become naturalised in suitable places in this colony. Interesting as our flora is from a botanical point of view, everyone misses here the delightful wild flowers that are so plentiful in British woods. To have the common Primrose and the Wood Hyacinth abundant in our copses and woodland places would be a great gain. The common Cowslip, with which I have seen Sussex meadows yellow, is a flower for which I have an affection, both for its own peculiar grace and sweetness and for reasons of association. But I have not been very successful in growing it. In the first place, I believe it

ought to be grown in Grass, whereas I have always grown it in a border. In the second place, seeding and not division is the proper way of increasing it. I observe that, thanks to the humble-bee, there is quite a young colony of seedlings growing up round a patch in the garden. These will presently be transferred to the Grass of an orchard, and we shall see with what results as regards increase.

Again, as to the common Ivy, I find seedlings coming up in many places in the garden, more particularly under shrubs like *Rhododendrons*, where birds roost. Ivy has been a plentiful plant in my garden ever since the garden has been mine, but only within the last year or two have I seen seedlings. Indeed, the first time I observed the cotyledons pushing above ground I was not a little puzzled to know what the plant was, and only discovered its identity after the first proper leaf appeared. An old Ivy bush grows on the wall of my house. After reaching the roof, having no more wall to cling to, it gives up its climbing habit and branches out into a globular shape like any ordinary shrub. These top branches, which form quite a thicket, flower and seed abundantly, and when the berries are ripe the Ivy bush becomes a noisy, quarrelling place of birds—thrushes, blackbirds, and starlings—which devour the berries eagerly, seeming to find them anything but "harsh and crude." There cannot, I think, be any doubt that the Ivy will presently become here a naturalised parasite, because not only will the seed be carried by the birds and deposited in the rich and moist vegetable soil of the bush-lands, but it will stand a better chance of being allowed to grow than wild flowers like Primroses and Foxgloves, being inconspicuous and not specially attractive in the young condition.

I have just been watching a humble-bee harvesting the honey from a clump of *Erica herbacea*. Having no knowledge of the species of humble-bee, I cannot say of what kind ours is. It has a yellow band running across the front of the thorax, and a still yellower and broader band across the fore part of the abdomen, whilst the hinder part of the abdomen is also yellow, but of a duller colour than the bands. By my observation, the first humble-bee moved from winter quarters this year on August 11, and one or two have been visible since that date foraging amongst the flowers. Great fussy, fertile matrons they are at this season, weighing a very respectable amount avoirdupois, and they create no small disturbance when they enter the chalice of a flower. It is interesting to watch the thorough way in which the humble-bee exploits the bells of a Heath. The bell of *Erica herbacea* is relatively long and narrow, and would be found by a bee, one would suppose, a difficult subject. So at least a common hive bee seemed to find it, for it fussed and fumed in a perfunctory sort of way over the clusters, making much noise and doing little work. Very different was the style of attack adopted by the humble-bee on the same plant. Each head of bloom was thoroughly gone over, the pro-

beseis being quickly inserted into each bell in turn for an instant and then withdrawn. This Erica, like others of the family, hangs its bells, so that the humble-bee had to do its work face upward, clinging to the cluster, and it is wonderful to see how well this seemingly clumsy insect does its work. I could see rills of pollen streaming from the rifled bells like flour from little mills. Up through the middle of the Erica clump there grows a clump of purple Crocus, the cups of which were wide open to the morning sun. Now and then the humble-bee would tumble into one of these pollen tubs, and, seemingly with great enjoyment, bathe herself in the saffron dust. So far as my observation goes, I cannot see that the humble-bee does much harm to the Crocus flowers. Heavy and apparently rough as it is in its motions, it does not break the flowers. But I should think that it probably hastens the fertilisation of the white and purple varieties, and so perhaps shortens the period of flowering.

As for the flower which set me writing about the humble-bee, what can I say about the splendour of the Crocuses this year? Mine are varieties of the ordinary Dutch Crocus, but they run through a considerable range of colour—orange, purple, from black-purple to mauve, and so on to pure white, to say nothing of endless variety of beautiful streaking, pencilling, and shading. It may well be called Dutch Crocus, for what other flower has so much "Dutchness" about it? It is the one flower that looks the better for being grown in a formal way. I grow it in various ways. In the Grass it does not seem to do well with me; probably because the foliage gets mown before the corms are properly ripe. In patches here and there in the borders or amongst the stones of rockwork it is quite in place. But it shows best when it is planted as an edging, straight or curved. I have about a hundred yards in various parts of the garden planted in this way, the breadth of the edging varying from 9 inches to 1 foot, and the sight they make when the sun shines in the forenoon is equalled, at least in my garden, only by the splendour of the Daffodils that follow. The great charms of the yellow Crocus are the warmth of its colour and the wonderful shadows inside the cup, the warmth of colour being due to the large amount of scarlet in the yellow and the exquisite shadows to the inward curve of the petals. If I am to have but one flower, give me the Daffodil. If I may have a second, give me the Crocus; and if I may have but one Crocus, give me the yellow. The other colours are, I dare say, more exquisite, but they require looking into. The yellow is good to look at from your window, or to look at closely, peering into its cup. Besides that, on its outside petals it has those delicate olive-green pencillings like a bird's feather.

DAFFODILS.

I noticed to-day (August 26) in the garden a curious instance of ingenuity in the humble-bee. One of these insects was busy amongst a patch of Chionodoxa. Apparently

for some reason it was unable to extract the honey in the usual way, for after sounding the inside of the flower it would go round and puncture the bell from the outside, sinking quite a little shaft into the ovary. I have seen Columbines with the spurs of the flower quite riddled in this way, and have been told also that in other places the Daffodils have been spoiled by this way of carrying off the honey—by the back door, as it were. Up to this date a good many Daffodils have bloomed. The double pseudo-Narcissus is not yet at its best, but it is very fine, the garden being yellow with it. What a fine thing, and how variable this common flower is. I grow it everywhere, and though in its season the garden is a mass of yellow, yet I go on multiplying the flower. All those in my possession are the progeny of a few bulbs I got a good many years ago, so that the various forms that appear must be all the result of different conditions of growth. One bed this year, for instance, has given flowers of the Rose type, showing no distinction of crown and perianth. The reason for this is the richness of the ground where they grow, which for two seasons has been made a receptacle for the lawn clippings—of course after the Daffodil foliage had ripened. Formerly this bed had been starved by the roots of trees, and gave small flowers and poor foliage. The result of the first year beneath the Grass heap was great increase of strength in the Daffodils, both in flowers and grass. The result of a second year of the same treatment has been to kill all the bulbs in the centre of the bed where the Grass heap was highest and fermented most briskly. The outside bulbs, on the other hand, have come up very strong, with burst rose flowers. I have noticed also that strong bulbs of this variety when newly planted in Grass will flower in this very double way. The flower looks very coarse in this form, but one does not object to a few for variety's sake. You will find a complete series of intermediate forms between this over-full form and that which has the tube long, narrow, and double, and as sharply distinct from the perianth as it is in Emperor. Shallow planting, I observe, throws this Daffodil out of flower, however good the soil, but leads to a large increase of bulbs. On the other hand, with very deep planting it flowers in abundant quantity and in beautiful compact form, but seems to make few offsets or none. In Grass, though they will not increase at all, they will go on flowering year after year even in shade; whereas, planted in a border in shade, they by-and-by give up flowering, showing little but grass. This is, I suppose, the commonest and the coarsest in growth of all the Daffodils, but, taking all its points into account, its readiness to grow and increase, the size and number of its flowers, their great substance, and the richness of its magnificent golden colour, it is the most useful of them all.

All the Daffodils have now shown their grass; even the double poeticus. The sulphur trumpets (of the cernuus type) are now hanging their heads over the borders, looking

so delicate that one expects the first wind to shrivel them up. I find these Daffodils easy to manage, and they increase at a fair rate. The variety I have most of I got some years ago without name, but I suspect it is tortuosus. The tube is about $1\frac{1}{2}$ inches long, of a deep sulphur when it first opens, the perianth very pale. A variety which I have as albicans, and which increases at a very slow rate, is smaller in its parts and more flimsy in its texture than the other. The fault I have to find with these delicate flowers is that the perianth hangs down over the tube in such a limp way. As to that dog-eared class represented by Humei albidus, of which I cut the first expanded bloom to-day, it is to be hoped that hybridists will not encourage this habit in the Daffodil. I have two varieties of the Hume Daffodils which I shall keep, partly because they are so easily grown, and partly because they show what curious forms this flower sometimes takes; but I shall seek for no more dog-eared varieties.

I note to-day (August 31) two Daffodils in bloom for the first time. The first is Ard-Righ, which I have added this year to my collection. It is a fairly good self-coloured golden-yellow trumpet Daffodil of medium size. The trumpet is somewhat long and narrow, and flounces out prettily at the mouth of the tube. It would be a desirable sort to have in large quantity in the borders, though I do not think it so fine as a Daffodil of the same style that blooms in many free-flowering clumps in my borders. The second of the Daffodils to which I made reference above is a bicolor which I received from a dealer here under the name of Romanus, which name I cannot remember ever to have seen in a catalogue. It is the earliest bicolor to bloom with me and is a good flower, about two-thirds the size of Empress, the segments of the perianth, however, being narrow and limp compared with those of that splendid variety. Take it all round, it is a fine variety, strong, and easily grown, and I should like to know something more of its history, for I suspect that Romanus is not its true name. Another valuable Daffodil expanding its first flowers to-day for the first time is Leedsi amabilis, a very graceful, delicate Daffodil, which grows with great luxuriance and increases rapidly. It is not very pretty when it first expands, but shows its true form and colour when it has been out a couple of days. One of the prettiest sights in the garden during the past week has been a clump of Narcissus minimus, and it would be hard to find a prettier sight anywhere. The foliage is very like in size and colour to that of the ordinary single Snowdrop. The flower on first showing colour rests actually on the ground, but by-and-by the stalk lengthens till the flower is some 3 inches or 4 inches above the soil. This is one of the most charming of all the Daffodils, and quite as indispensable as the glorious Emperor which it mimics. Several new varieties of Narcissus are out to-day (September 2). Amongst others an imported Sir Watkin has shown its first

flower. I possessed this variety before, but was in doubt as to whether it was the genuine Sir Watkin, because, though it was a fine large variety, it did not come up to the expectations which the coloured illustration in *THE GARDEN* had led me to form. There are two things I note about it: first, that the segments of the perianth in the real plant do not imbricate one over another so finely and broadly as is represented in the plate; and in the next place, that the chalice of the flower is almost too long to permit it to be classed with the Peerless Daffodils, reminding one rather of the deep cup characteristic of the Nelsoni class of Narcissus. So far as I can judge, the flower of my imported bulb is identical with that of the Daffodil I formerly had as Sir Watkin. The flower is not so large nor yet is the grass nearly so strong as in the older established bulbs; but probably Sir Watkin is one of those Daffodils, like *maximus*, which wants working up to its full size. One thing is satisfactory to me: it promises to grow as strongly and increase as rapidly in my soil as the common double pseudo-Narcissus. *Cernuus* is also in bloom, though I possess few as yet of this variety. It is a pretty thing; the segments of the perianth shorter, broader, and more overlapping, and the tube shorter and squatter than in the variety which I have in larger quantity, and which I suppose to be *tortuosus* or *moschatus*, if indeed these two are not identical. But the name of *cernuus* is not nearly so applicable to the true variety of this name as it is to other long-tubed, gracefully bending sulphur Daffodils, that swing with such grace over the borders in spring. Last year I flowered the double *cernuus*, to my great contentment; only one bloom, which was cut as soon as it expanded, put in a vase all to itself, and worshipped every day for a week. This year there is no flower, to my regret. Judging by the foliage, the bulb must be forming offsets. It is of course pleasant to think of one's stores being increased, but the grass looks too weak to be reassuring. I should be glad if some of your readers or contributors who have more skill than I have with difficult Daffodils would tell me how to grow the double *cernuus*.

This evening (September 4) I did not get into the garden till towards five o'clock, just as the sun had gone, leaving behind it a sort of afterglow, in which the air seemed somehow to grow thicker and to be saturated with some golden colouring matter. All colours in this rare light, the green of the Grass and trees, and the reds and blues of flowers, have a warmth and mellowness never seen in the full sunshine. This state of the air—for I am sure it is a state of the air—is accompanied with a perfect calm, with rich golden reflections on the surrounding hills, and with great placidity and depth of shadow on the water of the bay and the ocean. The sight of the Daffodils in the garden this evening will long remain a memory. The bright sunshine of the day had brought out hosts of all kinds. Mine is a very planless and unmethodical garden, full of ups and down and cranks and turns, where flowers, shrubs, and fruit trees are mixed

without any rigorous lines of demarcation. The Daffodils are everywhere, on banks, in borders, under trees, in the Grass, and are of all sorts and sizes. Although they are not in thousands, there are still many to come. I do not know whether the Lent Lily grows in all places with the same luxuriance as here, but I cannot get my fill of this glorious flower, plebeian as it is. In the golden air of an evening like this its colour becomes refined and doubly beautiful. It is to-night, I believe regretfully, at its best. In other gardens I see it has actually gone off, but it occupies so many positions in mine, that masses are still in bud and will come in later. During the last two days the Peerless Daffodils have come with a rush, and this evening they are in masses; all the old-fashioned double kinds, Collins and Cream (not plentiful with me), Butter and Eggs, and Bacon and Eggs, with simple single or semi-double varieties which I have long had, and know by my own names, but by no others. One of these days, when they are further expanded, I shall pass in review all the fat double varieties of the Peerless Daffodil in my garden. Those old names given to Daffodils by the country folk have for myself, I confess, a charm. I cannot say the same for the hideous nightmare of modern names that now fill the dealers' catalogues. Think of having to tell a friend who inquires that a certain rather pretty Daffodil is called John Absolon! I suppose that such a nomenclature is necessary, but it is a necessary evil. One of course requires to know what varieties are referred to when he reads about Daffodils, but at the same time one would wish that descriptive names were in all cases possible. I do not object, for instance, to the name *pallidus præcox*. My first and only bloom of this lovely gem has shown to-day. *Pallidus*, indeed! But *præcox*, only moderately so. Many others were earlier than it. However, it is a new arrival, and therefore, probably, not yet sure of its ground.

To return to the Daffodils as they looked this evening. A shower set in towards twilight, just enough to make the heads of the double Peerless flowers bend in a low salaam to a few crowned heads—Emperors I mean—that made this day their first appearance of the season. The clumps of *tortuosus* (or *moschatus*, or what?) hung most "cernuously," and *albicans*, not numerous, unfortunately, looked too fragile fair for any merely mundane garden. The little *Jonquil*, which I am proud to say is a weed with me, is, like the Lent Lily, everywhere, and will be in more places still if I can manage it. *Odonus*—my invaluable *hiemalis* (?)—has been in bloom six weeks, but this evening it looked its very richest and largest, and I suspect it will continue for a month yet, and will see the poeticus *recurvus* fairly in, or even the double Dutch; who knows? A single trumpet Daffodil which I have in great numbers is a really exquisite thing. It is as rich in the yellow as *maximus*, but is of medium size. They are the progeny of a few bulbs I bought years ago in a dealer's shop for Emperor; but though the Daffodil has no resemblance

whatever to Emperor, it is a very lovely thing, and early. Seen growing in the borders you would take it for the common double pseudo-Narcissus, but when you cut it and look into it you see how exquisite it is. In the soft light of this evening the floppy, dog-eared flumes looked positively charming, and I shall never again speak lightly of them. Peerless Daffodils of the single kinds are abloom in great numbers, a rich golden variety, with bright olive-green grass very numerous. Various Johns—John Absolon, John Stevenson, John Bull—not in such quantity, but enough to swear by. Of Sir Watkin, from first to last, I believe I shall have a round dozen of blooms this year, and it will go hard with me if they are not three dozen next year. *Polyanthus* Narcissus of several kinds are in bloom more or less plentifully—less rather than more at present. Exquisitely sweet flowers they are, and yet somehow they form the class of Narcissus in which I take least interest. It may amuse those who grow the flower by the acre to know of anybody at the Antipodes who is proud of his first flower of the Paper-white; one bulb only which I carried home with me last summer over 1200 miles! But it has produced two trusses of a bloom that is purity itself.

Several truths in respect of Daffodil growing have come home to me this evening, and I shall set them out *seriatim*: (1) Have Daffodils everywhere. (2) Do not choose a flat piece of ground if you wish to grow Daffodils; every step should take you to a different level, so that you can go down and look up, or go up and look down, or go to the side and look up and down and across. (3) Large masses should be visible to the eye at once. (4) Yet the ground should be so varied in its character, that when you think you have seen all there is to see, you may come on corners and beds of Daffodils you had not yet seen. (5) Daffodils look uncommonly well when seen through a fretwork of bare branches, like those of Hazel or Birch. (6) They look even better when the masses or clumps are interfered with here and there by fruit trees bursting into blossom, the Plum being a valuable tree for this purpose, and the Pear little behind it. (7) Daffodils are greatly set off when they happen to grow in front of large masses of *Pyrus japonica*, or even of well-grown red-flowering Currant; or if they have for a near neighbour an early-flowering rich crimson *Rhododendron*. (8) In case that to any peculiar taste Daffodils should ever come to be monotonous, it is well to have the ground between the clumps quite full of such small things as *Primroses* and *Polyanthuses* of all kinds, *Squills*, *Snowglories*, *Grape* and other *Hyacinths*, *Forget-me-nots*, *Anemones*, *Fritillaries*, *Auriculas*, and so on. (9) Do not be stingy in cutting your Daffodils and giving them away. They say that cutting the flowers improves the bulbs for next year. I do not know about that, but it is a good thing to believe. I try not to be stingy myself, but sometimes find it hard work.

Dunedin.

A. W.

FERNS.

SPECIMEN FERNS IN WINTER.

THE treatment accorded to these during the winter season must vary according to the peculiarities of the genus or the variety itself. In some cases it is safe and even desirable to partially dry them off; whereas in others the watering must be attended to in a careful manner. *Gymnogrammas* are an example in which the watering must be looked to closely so as to avoid both extremes. If overpotted in any degree it is quite possible to lose the plants by being too liberal with the water-pot. On the other hand, if pot-bound, the opposite risk of killing the plants by drought may ensue. It is surprising what an amount of water a healthy *Gymnogramma* will take when the pot is full of roots, but even this does not justify an excess. When pot-bound plants are watered, see that they receive sufficient to penetrate the ball. Large plants of the *Nephrolepis* family must not be kept too dry, otherwise the individual pinnae will turn yellow and eventually drop off before their time. A plant of this genus may not be observed to show any signs of distress by the drooping of the points of the fronds when dry, but all the same it may be suffering, and what has been indicated as an after-sign will in due course ensue. The deciduous *Davallias* should be kept quite on the dry side whilst they are resting; a lower temperature by 10° than that in which they thrive during growth will then suffice. The evergreen species of the same family should not be kept more than moderately dry; although no great amount of growth will be made, yet sufficient moisture must be given to keep the plants fresh. *Adiantums*, on the whole, will be preserved in better condition if kept tolerably dry, *A. Farleyense* taking as much or more water in the winter than any kind I know, save the semi-filmy variety *A. reniforme*. *A. Farleyense* cannot resist drought at all; the individual size of the pinnae accounts for this plainly enough. Several varieties of *Adiantum* are partially deciduous, as *A. trapeziforme* and *A. concinnum latum* of the larger sorts, and *A. amabile* with others of small growth. Even *A. cuneatum* may be treated as a deciduous plant, and it will start into fresh growth with renewed vigour in the spring if given a good rest. The *Aspleniums* all need liberal treatment; they will endure a partial drought, but it is not good for them. *A. nidus* (*Thamnopteris nidus*), the Bird's-nest Fern, is more of an aquatic than almost any other Fern. It must not be overpotted, but it requires plenty of water. The *Blechnums* and *Lomarias* must not suffer in this way either, or they will be disfigured with thrips. The *Pterises* are all fond of a liberal supply of water, but especial care must be taken with *P. scaberula* to see that it does not in any sense become dry, or it will soon be past recovery. The *Cheilanthes* thrive best, perhaps, as small plants, but specimens may be grown with care; these also need a liberal supply of water. I do not, in advising this, mean to infer that they may be watered *ad lib.*; this would never do, but they must not feel the want of it. The *Gleichenias* are another case in point wherein a liberal treatment as regards watering is needful. These Ferns are very shallow rooting, whilst the roots are fine and wiry; hence, if they feel the effects of drought, the growth quickly succumbs. These handsome Ferns should not be either overshadowed by others or be kept in too warm a house; a fairly moist cool house will suit the majority, the most notable exception being *G.*

dichotoma, which is seen to far better advantage when grown in a cool stove temperature. The climbing *Lygodiums* make beautiful specimens, but towards the autumn they are liable to be attacked by thrips, more especially *L. scandens*, which is best treated by being dried off about this season of the year, when all the fronds can be removed. The *Marattias* are gross-feeding Ferns, requiring a deal of water to support them in a healthy condition. Quite the opposite is the case with large plants of the *Platyceriums*; these during the winter will remain healthy and fresh with but little attention in the way of watering. When any is given them, it should not merely be a superficial watering, but sufficient to penetrate to all the roots which are oftentimes encased with decaying growths. The *Polypodiums*, the *Platylomas*, and the *Phlebodiums* all thrive best under a medium course as regards moisture. Tree Ferns of the various genera all need a liberal treatment. More harm is probably done to them during the dull season of the year by allowing them to become too dry than at any other period. At no time should they so nearly approach the dry side as to suffer in the slightest degree. Some are more sensitive than others perhaps. I have at any rate noted how soon the effects of drought are discernible in the case of *Dicksonia squarrosa* and *Cyathea medullaris*. Taking specimen Ferns as a whole, a great deal depends upon the healthy state of the roots at all times. If the soil be sour and exhausted, the roots will in due course become weakly, suffer and decay; then it does not take a long time for a specimen to dwindle away. It must be borne in mind that between large plants and small ones there is a considerable difference as to the quantity of soil for the roots to work in; there is never the same risk of the soil in which a small plant is growing becoming sour if overwatered as there is in the case of a larger plant.

GROWER.

Nephrolepis.—I am rather taken to task by "W. W." for omitting to name one or two species in my notes upon this genus on p. 333. There is but one plant described on p. 371 by "W. W." that I regret to have omitted, and that is *N. rufescens tripinnatifida*. This quite slipped my memory, for it is one of the most lovely Ferns which I know. I am only sorry that it keeps so rare. *N. Duffii*, distributed by Mr. Bull under this name in 1877, although a very beautiful plant, I purposely omitted, because I do not think it gets its right place when assigned to the genus *Nephrolepis*; the others are not species, but varieties of those I have given, saving *N. Barteri*, which I regret I do not know.—W. H. G.

Nothochlæna rufa (*D. Grant*).—This is the name of the specimen you send, and not *N. trichomanoides*. I have specimens of the plant gathered in Jamaica by Wilson. This was called *N. ferruginea* by Hooker, on account of the colouring of the under side. The two plants have been considered identical ever since; therefore I retain the oldest name. It is a beautiful Fern, forming a handsome specimen for a small hanging basket. The plant you have it for, viz., *N. trichomanoides*, is equally well adapted for the same purpose, but is stronger in its growth and the pinnae are larger, the under side coated with a white powder. You should obtain it as a companion plant to *N. rufa*.—W.

Nephrolepis Bausei.—This pretty Fern, which is mentioned on page 371, has one noted peculiarity, and that is it is totally deciduous, for not only do all the fronds die off, but frequently the entire crown and rootstock as well, leaving nothing but a few detached tubers, which when growing were connected with the parent plant by a slender root-like substance. A good way to treat it is to keep the soil slightly moist during the winter, and

early in the year before growth recommences it may be turned out of the pot and the small oblong-shaped tubers searched for. They should then be potted singly into small pots and shifted on as required. Occasionally the crown does not die, and when this happens it pushes up strongly in the spring. This note is prompted by the fact that at the present season this pretty and distinct Fern may be thrown away under the impression that it is quite dead, while a close inspection of the soil would reveal the small tuber-like masses.—H. P.

Brainea insignis.—I am thankful for any information respecting this plant, but yet I do not think that "W. W." has added much to our knowledge of the plant by his remarks on page 372. I am quite aware it has been raised at Kew, for I myself raised three distinct batches of spores from the plant at Kew some thirty years ago. These spores never got beyond the prothallium stage, and it was with the view of finding out how the seedlings developed that I asked for information. I was not aware that seedlings had been raised at Holloway after I left there, or that a plant of sufficient size to produce spores ever existed in the establishment.—W. H. G.

Lastreas from New Zealand (*T. Anderson*).—I have three species of this genus sent for names, which I here give. No. 1 is *Lastrea hispida*, one of the handsomest greenhouse Ferns that can be grown. No. 2, marked *laurakei*, is *L. velutina*, and is nearly allied to *L. decomposita*, but it is much softer to the touch. It is, I think, a rare plant in our gardens. No. 3 is *L. glabella*, a dwarf form and very elegant. It used to be common in the cool fernery.—W. H. G.

SEASONABLE NOTES.

INDOOR FERNERIES PLANTED OUT.—At this season of the year and onwards until sharp frosts ensue, rather more ventilation, comparatively speaking, should be given than has been the custom of late. Through the hot weather there would without doubt have been sufficient air admitted to keep all things right, but with the cooler days and nights this would possibly be withdrawn to some extent. In doing this whilst there is still but little need of fire-heat, there will be the possibility of an excess of moisture that must be prejudicial to many Ferns if it continues. Not only would it induce damping off, but the growth would also be tenderer and not so well calculated to withstand the more trying days of winter. By maintaining a more buoyant atmosphere with the decline of the sun's power a hardening process will ensue which will be in every sense better for the plants. This advice is all the more applicable where tanks of water, with aquatics possibly as an adjunct to the Ferns themselves, prevail; these tanks tend to render the atmosphere too moist at this season of the year without slightly more ventilation. With a trifle more air both by day and night when possible, it is a good plan to have rather more warmth in the pipes than would otherwise be really desirable. By following this course it may be found necessary to water more frequently, but this is in no sense undesirable—an advantage rather in many instances. Where the use of the syringe is still found needful, it should be attended to early in the day and never towards nightfall. The growth of the Ferns will oftentimes at the end of the season's activity have become in some cases too dense. Where this is found to be the case thinning out may be desirable; this may be done by taking the fronds whilst fresh and good for use in a cut state, or by thinning out the older ones before they actually decay. That most common enemy of Ferns, the brown scale, will possibly have escaped detection during the busier times of the past few months. If this be so, do not let it go on increasing any longer. Badly infested fronds had better be removed where they can be spared, and others be looked over carefully. Transplanting in any case should not for the present be thought of, nor will fresh soil be found desirable, unless it be to fill up cracks or to protect roots

from which the soil has been washed away after several waterings. In some instances a little Sphagnum Moss might be found handy. Slugs and snails will want closely looking after at night; they will find their way inside now wherever they can. A few fumigations would not be at all amiss to check both thrips and green-fly. If there be still any shading on the roofs it should not remain any longer; this also has a tendency to encourage damp, and that more so than some would imagine who have not taken note of it. Of course, if roller blinds have been used there will not be any trouble in this direction, but these should also be taken off now there is no further use for them.

The foregoing remarks have had reference to ferneries in general, but in special cases where the Filmy Ferns are grown to any extent, it is not advisable to materially alter the atmospheric conditions, otherwise these somewhat delicate varieties will suffer. It is possible to grow these beautiful Ferns without the double covering by giving them special attention, but too brisk a circulation of air would act prejudicially on them. If other plants than Ferns form an important feature, their regulation may require some modification. The variegated *Panicum*, perhaps, will have grown freely; so also would the *Tradescantias* of scandent growth. These will be all the better if kept well under control now, so as not to injure the Ferns. If the slender-growing and Fern-like forms of *Asparagus* are present, and these are in any sense of dense character, every opportunity should be taken of cutting out here and there some pieces for using in a cut state. *Begonias* of the fine-foliaged sections are frequently used, and beautiful objects they make in ferneries, but they should not be allowed too much license, otherwise they will cast too much of a shade on other things. *Ficus repens* will also need to be kept in check; this oftentimes grows as rapidly in the winter season as at any other; however, as it is very handy in a cut state, it can be kept under when desirable. Large Tree Ferns if planted out in ferneries oftentimes exceed the dimensions one would like to restrict them to. If such as these are imparting more shade than is desirable, I would not hesitate to remove a frond or so at a time, always taking the oldest of them. To try and check them by other means is a risky process; if they be kept at all on the dry side, it is to their material injury, and to lift them is not much better. If in any case they are getting too tall, it is possible to lower them in some places with decided advantage. Such work as this may well be done now; there is more time to do the work well. The raising of the roof would in many a fernery be a very marked improvement. It is possible that all looked well and in proportion until the growth had progressed to a large extent; then in many a case it would be plainly discernible how much better would be the effect if the roof were carried up higher. Such work had better be done now than in the spring.

FILICES.

ORCHIDS.

CATTLEYA LABIATA AND C. WAROCQUEANA.

THESE varieties are at the present time flowering very freely in many gardens round London and in various other parts of the country, judging from the numerous blooms that have come to hand during the past week; notably two flowers of a very good form from Mr. Joseph Barclay, gardener to Mr. H. Rowlands, of Alexandra Park, Manchester. Remarkably fine and highly coloured blooms also came from Mr. T. Calverley, Leeds. Several other readers also send flowers, which, although extremely beautiful, are not of sufficient merit to call for any special note. Two of the most beautiful displays that I have seen are in the garden of Mr. J. T. Gabriel, Palace Road, Streatham Hill, and in

that of Mr. Measures, The Woodlands, Streatham. In Mr. Gabriel's collection are many very highly coloured forms and others of a paler shade; indeed, there are one or two very fine flowers which appear very much like the form which used to bear the name of *C. labiata pallida*, but which present-day Orchid growers have named *C. Gaskelliana*. There are also some very broad-petalled and dark lipped kinds which are extremely fine, and amongst them is a very fine form with pure white sepals and petals and a very fine lip, the ground colour being pure white, the entire front lobe being overlaid with the richest purple. This is a gem, and one which appears to crop up amongst the imported plants but rarely. I would advise collectors to look out for such specialities of the variations of the typical forms of the *labiata* section more often than appears to have been done, for such a consignment, although it might be of small dimensions, would be of infinitely more value than a quantity of the ordinary type. At The Woodlands also these two kinds are blooming very freely, the side stages in one house being devoted to them. There are some exquisite flowers amongst them, but the more I see of the recently imported plants, the more I am convinced that Lindley had a magnificent variety of this plant to name the old *labiata* by. I had, however, a piece that had been divided from Mr. Cattley's original plant. Many of the growers of the present day form their opinion of *C. labiata* (a few of which have from time to time been imported since) from the fact of the plants having a double sheath, this being sufficient to convince them that it is the true *C. labiata*. I very much doubt if any of the old plant grown by Mr. Cattley is still to be found in any garden. One of the readers of this paper showed me two years ago a plant in flower which was said to have come from the Continent and to be the true form, but the colours of the flower bore no comparison to those of Lindley's plant, and when I disputed its identity I was shown the double sheath as a convincing proof. I was also shown a plant in flower by the late Mr. Hall, but this was not from Lindley's plant, and it is only here and there a plant crops up. Mr. Broome, of Llandudno, sent me a year or two ago a flower which was the nearest approach to it which I have seen. I have not written the above in any way disparage the flowers we now have, for they are exceedingly beautiful, although not equal to those of the original form. In Mr. Measures' collection is a light form which, if I mistake not, bears the name of *C. labiata Sanderæ*. This is an exquisite flower, being large and spreading, the sepals and petals of the purest white, lip large, also white, stained in the front with a feathery blotch of purple, leaving quite a broad white border. This is a quite distinct plant from the one before mentioned as flowering in Mr. Gabriel's garden in the same neighbourhood. In The Woodlands collection there are also some fine dark flowers of both these plants.

WM. HUGH-GOWER.

Cypripedium Lawrebel.—This magnificent hybrid, raised by Sir Trevor Lawrence between *C. Lawrenceanum* and *C. bellatulum*, is now flowering in Mr. Measures' collection at The Woodlands, Streatham, and it is a far finer flower than the original form, which bloomed at Burford Lodge. The scape bears two flowers, which are of great size and very richly coloured, the dorsal sepal being very broad, 2 inches across, and as much in depth, of a rich crimson, with darker veins, the central portion being lighter; lower sepal small and similar in colour; petals $2\frac{1}{2}$ inches long and 1 inch broad, having a ground colour of ivory-white,

heavily spotted with purplish-black, flushed with crimson at the margins. The apical half is wholly crimson, and here the black spots are smaller and much thicker. The pouch-like lip is also of a deep crimson, pale green beneath. This is the most richly coloured and the most beautiful *Cypripedium* I have seen.—W. H. G.

Luddemannia Pescatorei.—This very rare plant I recently noted in the nursery of Mr. Seeger at Dulwich. As I had not seen the plant growing for years, I should scarcely have recognised it from a *Lacæna* or an *Acineta*, to which in fact it is nearly allied, as in its manner of growth and its style of flowering it much resembles these genera. Lindley classes it with the Swan-necked Orchids, which are better known by the name of *Cycnoches*, from which, however, it would appear to differ in the shape of its lip. The flower-spike is produced in a pendulous manner from the base of the pseudo-bulb, the raceme bearing from twenty to thirty flowers, the sepals being of a brown colour, the petals and lip canary-yellow. It is a very pretty and elegant plant, and as rare as it is beautiful. It was discovered some years ago in Venezuela.—W. H. G.

Cattleya Bowringiana.—G. Scott sends me a nice series of this beautiful autumn-flowering *Cattleya*, which was introduced a few years ago from British Honduras by the Messrs. Veitch, of Chelsea. Amongst them are some nice flowers of the typical forms, the blooms being large, with the dark blotch in the lip well developed, the colours being exceedingly beautiful and quite unlike those of the ordinary type of *Bowringiana*. They more resembled those of the lovely spring-flowering *C. Skinneri*—W. H. G.

GARDEN FLORA.

PLATE 934.

SCHIZOCODON SOLDANELLOIDES.

(WITH A COLOURED PLATE.*)

IN 1889 lovers of hardy plants were on the tiptoe of expectation on the introduction of the rare and beautiful *Shortia galacifolia*, which we are glad to say is now fairly plentiful in gardens and promises to stay with us. The introduction of the *Schizocodon* is due to the exertions of Captain Torrens, who in 1891 found the plants growing beside sulphur springs in Japan, and after carrying them many hundreds of miles, succeeded at last in bringing home three or four living plants. This species was first found by Professor Zuccarini in the mountains of Japan and named by him as above, in 1843, from the *Soldanella*-like appearance of the flowers, and in which it differs from the *Shortia*. Some years later Dr. Maximowicz found what he considered two new species, one of which (*S. uniflorus*) was recognised by Dr. Asa Gray as his *Shortia galacifolia*, and *S. ilicifolius*, which is near, if not identical with, the original *S. soldanelloides*. The natural order to which the *Schizocodon* belongs contains only six genera, five of which are now in cultivation—*Pyxidanthra barbatula*, *Diapensia lapponica*, *Shortia galacifolia*, *Galax aphylla*, and the subject of our note, all of which are growing in the alpine collection at Kew. *Berneuxia* is not, we believe, represented in

* DRAWN FOR THE GARDEN by Champion Jones, April 7, 1893, in Captain Torrens' garden at Baston Manor, Hayes, Kent. Lithographed and printed by Guillaume Severeys.



ACHILLODON SOLFANILLIODES

cultivation, but as it also is worthy of a place among our choice plants, we hope soon to see it in a living state. The flowers of the *Schizocodon* are like those of a large *Soldanella*, prettily fringed, deep rose in the centre, passing into blush or almost white towards the edges. It evidently requires much the same treatment as the *Shortia*, and will not stand coddling.

Captain Torrens, in whose garden at Baston Manor, Hayes, Kent, the drawing was made, sends us the following note about the subject of the plate:—

The plant I found in an overhanging bank surrounded by moss and moisture. Since I brought it home I have kept it in a pot with peat and sand. It is a hardy plant, and I have had it out two winters in a cold frame, and it seems to have stood the climate well. I was successful in getting two seed-pods and have sown the seeds.

THE WEEK'S WORK.

FRUIT HOUSES.

PRUNING EARLY PEACHES AND NECTARINES.—Although the wood has long since become firm and well ripened, the leaves in most cases held on very tenaciously. In but few instances, or where the trees are young and have grown very vigorously, ought there to be any need to longer defer putting both the trees and house in good order for being started towards the end of November or early in December. If the advice to early cut out much of the old bearing wood soon after the crops were gathered has been acted upon, not much pruning will now be needed, but in any case all the trees should be gone over now and the pruning completed. It can always be done most effectively before the trees are taken down from the trellises, the operator being then better able to judge what is best to leave and what ought to be cut out. Crowding the branches should be avoided, though if bud-dropping sometimes occurs, very hard pruning ought not to take place. It is the extra strong young growths that are most likely to cast many or all of their flower-buds between now and flowering time, and seeing that the buds seldom drop from the under-sized wood or spray and short natural spurs, a good proportion of these may well be distributed over the trees. Especially ought spray and short spurs to be retained on Waterloo, Early Alexander, and Hale's Early Peaches and Lord Napier Nectarine, these being great offenders as far as bud-dropping is concerned. A too free use of the knife is most unwise, especially if there is good room for the trees to spread. At the same time they must not be allowed to "have their head" too freely, or the lower branches and centre of the trees may get much the worst of it. Fore-shortening or cutting back straggling branches on fast-spreading trees to better placed inner growths, and the cutting back of end branches on trees that have reached their limit to young shoots somewhat nearer the main stem, ought certainly to be practised. Novices are apt to trim all alike to a regular line, but this will not long prove satisfactory. Unhesitatingly cut out the end branches as much as possible without removing all the bearing wood, enough of the latter being left to thinly clothe the wires or walls to within a few inches of the limit. It is not merely the growths that produced fruit this season that should be cut out where thinning out is necessary, but some of the old wood may well accompany it in many cases, even if this necessitates the use of a pruning saw. All cuts should be close up to another branch or shoot, and the edges of the wounds be rounded off with a knife. Very gross young shoots are best cut cleanly out, while those of about the thickness of a lead pencil and of considerable length may be shortened to about 2 feet, cutting to a well

placed triple bud. The best class of wood is that which is a little smaller, and this should be left from 12 inches to 18 inches long with a view to keeping up the supply of equally good wood. Most of the smaller or thin shoots have wood-buds only at the points and sometimes at the base, and must be well examined prior to pruning. If they can be freely shortened to a triple bud, the centre one of which is small and more pointed than the other two—being therefore a wood-bud—so much the better, as this will most probably strengthen the next breaks.

CLEANING THE TREES.—Where brown scale was not wholly got rid of last winter, it increased and spread with surprising rapidity this summer. The most effective is also the most easily applied remedy. Brushing and scrubbing the trees with strong insecticides are both laborious and only partially effective; whereas, the petroleum remedy, if persevered with, effectually clears the trees of this troublesome and sickening insect pest. After the pruning is completed, the trees loosened somewhat and the borders cleared of all rubbish, the wood-work and glass cleaned and the walls white-washed, syringe the former freely with petroleum, soft soap and water, and if this soaks well into the border, good, rather than harm, will be done, especially if there was any black fly on the trees. Heat the water to about 120°, this condition being insisted upon if the remedy is to have a fair trial, and to every 3 gallons of this add a lump of soft soap about the size of a hen's egg and 6 ozs. or three wineglassfuls of ordinary petroleum, or paraffin, as it is generally, but wrongly termed. The oil must not be permitted to float on the surface of the receptacle, but should be kept mixed with the water, this being done either by returning every second syringe (after the mixing has been accomplished by means of the syringe) forcibly back into the receptacle, or else by keeping two syringes at work, one distributing and the other keeping the oil mixed with the water. This mixture should be used in no half-hearted manner, it being of the greatest importance that every branch and shoot be thoroughly wetted by it. There is no necessity to syringe the trees with clear water a few hours after using the petroleum mixture, and if one application of the latter does not thoroughly clear the trees of scale, a second dose should be given. If it does not also destroy thrips and red spider as well as scale, mealy bug and aphides, it will, at all events, get rid of the greater part of them.

TOP-DRESSING THE BORDERS.—Supposing the trees have not been partially lifted and given the benefit of a good addition of fresh soil, those that are rooting in a border largely exhausted of requisite fertilising elements should now have a top-dressing of fairly rich compost applied to the borders. First loosen the surface, well baring the topmost roots, then, if the soil is at all dry, give a good soaking of liquid manure a few hours prior to top-dressing, this being better than having to saturate the fresh soil in order to well moisten the border previous to starting the trees. For these top-dressings use good fibrous or other fresh loam, flaky manure in equal parts, and old mortar rubble, burnt soil, the ashes from wood, rubbish, and weeds generally, and bone-meal being added with advantage. Where the borders are already quite rich enough and the trees yet present a somewhat sickly appearance, a light dressing of newly-slaked lime, forking this in very lightly, will, when washed down to the roots, act most beneficially.

LATER HOUSES.—The leaves are rapidly parting from all the trees, and a switch would readily remove what remain other than those on very green shoots. They ought not to be left lying on the borders for red spider and thrips, if any, to leave them and seek safer winter quarters. There is no good reason why the pruning and cleansing should not be proceeded with in both succession and late houses, only trees that have failed to ripen properly being left for a time longer. Trees may yet be brought in from open walls when needed for furnishing blank spaces, or newly-purchased trees can be similarly utilised. It is not too late to practise root-lifting, or to raise trees the collars of

which have sunk several inches below the surface. The collars and with them the bulk of the roots being deeply buried is one of the principal causes of the trees having the "yellows;" bringing them up to nearer the surface and a free use of fresh soil are the best remedies for this evil. Let the collars be rather above than in the least bit below the level of the border. All houses should be kept as cool and airy as possible, having to turn on heat for the benefit of other occupants of the house, especially if air is not admitted freely, being a not unfrequent cause of bud-dropping. No excitement to sap movement ought to be given till the time has arrived for starting the trees, and a sharp touch of frost will do good.

PRACTICAL.

PLANT HOUSES.

AMARYLLIS SEEDLINGS.—Where seed was sown as advised in a former calendar some weeks ago, the young plants should now be fit for potting off; to keep them in the seed-pan till the turn of the days would be a mistake. By that time there would be more risk of injury to the roots in the process of disentangling them, whilst by potting now they will be preserved intact. Ours have been potted this week into 2½ inch pots. I prefer to pot them singly, although I know some successful cultivators put a few together into larger pots, but this means that more soil is taken up than is absolutely necessary. Besides this, in giving the succeeding shift in the spring there is far less check to the growth when potted separately at first. Our seed was kept in a stove temperature from the time of sowing and the seedlings will remain there through the winter, as watering is more easily attended to than if in pits. I find a good place to be on a shelf about 1 foot above the hot-water pipes; in that position they dry up sufficiently to keep the soil in good condition. In our case the rate of germination has been 86 per cent. With this not the slightest fault can be found.

YEARLING PLANTS AND FLOWERING BULBS.—Last year's seedlings, now about fourteen months old, have made most satisfactory progress. These by about February will be fit for 6 inch pots. To pot these now would be a mistake, as the growth is not sufficiently active. They have not had any rest from the seed stage, nor will any be allowed for another twelve months. These plants will remain in a heated pit with a night temperature of 55° to 60°, and be plunged in cocoa fibre to the rim of the pots. An occasional watering will be given to keep the soil sufficiently moist so as to preserve the leaves from turning yellow. Older bulbs of over two and three years' growth have been taken out of the heated pit and laid on their sides in a late vinery where the night temperature is about 45° or 50°. These are now going quietly to rest prior to starting again for flower in the spring. One of the greatest enemies to *Amaryllis* culture is the mealy bug; where the plants are infested with this pest every effort should be made to dislodge them. A good plan about now is to carefully remove the oldest and outer scales, not too severely, however, and then to syringe the crowns of the bulbs with hot water. So long as the syringe can be held comfortably no harm will come to the bulbs.

OTHER AMARYLLIDS.—Of these, *A. alicia* will be now in flower or approaching that stage; at such times a little more warmth will assist in the development of the flowers. This variety being more of an evergreen in its habit requires to be kept moist at the roots at all times, more so, of course, during growth; moderately so whilst no growth is apparent. By fertilising the flowers seeds may be obtained, this being a good way of increasing the stock, as in the case of those first alluded to. *Vallota purpurea* (otherwise *Amaryllis purpurea*) should now be kept fairly on the dry side. As this variety can be wintered safely and well in a cool greenhouse, hardly any water will be needed until the spring. I have found a greenhouse shelf to be a good place for the *Vallota*. It is a plant liable to be infested with the *Eucharis* mite, or another insect very similar to it. To this,

I think, is to be attributed its disappearance from many gardens. Where there is any suspicion of its existence, I would at once commence operations against it by first shaking the bulbs out of the soil and then adopting the hot-water remedy as for mealy bug. After this has been attended to, the bulbs should be laid in sand and another turn or two be given before repotting into smaller pots than formerly.

EUPHARIS AMAZONICA.—Where there is a good stock of well-established bulbs which have recently made a satisfactory leaf growth, and thus far have not shown signs of flowering again, a little more heat should be given them; this with a slightly perceptible increase in the water supply will frequently induce them to bloom. If spikes appear within about ten days or a fortnight, there will be a good prospect for the supply at Christmas. In advising increased warmth and somewhat more liberal watering, it must not be inferred that I am in any sense in favour of what some would call a previous resting in a cool house, or that the plants should be dried up to encourage them to flower. Either one or the other of these extremes will in time produce such a rest as will in no degree be desired. If mealy bug be troubling these plants do not give it any peace, but endeavour by frequent sponging to eradicate it before spring comes round again.

OTHER BULBS.—Of these it is well to draw attention to *Urceolina pendula*, a bulbous plant which for this season of the year is not only distinct and interesting, but of good service also. If not already showing for flower, it will not be long in doing so. Since the dying down of the foliage no water will need to have been given, but when the spikes appear an occasional watering will prevent exhaustion in the bulb and encourage the production of finer flowers. By fertilisation seeds may frequently be ripened, this being a speedier method of increase. Where the Nerites have ceased flowering the leaf growth will be appearing; this must be carefully attended to, for upon its perfect development depends the success of the future season. Slightly more warmth than that of an ordinary greenhouse should be given to encourage this. *Lachenalia*s may be safely left in cold frames for a while longer. So long as they are just protected from actual frost they will be quite safe. It is the better plan to keep them as near to the glass as possible with liberal ventilation in fine weather. JAMES HUDSON.

THE KITCHEN GARDEN.

BRUSSELS SPROUTS.—Brussels Sprouts are far better than was at one time thought would be the case, and on heavy soils, instead of their being below the average, they are better than in the generality of seasons. Where the plants were set out too closely together, the chances are that many of the leaves will decay, and allowing these to remain, besides having a very untidy appearance, will certainly affect the quality of the sprouts. A free circulation of air will, therefore, be assured, and to the benefit of the sprouts. To pull away leaves which are not decayed is a very unwise proceeding, as these, besides assisting in the swelling of the sprouts, form a very good natural protection in time of severe frost. It is a mistake to cut off the tops of the plants for greens at any time during the winter, as the life of the plant is endangered by so doing, frost taking a greater hold of the plants. Decaying leaves should also be cleared away from all green growing crops.

CELESTIAL.—Although no harm will come to the roots where these are well earthed up, and further protected with a covering of dry leaves in case of a spell of severe frost, it will be well to lift a portion and store in sand in a cool shed for present and early winter use.

GLOBE ARTICHOKE.—Every season there are complaints of the stock of Globe Artichokes being either killed outright or so greatly injured, that they are very late in starting into growth, and then only in an enfeebled state. As Globe Artichokes come much earlier from strong stools, an early supply of suckers being also

assured, it is much the wisest plan to look well after these, as, however useful plants raised from seed may be, they are not to be compared to a true stock from suckers. Wet or decayed manure should not be used for protecting the plants in case of severe frost, this being as bad as no protection at all. Some rather long and dry litter is the best, the clumps being surrounded with this, a little also being sprinkled over the tops. Failing litter, dry leaves may be used, with a little soil thrown over them to prevent their being blown away.

LAYING BROCCOLI.—The warm state of the ground and the subsequent rains have caused this to grow very quickly. Plants where growing on rising ground or in an open and exposed site are better able to withstand severe frosts than those growing in low-lying gardens, and where perhaps the ground has been too heavily manured. In the majority of cases a sufficient check to exuberant growth will be gained by thrusting a spade under the plants and gently raising the soil, afterwards treading it down firmly around the stems. It is the plants with long stems that are in most need of a check, as these often are killed, whilst others of sturdier growth are saved. These are best laid with the heads pointing northwards. In this case commence at the north end, taking out a shallow trench, and then heeling the plants over, the soil, as each row has been laid, being placed upon the exposed stems.

STORE POTATOES.—Where Potatoes are stored under cover in sheds and such like places they are apt, especially if in too large heaps, and also when first taken up, to become over-heated. Now as this is much against their quality, it is very advisable, now that more time can be spared, to turn the bulk well over, also laying them out more thinly, as in this way the quality is preserved, and very often much improved.

SPRING CABBAGE.—The earliest planting is now making considerable headway on account of the abnormally fine and open weather. In their case it would be advisable to mould up the rows as a protection from frost. A. YOUNG.

ORCHIDS.

Now that we have entered into November, the sunlight, which was excellent in October, will fail us, and if a long-continued spell of dull, cold weather sets in it is not advisable to force the temperature up by overheating the hot-water pipes. There is now a grand display in the Cattleya house from the different varieties of the old *C. labiata*. Most growers will have found out for themselves that there is great variety amongst the imported specimens, and that the very handsome forms with broad sepals and petals richly tinged with purplish rose and broad deep coloured labellums are few, while the poorer varieties are many. Still there is always the anticipation of something out of the common turning up amongst the unflowered varieties, and all of them are very bright and beautiful at this season of the year. Moreover, many of them are sweetly-scented, and it is surprising how they vary in this as they do in the form and colour of the flowers. At a recent meeting of the Orchid committee it was a very interesting study to contemplate the different varieties of this Orchid in their form and colour. These handsome Cattleyas with the lovely varieties of *Dendrobium Phalaenopsis* fill our Orchid houses with the most attractive flowers at this season, which a few years ago existed only in the imagination. We must also be thankful for *Cattleya Bowringiana*, a quite distinct species also flowering now; it is altogether distinct in character even from *C. Skinneri*, which is the species most like it. There is also a considerable difference in the form and colour of the flowers of this variety; both of them seem to be of easy culture. When there are so many Orchids in flower, it is better to keep the atmosphere well on the dry side, so that the flowers may last for as long a period as possible, but even as regards the health of the plants it is well to err on the dry side at this season, and the over-anxious cultivator

will probably give the objects of his care too much rather than too little artificial heat. The deciduous *Calanthes* are looking remarkably well and throwing up very strong spikes, but they do best in the warmest houses until the flowers commence to open, when they may be placed in the *Cattleya* house. Those who do not care about high temperatures may find much pleasure in the cool house at this season. There is always plenty of flowers upon the *Odontoglossums*, especially the varieties of *O. crispum*, which with good care last long in beauty. But it is well to consider the health of the plants. When it is seen that the bulbs are shrinking owing to the spike of flowers pumping the juices out of them, it is better to cut off the spike and use it indoors.

A plant I think highly of is *Maxillaria grandiflora*. The flowers are white with the exception of a coloured lip, the plants grow with great vigour on the back stage of the house, and each plant produces scores of its handsome flowers. *Cypripedium insigne* and its varieties also do remarkably well in the cool house, the flowers lasting a long time in good condition. The recent importations of this old species have given several very distinct varieties, much excelling the original type in beauty, and it is yet, both for decoration and for cutting, the most useful of the *Cypripediums*. Slugs and other depredators are usually very active at this season in the cool house, and one or two of them can soon do a great deal of damage to valuable plants. As a precaution I place any choice specimens on an inverted flower-pot, which has been placed in that position in a saucer of water, and if care is taken not to allow the plants to come into contact with others not so protected they are safe from injury. I find slices of Carrots laid in the haunts of the slugs are very attractive. They may be found feeding on them at night, and as often as not concealed under them the next morning. I have previously urged the importance of keeping the plants free from insect pests. It is not safe to use tobacco paper for fumigating, as if it is applied strong enough to kill the insects, it also injures the plants. Plants of the various species and varieties of Orchids that have passed into their resting period must not be altogether forgotten, as much mischief is done by what may fitly be termed the over-resting system. This may well be observed in the different species and varieties of *Dendrobium*. The short, thick-stemmed varieties can remain plump much longer than those with slender growths, of which *D. Falconeri* may be taken as the extreme limit. This species may be kept almost without water during the winter, and as a result flowers will be produced abundantly the following season, which will so exhaust the plants, that the growth subsequently will be very poor, and a few seasons of such treatment will quite ruin the constitution of the plants. Even the truly handsome *D. Wardianum* might be kept in vigorous health longer than it usually is if care was taken to rest it just enough—neither under nor over. It is not well to keep them in a place too cool or too dry, and when the bulbs begin to shrivel, give them a little water—in fact, one good watering, allowing them to become thoroughly dry again before they get another. *D. nobile* in its varieties is one that suffers least in health from a rest. The plants may be placed in a warm corner of the greenhouse out of the reach of draughts, and they do not need any attention until they are placed in heat to start them into growth again. They should all be placed in a light position when resting—near the roof-glass if possible. J. DOUGLAS.

Iron spouting and roofing to sheds.—For the past seven years we have made some considerable experiments with iron roofing for farm buildings and garden sheds, and could hardly have suspected it is so tad in use as it has proved. A strongly framed shed in an open pasture was covered with the best quality of iron, not galvanised, the manufacturer telling us that dressing with black paint would save it for many years.

We have only had it up three years, and already the rust is eating into it. Some sheets of which the spouting was of the best quality, but not galvanised, have rotted away like so much blotting-paper under rain. Considerable expense now devoted to the roofing of sheds with galvanised and ungalvanised iron is wasted. Iron is a precious material in its proper place, but everything about a roof should not be of iron. It is enormously cheaper in the end to cover with tile or slate, and much prettier to use the very old-fashioned material, shingle, which is in common use in Switzerland, Northern Europe, and America. Had our guttering been painted about twice since it was fixed, it would have been better, no doubt; but who could devote his time to watching and painting the spouting of sheds? Cast-iron guttering will stand much longer than wrought iron, as it is nearer the natural iron ore; but even that will not stand long without being painted.

KITCHEN GARDEN.

ENGLISH TOMATOES.

WHATEVER may be said about the preference given of late years to novelties of a coarse character among the majority of vegetables, such strictures do not rightly apply to Tomatoes. Not only are the newer varieties of the latter that have come to the front more remarkable for other good qualities than great size, but it is also worthy of note that judges at flower shows are following the line set in the markets, that is to say, good form and colour are the points most considered. The Tomatoes that sell the most readily and realise the best prices are not those which are half a pound and upwards in weight, but rather those which run from four to six to the pound, always provided they are of good form, quite sound, rich red in colour and not too ripe. In Ham Green Favourite we have a model variety for all purposes, though more recent introductions are somewhat superseding it. This very popular variety is of fairly strong growth, very free-setting and productive, the larger fruit being good enough for exhibition and the rest just what suits buyers. Sutton's A 1 with me has repeatedly proved a distinct improvement on Ham Green. A 1 possesses a stronger constitution (this being most apparent in either poor soil or in the open), is equally productive, the later-formed fruit not falling off much in size, the good form—smooth, round, inclining to obovate—colour rich red, and quality being very similar to that of Ham Green. A 1 was also good in the open last year, this being when other varieties failed badly. Challenger has during the present year gained golden opinions, this also being in the way of Ham Green, but quite distinct from both that and A 1. It is a grand cropper, there are no coarse or ugly fruits, and not so much cracking going on as with several other varieties that could be mentioned. Challenger is good for either early main-crop or late planting, and is likely to be a favourite for some time to come, albeit it is not quite large enough for exhibition. Chemin, a variety raised by Vilmorin and Co., Paris, is sometimes said to be identical with Ham Green and occasionally with Challenger. There is certainly a strong family likeness, but when grown together by the hundred, they prove distinct enough. Of the three, Chemin is much the most liable to the black spot or disease that attacks the point of the fruit, and cracks more than the rest.

The Perfection family is a fairly large one, but as far as market growers are concerned is not nearly so popular as formerly. Those who

want fairly large, heavy, well-formed fruit, say, for exhibition ought still to grow the best selections of Perfection, of which there are several in the trade, and further, should take an early opportunity of pinching out all the malformed flowers, or otherwise the largest fruit will also be the ugliest. Hackwood Park Prolific is very nearly allied to the Perfection type, being, however, somewhat coarser and, I think, heavier cropping than the latter. Varieties that are more or less corrugated are numerous, and although, owing to the form of the fruit, not so popular as the smooth round sorts, they are yet remarkably free setting, heavy cropping, and fairly good in quality. The old Orangefield is not yet wholly discarded, and this dwarf early form much resembles the more recently introduced Open Air and Earliest of All, the latter having the advantage in point of size only. Personally I much prefer the American raised Ruby, alluded to on p. 339, to either of them. Conqueror is a heavier cropper than either of the three first mentioned, but not more so than Ruby, and is scarcely so good in form and quality. All the same, it will not be quickly discarded in private places where it has succeeded remarkably well, early and late, under glass as well as against open walls during the summer. To all appearance the newer Ladybird will have to be included in the Dwarf Early Red section. I have had no experience with it as yet during the winter, but under glass and in the open no very remarkable or exceptionally fine qualities have been developed. It is only fair to add that it was certificated owing to the impression conveyed that it is an extra good winter fruiting variety. The Large Red type is distinct from the Orangefield or Early Dwarf Red group, and comprises several reliable and good forms. At one time the old Large Red, and of which Earley's Defiance proved a good selection, was principally grown in the Channel Islands for market, and is still preferred by some. It is of fairly strong and very productive growth, the majority of the fruit attaining a good size, and it is a difficult matter to name a smooth round variety that, plant for plant, will produce so great a weight of Tomatoes. If the best prices could be obtained for them, then Large Red should still be grown, but corrugated fruit will not sell unless at reduced rates. Webb's Sensation, a decided improvement on Large Red, is one of the very best for planting in poor soil or in positions that the more delicate Ham Green family does not thrive in. Although a strong grower, the crops set freely, the fruit being large, somewhat corrugated, though not objectionably so, and heavy, the quality also being satisfactory. Several other improvements have been made by private gardeners on Large Red, two of the best of these being raised by Mr. Crook, Forde Abbey, Chard. From what I have seen of them at Forde Abbey, coupled with my own experience, one or both of them should prove very valuable for winter culture. The fruits set in great clusters, are moderately large, slightly corrugated, and of a bright red approaching to scarlet.

Small or comparatively small-fruited varieties are not likely to long remain popular, especially seeing that several of them are apt to come hollow, the quality also being indifferent. Those that are of the least value, although very heavy croppers, are Chiswick Red and its synonym King Humbert, Vick's Criterion, Golden Nugget, and Horsford's Prelude. The last-named is quite distinct from Chiswick Red, the fruit being flatter and of better quality; but, seeing that the newer Conference comprises all its good

qualities, and is further improved by having Ham Green blood in it, it is no longer wanted. Opinions vary considerably as to the value of Conference. It is undoubtedly one of the best for open-air culture, the plants producing extra heavy crops of medium-sized, well-formed fruit, the quality also being very satisfactory. Under glass it is not altogether an unqualified success. Unless grown very strongly the fruit as a rule is too small, and those who, fortunately, have made a selection from Conference that is equally prolific without extra high culture and the fruit somewhat larger, will do well to grow it extensively. I have seen plants of Improved Conference fully 10 feet long furnished with long clusters of fruit from the top down to the ground. The racemes lengthen out surprisingly, those first formed sometimes being 1 foot or more in length.

Of pinkish red-fruited varieties the best is still to be found in Dedham Favourite, this being particularly good for open air culture. The plants produce a heavy crop of smooth, round fruit, the quality being excellent. Market Favourite is of much the same colour, and is, therefore, wrongly named, none but rich red fruit finding favour in the markets. Of yellows there are not many to allude to. Large Yellow is an enormous cropper, but uneatable. Golden Queen is of much better form, or good enough for exhibition, and of better quality, while the prettily-tinged Blenheim Orange is also good to eat. Yellow King is only another name for Yellow Trophy, which is of little value. Red Currant, Red Cherry, Yellow Cherry, Yellow Plum, Pear-shaped, White Apple and Turk's Turban were, I believe, all introduced into and not raised in this country. They are pretty enough when growing, but very poor things when the flavour test is applied.

W. IGGULDEN.

A GOOD TOMATO.

AMONG the several varieties of Tomatoes grown this season, including different types of Perfection, Ham Green, Challenger, &c., all thoroughly good sorts, none has done better than a sort that came to me under the name of Barpee's Champion. It is a strong growing variety with very deep green foliage, a very free setter, fruit quite smooth and regular, and over average in size, a rich purple-scarlet in colour, thin skinned, flesh firm and solid with few seeds. The flavour is exceptionally good; indeed, for salad no other variety was used all the time plenty of this was to be had. I did not secure the seed until rather late, and am not able to give, therefore, a thoroughly decided opinion as to its cropping qualities given a long season, but should say there are few sorts from which a greater weight of fruit could be taken. The very thin skin renders it a little inclined to scald under the direct influence of a very powerful sun, and no more foliage should be removed from either outdoor or indoor plants than is absolutely necessary. I would strongly recommend a trial of this Tomato another year to all those who want a thoroughly reliable variety of excellent flavour. Some years ago a sort was introduced under the name of Dwarf Champion. It proved a very serviceable variety, a very heavy cropper, but it is far behind the American Champion for shape and delicacy of flavour, and the latter would also throw a greater weight of fruit plant for plant. It is a strong and fast grower. As outdoor Tomatoes continued to grow and set freely later than usual, there will probably be a good percentage of green fruits on the plants at the approach of frost. It may not be generally known that this green fruit will make an excellent pickle if placed in a jar or bottle with alternate layers (thin) of salt, the vessel to be then filled up with vinegar. Whilst on this subject I may be allowed to add a recipe for an excellent

Tomato chutney that is easily made. Draw the juice from 9 lbs. of Tomatoes, add to the pulp (the juice must not be used) 2 lbs. of Apples, half a pound of raisins, and half a pound of Onions thinly sliced, half a dessertspoonful of cayenne, one table-spoonful each of mustard seed and salt, and rather over 1 pint of vinegar. Place all in a preserving pan, bring gently to the boil, and simmer for two hours. Place in small well-dried bottles and cork tightly.

E. BURRELL.

Claremont.

The Japanese Pole Cucumber.—This is one of the novelties of the present season, and we have given it a fair trial from seed sent us by Messrs. Carter. It is called the Pole Cucumber because it will climb sticks like a runner Bean. We have some large plants that have grown in this way, and others running over the ground as ordinary ridge Cucumbers. It is evidently a very hardy kind, but when fit for cutting, its fruits with us have been too bitter to be pleasant eating. It would appear to have a value, however, as a gherkin for pickling, the little fruits being just about the right size for such a purpose, and by keeping them cut, no doubt a great quantity could be obtained, as the plants have great vigour. Full-grown fruits become very thick, are about 4 inches long, and if allowed to hang, they become netted like a Melon.

Field Mushrooms.—I have never seen or heard of such enormous crops of outdoor Mushrooms as there are this year. Bushels may be gathered within a radius of a few yards. Tons must have been gathered by the country folks and sent off by rail to the populous centres. A dealer of my acquaintance sells them at 1s. 2d. per lb. The hot and dry summer caused the spawn to run, and now the warm rains, with a comparatively high temperature, are causing the Mushrooms to appear in abundance.—A. YOUNG.

Market Favourite Carrot.—Sown at the same time as the old Nantes Horn—still a variety of great excellence—this sort soon takes the lead in growth and is ready for drawing a fortnight sooner than its companion. It belongs to the stump-rooted section, is perfect in symmetry, carries a fine colour, and, what is more, its fine flavour and almost coreless centre render it a first favourite in the kitchen.—JOHN CRAWFORD.

Spring Cabbage.—Owing to the genial rains of late, Cabbages have made rapid growth; indeed, I fear with mild weather many of the earlier planted will be ready for use in November instead of March. There is yet time to make up somewhat for this rapid growth, as if a good number of plants are raised, which is usually done in most gardens, a late-planted bed of spring Cabbage will prove acceptable. I am aware it is rather late, but with care in lifting and planting firmly, there will be few losses. When planting such kinds as Ellam's—one of the best of all—much closer planting may be practised. Though the heads of the late-planted lot will not be large, they will be useful if there should be a scarcity of spring vegetables. Ellam's turns in so rapidly, that there will be only a slight break between this and the earlier planted lots. I would also advise pricking off out of the seed-beds any left over. These will winter better and be useful in the early spring.—G. WYTHES.

Tomatoes.—With Mr. Iggulden's disapproval of Ponderosa I heartily agree. It should never be grown by anyone who wishes to have credit for being a judge of Tomatoes. With respect to Livingstone's Perfection, does that variety differ from what was several years since grown under the name of Livingstone's Favourite? I first obtained that—a very full, smooth, handsome deep red fruit—from Mr. Dempsey, who brought over samples from Canada with Apples, which were exhibited at the South Kensington Colonial Exhibition. I always regarded that variety as the parent of the Perfection type. It was as handsome as fruits of Excelsior, but larger; it was also a good cropper. Most certainly we have since its

day developed cropping qualities and greater solidity of flesh, but beauty, form and colour have made very little advance. As to cropping, I think we can hardly excel what the best forms of to-day will produce. We may yet develop greater solidity of flesh at the expense of seed production, but that is of no great consequence, as seed is very plentiful. We much want to increase flavour, but that is most difficult; indeed, I fear Tomatoes and Melons are in the same boat—we shall not better them in respect of flavour. One thing is certain: the Americans now have nothing to excel what we have raised for ourselves.—A. D.

Turnip Veitch's Red Globe.—This is a good Turnip without a doubt; no kind has this year given me more satisfaction, not even Snowball, which may possibly be quicker somewhat in turning in for first early use. This selection of the Red Globe cannot be too strongly recommended for private gardens, where mere size should never count as an important factor, but quality be given the premier position. As with other crops during the very hot weather, I found that repeated watering even of the Turnips paid well. Birds were very troublesome as the seed was germinating, compelling the use of nets as a protection for the first two or three weeks.—G.

COOL TREATMENT IN MUSHROOM GROWING.

ON March 18 last there appeared in the pages of THE GARDEN an article by Mr. W. Iggulden on Mushrooms under cool treatment, and which, I believe, was allowed to pass unnoticed. The article was short, but nevertheless valuable, and one which I would strongly advise all young gardeners and all persons about to embark in Mushroom growing for profit to very carefully study. The article suggests some very difficult and interesting questions, such, for instance, as the undoubted fact that an abortive Mushroom bed may yet contain dense masses of what, to all appearance, is living and healthy mycelium. In the first place, however, I shall refer to the main features of the article in question which allude to the cool treatment of Mushroom beds. It is very hard to persuade many people that the wisest and most profitable way of producing Mushrooms is to grow them under cool treatment. They insist that it is necessary to have the structures kept hot, and incur great expense in the purchase and fixing of hot-water pipes, refusing to recognise the fact that an ample supply of Mushrooms can be kept up throughout the year in properly constructed sheds entirely without the aid of fire-heat. Mr. Iggulden instances a bed spawned at a temperature of 75°, which in less than a week became quite cold and afterwards frozen, but which, with the return of a warmer temperature, yielded an immense crop of Mushrooms. My own experience during last winter was almost exactly similar. During the months of November and December, which proved extremely wet, I built a large shed, making the bed and spawning it in sections as the work of building proceeded. Everything was saturated with wet, floor of shed and timber used in its construction, whilst the manure itself was wet enough to frighten the most professional Mushroom grower. A thick coating of straw was placed on the bed after spawning, which was done at a very low temperature, the bed becoming perfectly cold very soon afterwards. Hard frost set in at the beginning of January and continued throughout the month, the straw on the bed and the soil casing becoming stiff and icy, and the inside of the roof clad with icicles. On February 1 the frost was succeeded by rain and much milder weather, and the first

picking of Mushrooms was made on the 8th, from which date till the first day of July the bed kept in bearing, the result being an extremely heavy crop of as fine, large, and succulent Mushrooms as any grower could wish for. The shed being constructed entirely of wood with a tarred felt roof-covering, of course was unfitted to resist the entry of frost to the bed, but given a shed with brick walls and thatched roof I am of opinion that Mushrooms could be produced in the dead of winter without the aid of fire-heat, provided a good straw covering be placed on the bed during very hard weather. As to the superior quality of Mushrooms grown under cool treatment over those produced under artificial heat, there can, I think, be no two opinions. For home consumption they are fleshy and full of flavour, and for market, in addition to the above qualities, they are heavy. Where proper structures are available, and care is exercised with regard to the time of laying down the beds, no one need fear, I think, to obtain a good supply of Mushrooms throughout the year without the aid of fire-heat.

Strong heat in a bed when it is spawned undoubtedly promotes rapid circulation of the mycelium, frequently resulting in the manure becoming a white mass of spawn, raising the hopes of the uninitiated to the highest pitch, but the final result is in many cases very disappointing. Mr. Iggulden says: "To all appearance the bed I have just commented upon was only slightly taken possession of by the spawn, but the manure being in a moist, decaying state afforded the requisite amount of moist food, and without which not many Mushrooms are forthcoming." This I have found to be correct in my case more than once, and I firmly believe that more failures occur from the want of sufficient moisture in the manure than from any other cause whatever. Writers on the subject of Mushroom culture invariably warn beginners against the evil effects of allowing rain to fall on the heaps of manure in the process of "making" or adding water in any form, but I can safely say that, so far as my experience goes, if water be not supplied to the dry heaps of manure before the beds are formed, the chances of a good crop of Mushrooms are very considerably lessened. I have frequently, with excellent results, watered a bed after it was spawned immediately before putting on the soil casing when I considered the manure was in too dry a condition.

Another point I imagine worth noting is the custom in some places of sifting the casing soil before placing it on the bed. I do not hesitate to condemn this practice. I have tried both ways, and find the better plan is to put the soil on the beds in a rough state just as it is dug from the fields, and without the removal of a single stone; the soil has then a less chance of becoming caked and hard by treading and subsequent watering, thereby rendering it in a great degree impervious to the delicate threads of the mycelium.

Under cool treatment, Mr. Iggulden states that after spawning sometimes a period of from two to three months may elapse before the appearance of the crop. In my experience I can amply verify this statement. I have frequently had a long wait, but it would almost seem to be true that the longer the wait the more ample the ultimate satisfaction. It would also seem futile to attempt to account for this occasional delay.

As a rule light and air are carefully excluded from artificial Mushroom beds, but I certainly do not find this of any advantage; on the contrary, sweetening a shed by the admission of air and even sun in calm, mild weather I think

benefits the crop wonderfully. How charmingly beautiful are the Mushrooms picked from a meadow on a dewy morning; how unlike the clammy produce of a dark, dank Mushroom shed or cellar. I believe the more air and light given to a Mushroom shed in suitable weather the nearer the produce will approach the clean, firm texture and bright colour of the wild plant. Of course, it is not admissible to give air in dry, windy weather, as the rapid dissipation of moisture from the beds would be fatal to good results, but I am of opinion that in calm, mild weather it would almost be impossible to admit too much air.

J. LOWRIE.

Autumn v. spring-raised Cauliflowers.—Like A. Young, I am still in favour of autumn-

gardens. The old Early London and Walcheren open more gradually, and one can cut and come again sometimes for weeks together. Moreover, their delicate inner leaves, which I think are a mark of high quality, folding over the flower, protect it from the sun's rays, thus rendering artificial shading unnecessary. Those who have no handlights can always winter a few in a frame. The labour of this is not great, and if carefully transplanted in spring and screened from cutting winds, the difference in the time of cutting will be very little.—J. CRAWFORD.

PASSION FLOWERS FOR DECORATION.

I AM afraid that these beautiful flowers are frequently passed over for purposes of decoration in a cut state. To allow this to happen is, however, a great mistake, whether it occur from

Granadilla), which is a prince of the family, a truly noble variety, whether it be for the sake of the flowers alone or in conjunction with its handsome-looking fruits. *P. edulis* also is a variety that can be strongly recommended; the flowers, it is true, are not so beautiful as some, but the freedom with which the fruits are produced makes amends for this. Take, for instance, the fruits of *Passiflora cœrulea*, of a beautiful golden yellow, and those of *P. edulis*, of a deep purple, and group them as in the case of the flowers, and a unique effect would be the result. One of the most profuse of the smaller varieties is *P. kermesina*, which is more adapted for a display on the plants than in a cut state. *P. trifasciata* is an ornamental-foliaged variety with white flowers; its foliage would be useful mixed with the flowers of other sorts also. *P. onychina* (ame-thystina) is, as a greenhouse variety, a fitting companion to *P. cœrulea*. Another excellent variety for the cool house is *P. Impératrice Eugénie*; it wants more room, however, than some kinds. Another variety still, and one which is strongly recommended, is *P. cœrulea racemosa* (this might possibly be the one in the illustration). Several others could be named, but attention has been drawn to a sufficient number to indicate their collective good qualities. One fact remains to be noted. It is that of the arrangement in the cut, which is an excellent example of free and informal grouping, wherein both flowers and foliage of the same plant are employed to an excellent purpose.

J. H. G.

STOVE AND GREENHOUSE.

DISTINCT PELARGONIUMS.

SOME three or four years ago no Pelargoniums of the zonal section attracted so much attention as *Souvenir de Mirande*, which was raised in France by M. Herault, and sent out by Messrs. Thibaut and Keteleer in the spring of 1887, but a couple of years elapsed before it was generally known in this country. The colour of its blossoms was somewhat of a puzzle, being variously described as salmon, salmon-pink and shrimp-pink, in all cases with a white centre. Anyhow, when once seen it rapidly advanced in popularity, and was soon to be met with in most gardens. As might be expected, other varieties of the same class soon put in an appearance, so that there are now several forms in cultivation, and Messrs. Cannell showed a very interesting selection of them at the meeting of the Royal Horticultural Society on October 10, and at the early Chrysanthemum show held at the Aquarium on the following day. The varieties represented were the first of its class, *Souvenir de Mirande*; Jacques Callot, a larger flower than the preceding, and of a slightly deeper tint; Mme. de Boudeville, to which an award of merit was given last autumn; Etoile de Lyon, distinct from any of the others, but difficult indeed to describe; and M. Dutail, with more red in the petals than any of the preceding. With these Messrs. Cannell showed a seedling of their own, a finer and richer coloured flower than any of them, and when sent out it will no doubt be much sought after. Pelargoniums of this class lend themselves to winter blooming as well as any of the other varieties, but one of the best for this purpose I did not notice among Messrs. Cannell's exhibit. This is M. V. Noulens, which was sent out in 1890 with such a glowing description, that there was a general feeling of disappointment when it flowered. The blooms are somewhat smaller than those of *Souvenir de Mirande*, not quite so perfect, and a good deal deeper in colour. It has, however, proved to be a good winter flowerer, the distinct shade of its blossoms being then especially noticeable. *Souvenir de Mirande* and all its progeny as



Passion Flowers loosely arranged.

raised, handlight-protected Cauliflowers for early summer supplies, and should, indeed, be unwilling to abandon that system. I must admit that since the wet summers commenced and all kinds of seeds have been indifferently harvested, autumn-sown plants have been less reliable than formerly and premature hearting more common. But the spring-raised plants of the small forcing section are by no means free from this defect, and will often disappoint. Only last spring I sowed seed of three separate strains in heat in February, and when large enough, potted the seedlings separately into small pots, gradually hardened them, and finally transferred them to a sheltered position out of doors, screening with Spruce boughs. I felt sure of success at any rate with one of the three lots, but was rewarded for my labour by the entire lot forming heads no larger than a 5s. piece. Had it not been for a handlight batch of Walcheren, I should not have had a single early Cauliflower to cut. Doubtless the dwarf early varieties are most useful in their way, but they are very liable to turn in all together and to afford no succession. This suits market growers, but is an evil in private

actual oversight or from an idea that they are unfit for the purpose. True, they do not last so long as many flowers, but this also occurs in the case of other plants. The blossoms of many a Rose, for instance, have lost their beauty at the expiration of the second day. Possibly it may not be known to some readers that blossoms of the Passion Flower will, if cut soon after they expand, last in good condition until the close of the second day. This period of time may by some be considered as fugitive, but it should not be, nor should the flowers be passed over on that account. In the accompanying illustration two varieties at least are clearly discernible; these are *Passiflora princeps* (known also as *P. racemosa*) and *P. cœrulea*, or its white variety, *P. Constance Elliott*. These are standard kinds, the one for the stove or temperate house, the other for the cool house or for verandahs and the open wall in favourable localities. To these should be added *P. quadrangularis* (known also as the

far as I know have a tendency to run up tall, so in order to ensure good plants they must be stopped rather freely when young. Though our neighbours across the channel send out a great many new varieties of zonal Pelargoniums, yet they appear to aim at novel tints more than good-shaped blossoms, for many of the varieties sent here from the Continent are greatly inferior in shape to those sent out by English raisers; indeed some of the flowers are so winged, that they would be considered to belong to the nosegay rather than the zonal section. Still, as above stated, the colours are often very distinct. H. P.

Breaks in colour of Impatiens Sultani.—It seems likely that this very useful plant will soon give us a great variety of colour. The produce of a single packet of seed sown this year gave several distinct shades, most of them darker and less beautiful than the typical colour, but one is a distinct gain, the flowers being of a delicate salmon-pink colour that is very attractive, while they have lost none of the satiny sheen so noticeable in the flowers of the parent plant. This class of the Balsams has done very well out of doors this year, but I doubt their capacity to withstand the weather of an ordinary summer, and should be chary of using them extensively in prominent positions. Their proper place is in the greenhouse, and they also make capital room plants if given a fairly light position.—J. C. T.

Dalechampia Roezliana.—No particular season can be assigned for the flowering of this euphorbiaceous plant, for though it generally blooms with the greatest freedom in the spring or early summer, yet it is now beautifully in bloom when flowers in the stove are not so numerous as is the case earlier in the year. It is a small growing plant of a shrubby character, that, given the usual treatment accorded to the general run of stove plants, will succeed perfectly. As with many of its allies, the showiest part of the inflorescence is not the flowers themselves, but the large leaf-like bracts which accompany them. These bracts are of a bright rosy pink colour, and being borne in great profusion, they impart a pretty and uncommon feature to a specimen. About a quarter of a century ago, when this *Dalechampia* was first introduced, it was thought a great deal of, and was grown by nearly everyone with a suitable structure; but after a time flowering subjects gave way to fine-foliated plants, the newer *Dracenas* and *Crotons*, as well as other things of this class, which made their appearance in such numbers from the South Sea Islands, and bounded into popularity, being answerable for this. Then the *Dalechampia* was not nearly so much grown, and one may go into many gardens and not see it represented, though it is really very bright and pretty. There is a white-flowered form, but it is not nearly so attractive as the other. Both cuttings and seed afford a ready means of propagating it.—H. P.

Tydeæ Marquis de Guadiaro.—Though *Isoloma* is now, I believe, regarded as the correct name of that beautiful flowering group of Gesnerads long known in our gardens as *Tydeas*, this last-mentioned generic name is now so firmly fixed, that it is not likely to be discarded, except in the case of botanic gardens, or such places where the continual altering of old established names forms such a stumbling-block. A coloured plate of one of the very best *Tydeas*—*Madame Heine*—was given in *THE GARDEN*, Vol. XXXIV., but the form under notice—*Marquis de Guadiaro*—differs considerably from that illustrated; indeed, it is one of the most distinct *Tydeas* that I have seen. The colouring of the flower is pale yellow, but it is so heavily reticulated with maroon and flushed with crimson between the veins, that little of the ground colour is to be seen except towards the edges of the petals, where the marking is a little less dense. Its most distinctive feature is, however, not in the colouring of the flower (as there are several others in the same way), but in the fact that the edges of the petals are so deeply cut as to form quite a

fringe, while in the commonly cultivated forms they are almost, if not quite, entire. The variety in question is not at all common, for though the name occurs in some catalogues for the last six or seven years, I have never seen it until the present season. Like its allies, it is especially valuable for flowering during the autumn and winter months. To bloom at this latter season they need the temperature of a cool part of the stove, or at all events an intermediate house, otherwise they will go to rest, and in this state their caterpillar-like rhizomes can be easily sent by post, it thus being a very suitable season for purchasing where it is intended to commence their culture. Sown in the spring, seed saved from a representative collection will give a very varied and interesting assortment of flowers.—H. P.

Abutilons.—Although there are many grand subjects for winter flowering, I think these are thoroughly deserving of more attention than they generally receive. Very few of the numerous greenhouse shrubs afford more variety of colour or produce so many blooms over the same length of time. From now until next May one may be certain of a crop, and as they are well adapted for a temperate house or conservatory, and are particularly free from insect pests, it is indeed strange that we do not meet with them more frequently. Grown in large pots or tubs, *Abutilons* are easily managed. My plants have just been taken under cover, and are already throwing a quantity of flowers. There will not be the slightest break in this supply throughout the whole winter. Against the back wall of a conservatory, or stood in groups in any corner, they have a unique and pleasing appearance. Almost any compost will suit them, but they enjoy a generous supply of liquid manure while in full growth and bloom. Treated similarly to *Chrysanthemums*, they provide variety of blossom, and also look well when placed in groups of the former flower. All through the summer they will do well in the open air; indeed, full exposure to the sun produces shorter and better matured wood, which provides a larger crop of bloom during the winter and early spring. Each May I prefer to knock them out of the pots and considerably reduce the balls. The plants are pruned back rather hard, and the new growths headed when they have all reached 3 inches or 4 inches long. *Abutilons* flower very freely from the points of all growths, and soon get leggy unless headed once or twice during the summer. As cut flowers they last a long time, but it is necessary to prevent any wet reaching the pollen-bearing parts of the bloom, as the nectar-like matter so soon becomes sticky and unpleasant, and spoils the flower.—R.

Campanulas as window plants.—When in the neighbourhood of Hastings recently we were pleased to see in the windows of the smaller houses baskets filled with *Campanulas*. It is strange that one does not see them more in larger places, although *C. isophylla alba*, the prettiest of all, is much grown as a basket plant in conservatories. The *Campanula* is very easily grown, as is evident from the specimens in stuffy cottage windows, where the shoots that trail over the baskets are smothered with bloom. *C. isophylla alba* is one of the more popular kinds for this purpose; its flowers, of the purest white, are produced with the greatest freedom. *C. muralis* we have also seen grown successfully in a window in smoky suburbs where many things failed. *C. Barrelieri*, which is similar to *C. fragilis*, is another useful type, but *C. isophylla alba* is the best. The plants require plenty of water during the summer months.

Bougainvillea in the open air.—*Bougainvillea glabra* flowered this autumn in great profusion in a little intermediate house here. Two or three shoots found their way, quite unknown to me, out through a broken pane into the open, and these grew as vigorously as those within and flowered as abundantly, though later. The bracts were of a much deeper tint than those inside. On looking over the old vols. of *THE GARDEN* I find one instance noted of this, and one of where the plant was outside altogether. The latter was pre-

sumably in Ireland, as the note was signed "Hibernian," but the exact locality is not stated. With me the *Bougainvillea* usually flowers in early summer, but this year it did not commence till August, and is now nearly, but not quite done. The flowers of this plant look charming on a white table-cloth, especially with amber light, which gives the bracts quite a rosy tint.—GREENWOOD PIM, *Monkstown, Co. Dublin*.

Oxalis lobata.—Of late years Kew has shown us many uncommon, but very desirable plants that may in vain be sought for in most gardens, and among them several very beautiful forms of *Oxalis*, one of which, *O. Bowieana*, grown at Kew, was the subject of a coloured plate in *THE GARDEN*, May 31, 1890. Accompanying the plate was a selection of the best forms, and one of those then mentioned (*O. lobata*) is just now very attractive at Kew. It is a charming little species that reaches a height of about 4 inches, the leaves being small and three-lobed, while the flowers, which are borne singly on erect slender stems, are about three-quarters of an inch in diameter, and of a beautiful golden yellow. It is a Chilean species, and hardly in the more favoured districts of England, but at Kew it is grown in pots in a greenhouse. Each pot is now quite a mass of golden blossoms at a uniform height of about 4 inches. This *Oxalis* is a native of Chili, from whence it was introduced seventy years ago, but is now very uncommon, though where hardy it is a beautiful subject for the rock-work, as well as for the embellishment of the greenhouse when grown in pots, as at Kew.

Two beautiful Solanums are *S. Seafortianum* and *S. Wendlandi*. They are really valuable plants, although, unfortunately, seen only in botanic gardens. We have never noticed *S. Wendlandi* anywhere except at Kew, where there are two splendid specimens, one in the succulent house and the other in the Water Lily house. We have described it before, but mention it again, as it seems always in bloom, bearing a free display of the heavy masses of mauve-blue flowers, which are individually of very large size. It is a superb climber for a stove, and is apparently not at all difficult to grow. The other species, *S. Seafortianum*, is more elegant. It is very free growing, the flowers also of a bluish tone, produced in charming clusters, and with considerable freedom. This is well suited for a smaller house, but *S. Wendlandi* requires a large structure to accommodate its bold growth.

CINERARIAS ATTACKED BY THE LEAF MINER.

I HAVE a very large and forward lot of *Cinerarias* well grown in every respect, but they have been attacked by the Celery fly. I examine and pick off as often as I can, but cannot get rid of them. Can you tell me of any remedy?—W. E. G.

* * This is one of the worst diseases that these plants are subject to. Mildew is troublesome enough, but it is sooner got rid of. The difficulty lies in the grub or insect being encased in the leaves. Many remedies applied fail because they cannot reach the pest. This is the same insect that attacks the *Marguerite* or *Paris Daisy*, also *Celery*. It increases rapidly, as the larvæ soon spread, fasten upon the healthy leaf, and destroy it. The best remedy is to arrest their progress at an early stage either by cutting off the foliage attacked, or by daily going over the plants and crushing the insect between the finger and thumb. Of course the latter plan could not be adopted with large plants badly attacked, but if noticed when only just attacked, it may be got rid of as described. Another plan is to water with soot water; this checks its ravages, and a dark, healthy foliage is the result. If a close inspection is made it will be found the insect attacks the older leaves, leaving the softer and more tender ones alone. I would also point out that the plants are attacked just at the time bloom is being formed, the pots are full of roots, and with a damper atmosphere less moisture is required, and as the plants have in most cases been given extra food,

there is what may be termed a check. This is the time for the fly, and as the bottom leaves are the first to suffer, the fly soon increases rapidly; indeed in such cases I would advise a little more warmth, allowing plenty of air to circulate, as this allows of rapid evaporation. Cinerarias require more warmth than Calceolarias and such like plants. Mildew is also most troublesome in damp pits, and though by giving extra warmth green fly is encouraged, this latter is soon got rid of, and is far easier to deal with than the leaf miner. Syringing with clear soot water, also tobacco water and shading the plants, will arrest its progress. I would also advise dusting the under sides of the leaves when dry with dry wood ashes mixed with tobacco powder, and also the floor of the stage or pit as if the larvae drop they cannot live under such conditions. Dryness at the roots is bad and encourages the insect. Undoubtedly the best remedy is to promote a free growth, not allowing a check in any way just as the plants are finishing their growth.—GROWER.

Eupatorium Weissmannianum.—This autumn-blooming plant is very beautiful in a cool house. It should be more grown, as its culture is so simple, large plants being readily secured from early struck cuttings. For large houses I find one-year plants cut back answer admirably, as they give a wealth of bloom which lasts a long time; indeed, well treated, they may be had in perfection from October until March. To get a succession, propagate yearly, and by cutting the plants in a little after the first flowers are over, a second bloom soon forms, this latter not being nearly so fine as the first, but most useful for bouquets or vases. For cutting, this Eupatorium is most suitable by reason of its long slender growths and white feather-like blooms, which are very fragrant and last a long time in water. The plants should be grown in the open during the summer and housed in the autumn. I grow several other varieties and find few plants give less trouble, as they are readily propagated, and, given plenty of food and moisture during the growing season, insects pests are little seen. Old plants of this Eupatorium are sometimes grown year after year, but much finer flowers are obtained from young plants.—G. WYTHES.

Tecoma Smithi—In a small state this Tecoma is very useful for pots to add to the attractions of a greenhouse or conservatory in late summer and early autumn. Plants can soon be grown to the height of from 1 foot to 2 feet, and for these when trained to a single stem the usual $\frac{1}{2}$ -inch pot is large enough. Such little specimens can be used with good effect on stages or shelves, and are especially appreciated when the supply of flowering plants is beginning to fall somewhat short. The flowers are borne in terminal corymb-like heads, the corollas being tubular, 2 inches long, the outer surface reddish orange, the lobes and throat deep yellow. In a bright position this colouring renders the plant very noticeable. It is seen to best advantage in contrast with lighter tints, and as far as possible it is desirable to avoid associating the plant with others producing bright red or scarlet flowers, as the Tecoma loses in effectiveness, the flowers then appearing quite dull. A compost of loam and leaf-soil with plenty of sand suits it, an occasional supply of weak liquid manure being beneficial.—OBSERVER.

Iochroma tubulosum.—A bushy little plant or small shrub which is seldom seen in greenhouses is the South American Iochroma here named, though the very distinct colour of its flowers renders it worthy of attention. The plant is a relative of the Solanums, but there is little to suggest this relationship to a casual observer. The flowers are tubular, from $1\frac{1}{2}$ inches to 2 inches long, straight, narrow, and slightly expanded at the mouth into a white ciliated margin. The corollas are violet-purple, glossy, and very dark, nearly black, in the bud state; the calyx is pale green. The flowers are slightly drooping on short peduncles borne in the axils of the elliptical leaves near

the top of the stems. This plant succeeds in ordinary good loam, not too heavy, sufficient sand and leaf-soil or a little peat being added to keep the soil sweet and open. A light position should be allotted to it in the greenhouse during the summer months, but it must not be in too cool a place in winter; at least a warm shelf or corner should be found for it in the structure named.—OBSERVER.

New white Carnation La Reine.—All growers of these popular plants for winter flowering must have felt the need of a good free-growing and blooming white variety. Up to the present year Mlle. Carle was the best white so far as my knowledge goes, but at its best it is a poor grower and very apt to split its calyx. In the new La Reine, however, we have a long-felt want supplied. It is wonderfully free in growth, an abundant bloomer and deliciously scented. I intend growing it exclusively in future, and would recommend others to do the same. The edge of the flower is beautifully fringed.—JOHN CRAWFORD.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AT HORNSEY.

ONE of the most successful growers of the Chrysanthemum is Mr. Rowbottom, gardener to Mr. H. R. Williams, The Priory, Hornsey, and a few days ago we made note of a few of his finest flowers. We have seldom seen a collection of greater merit, the plants arranged in a longinery, chiefly given up to the Japanese varieties; the incurved varieties fill a long conservatory. Those interested in Chrysanthemums would find here all the most recent varieties and many seedlings.

The Japanese class is not grown to the exclusion of others, as every type of the Chrysanthemum is represented, particularly the Anemone varieties, which are grown well. It is not everyone that is successful with these, but the promise of fine blooms this year is richer than even last season. As regards the Japanese, we may note, without wishing to make a catalogue of names, some of the best in this superb collection. Col. W. B. Smith's faultness, and one sees here that a flower, although large, need not be necessarily coarse. Some of the gems are the blooms that measure many inches in width. Mlle. Thérèse Rey is unquestionably the finest variety in its line of colour. It is in perfection, the flowers ivory white, broad and deserving high praise. This will be seen much at exhibitions during the present season. Another kind that should create some stir is Excelsior, a noble exhibition variety, the flowers very broad, deep, and rose-purple in colour, with silvery reverse to the wide florets. Mr. Rowbottom has the most perfect blooms we have yet seen of this English-raised seedling, and has also in full beauty the three new varieties shown by him recently certificated and fully described in THE GARDEN. A very fine kind is Amos Perry, the flowers rich yellow with twisted florets, and worthy of note is Louis Boehmer, a distinct white flower, full, and far better than the type. It is also a distinct improvement in habit and constitution. Belonging to the incurved Japanese class is George Savage, which is said to be a seedling from Mrs. Alphens Hardy, but not hirsute, as is that variety. The flowers are pure white, not cream or ivory white, like so many kinds called white, the florets closely incurved. A great improvement upon Meg Merrilies is Mme. Elizabeth Labat. The fault of the old favourite is its flimsiness, but this kind is solid, so to say, without losing in grace, with similarly lacinated milk-white florets. G. W. Childs is a superb variety, which may be placed with the William Seward group. It has been described as a seedling from Edwin Molyneux, but, whether true or not, there is a resemblance between the two kinds. The flowers are of a rich crimson-maroon shade, with old gold reverse to the florets, large and massive. It is placed in the incurved Japanese class. The collection is so rich in novelties and developed to such perfection, that several more

kinds must be described. One of these is G. C. Schwabe, a seedling from Edwin Molyneux, resembling that variety in habit of growth, whilst the flowers are pale rose-purple, with delicate bronze reverse to the florets. A lovely new white-flowered kind is Utopia, one of Messrs. Pitcher and Manda's additions, the flowers exceptionally pure; and Mrs. H. R. Williams is a novelty not yet sent out, but of great promise. It was raised by Mr. Jones, of Lewisham, the flowers large and white, with a tint of pink. Mrs. E. D. Adams, white; J. Stanborough Dibbens, bronze-yellow, passing with age to yellow; Mrs. Harman Payne, warm rose-purple; Stanstead White, Alberic Lunden rich amaranth, and Kentish Yellow were in full bloom—all varieties that those who wish to exhibit largely must have in their collections. The beautiful bronze-yellow Falconer Jameson, F. W. Flight, salmon-red, pale gold reverse; The Tribune, a Japanese reflexed variety of a primrose-yellow colour; W. Tricker, a massive rose-coloured kind, silvery white reverse to the florets, and Chas. Davis, the light bronzy yellow sport from Vivand Morel, are all good kinds. Mr. Rowbottom grows W. H. Lincoln to perfection, and the yellow flowers make a brave show of colour in contrast to those of Hamlet, pale brick-red.

The incurved varieties are as interesting to the exhibitor as the Japanese, although not so to people generally. The Rundle family is splendidly grown this year, Mrs. George Rundle, Mrs. G. Glenny and Mrs. Dixon being in perfection, and the same may be said of the varieties of the Queen type. Mme. Darrier we made special note of, the flowers neat and bronzy yellow. Mme. Jules Barigney, recently described in THE GARDEN, was excellent, whilst Mons. L. Parli is a novelty of great merit, like Mme. Darrier, somewhat early, very neat and light brown in colour. We seem to be getting much more colour in the incurved section than formerly, and this is welcomed, as until quite recent years it was extremely limited. Baron Hirsch was in all stages of development; it is a fine flower, too dull, however, in colour, bronze, shaded with gold, but the petal is broad. It is probably a seedling from Baron Beust or Lord Wolseley. A gem in the collection is Mrs. Robinson King, a worthy acquisition to the Queen family. It is deeper in colour than Golden Empress. M. R. Babuant, Richard Parker (the deep coloured Miss Haggis), and Miss Bella Wilson are a good trio. The last-mentioned has a very large flower, similar in shade to, but deeper than Violet Tomlin. A beautiful kind is Mme. Frederic Mistral, which is purplish or violet-rose, the fine petals tipped with a salmon shade.

Mr. Rowbottom is one of the best growers of that difficult section to succeed well with, the Anemone and Japanese Anemone. A good kind is Mme. N. Brunn, a beautiful flower, light in the centre, the colour pale yellow, and the florets narrow and white. It is a well-shaped flower and one of the best of its class. It is difficult sometimes to draw the line between the Anemone and Anemone Japanese classes. Of the latter a good collection is grown, and one of the most characteristic is Fabias de Maderanaz or Fabian de Mediana, which is very beautiful when grown well. It has a very high disc, rosy lilac in colour, tipped with white, but the florets are distinct, pale pink, with deeper stripes, and 3 inches to 4 inches in length—hence the name Japanese. But many kinds have florets very little longer than those of the true Anemone flowers. Souvenir de Mme. Blandinieres was of note, the flowers of a rose-crimson colour, also the well-known Sœur Dorotée Souille.

Other sections are also grown to perfection, including the so-called decorative, pompons and Anemone pompons, which are of great use for cutting.

Chrysanthemums at Chiswick.—A large and representative collection of Chrysanthemums is grown in the Royal Horticultural Society's gardens at Chiswick. The plants fill the large vinery, and the Fig house is also occupied with them, so that when in full bloom a very fine display will re-

sult. Already many kinds are in full bloom, and one sees the Chrysanthemum grown more naturally here than is usually the case. Very little disbudding has been done, and the plants are smothered with buds. They may not be of exhibition standard, but that is of little account. Each plant is beautiful to look at, and none of the colouring is lost by this natural method of cultivating the Chrysanthemum. Conspicuous amongst those in bloom now are the following: Eynsford White, a beautiful flower of the Japanese class, and E. G. Henderson, also Japanese, rich yellow, shaded with chestnut at the base of the florets. Also worthy of note were such kinds as the yellow-flowered Buttercup, Martinmas, Elaine, W. S. Boyce, Elsie, O. J. Quintus, Thorpe Junior, and Mlle. Elise Dordan, which is remarkably well grown, better than we have seen it. The plants are covered with the neat rose-coloured flowers. It is a very charming pompon variety, but none too easy to grow well.

Chrysanthemums at the last R. H. S. meeting.—There were several most excellent varieties exhibited at the Drill Hall on October 24, more especially of the Japanese section. In Mr. Owen's extensive exhibit note should be made of an English seedling incurred which is to all appearance well named Permanent. The petals are of remarkable substance, the flowers large, but a trifle too much expanded perhaps, the colour very distinct, a shade of light blush, bright and glistening. I shall be greatly surprised if this does not prove a decided acquisition. Baron Hirsch, another incurred, was finely shown in the same stand. It is an improvement amongst the bronzy-brown shades. Rose Wynne, another English seedling (Jap.), has large pure white flowers with fluted petals, after Etoile de Lyon in form. Another of the same class is Thos. Wilkins, which is an improved L'Adorable, whilst Mrs. G. D. Darby surpasses M. Baco. Another called Yellow Avalanche is a counterpart of the white variety save in colour, this one being a pale soft yellow. James Myers (English seedling Japanese) is of a distinct colour, a bright shade of fawn, and Sunlight, a golden-yellow decorative variety, was very promising.—GROWER.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum G. W. Childs is like Edwin Molynoux in character, and perhaps it is a seedling from it. The flowers are deep crimson, a good telling colour.

Chrysanthemum Mme. Octavie Mirbeau is a very pleasing variety, which we noted in Mr. Davis' collection at Camberwell. It belongs to the Japanese class, the flowers having a drooping tendency, the florets broad, white, with stripes of rose-lilac.

Chrysanthemum Danæ—This Japanese reminds one very much of Boule d'Or in the formation of its florets when fully expanded, but in point of colour it is richer, the yellow is deeper and the bronze of a deeper hue. It makes an excellent substitute for Boule d'Or, as in some seasons this old favourite is not a success.—E. M.

Chrysanthemum George Savage.—As a massive flower, pure white in colour, I can recommend the above. Another season's trial has fully borne out the high opinion formed of it last year. As an incurred Japanese it is at once one of the best sorts in commerce, but whether this class will remain long in favour is a question.—E.

Chrysanthemum Le Prince du Bois.—This Japanese provides a shade of yellow most acceptable to exhibitors and lovers of Chrysanthemums generally—rich yellow, fading slightly with age. The florets are narrow, twisted, and have a semi-drooping tendency. Altogether this is a promising variety, raised by Mr. C. Gibson, of Morden Park.

Chrysanthemum l'Enfant des Deux Mondes.—Belonging to the class known as hirsute varieties, this bids fair to equal the now well-known Mrs. Alpheus Hardy. Certainly it is a decided advance upon that variety in point of growth;

being a sport from Louis Boehmer, its constitution is robust. The florets are thickly covered with the hair-like appendages which render this section so remarkable.—E. M.

Chrysanthemum John Shrimpton.—As predicted last year, this Japanese is proving itself a worthy acquisition to an already lengthy list. In colour it resembles the well-known Cullingfordi. The florets are rather narrow and perfectly imbricated. One of its best characteristics, however, is the dwarf habit of the plant. Splendid blooms are obtainable from plants less than a yard high. For grouping, cultivators should add this largely to their collections.

TREES AND SHRUBS.

MAGNOLIA STELLATA.

This is one of the earliest to bloom in spring; flowers of the purest white and produced in the greatest profusion. The plant is of dwarf, slow growth in comparison with others. It is a very hardy species, and never fails, even when small, to bloom freely. JOHN SAUL.

Washington.

Ceanothus Gloire de Versailles.—Against a wall we have lately seen several fine plants of

a very sweet scent, and look pretty clustering in the axils of the leaves. Apart from flowering, this Osmanthus is a valuable hardy evergreen for small or large gardens. A somewhat similar species, but having yellowish flowers, is named fragrans. It makes a handsome bush, but is not so common either in gardens or nurseries as the preceding species. It may be well to warn those who intend planting these shrubs to see that they are not grafted on the Privet.

Japanese Maples for colour.—The autumn-fading leaves of these are as varied and rich as those of the many forms of Oak. It is a mistake to suppose they are so tender as is commonly thought, and many reputedly more hardy things get killed in severe winters. In the Coombe Wood Nursery of Messrs. J. Veitch and Sons the shrubs are entirely in the open unprotected, and survive well the hardest winters. It is the smaller gardens that should be planted with them, as in these, large growing things are out of place. They grow slowly and to no great height, forming low shrubs or trees. We remember a bed of the crimson-leaved Japanese Maple at The Deepdene, Dorking, and the leafage was remarkably effective.

SKIMMIAS.

AMONG the smaller-growing shrubs remarkable for their ornamental berries we have but few that are of an evergreen character, and of the limited number the Skimmias stand out as a very desirable



Magnolia stellata (Halleana) in bloom in Mr. Saul's nursery at Washington. Plant 8 feet high and 10 feet through.

this covered with the clusters of rich blue flowers. This is the best of the family for colour, and it is free and robust also, though a little tender in cold exposed spots. In the Chiswick gardens it is needful to protect the plants in some way during severe winters. The Ceanothuses are numerous, and one sees many poor varieties, one a kind of coffee-coloured flower, which is scarcely worth space when we have such varieties as Gloire de Versailles.

Veronica Andersoni variegata.—We have seen this fine Veronica well used in the parks this season. A large mass of it was in full bloom a few days ago in Finsbury Park, and though the purple flowers lose by the richly variegated leaves, they are not altogether overshadowed. This variety is of rote, however, for its brightly coloured leaves, glaucous green and creamy white, a most pleasing association of colour. It is a good plant to use when small as a relief to beds of dwarf things, and mixed with Fuchsias is remarkably bright.

Osmanthus ilicifolius.—This is flowering rather freely at the present time—perhaps as a result of the tropical summer. In flower as well as in leaf it shows its affinity to the Holly, but, like the Judas tree, it puts forth flowers here and there from the leafless wood of two or three years' growth. The flowers are whiter than those of the Holly, have

class of plants, though, generally speaking, they are not, I think, met with to so great an extent as was the case a few years ago. Though the different forms of Skimmia are by no means numerous, yet their nomenclature is in a very confused state; for instance, the oldest and by far the most generally grown of them, to which is applied the specific name of japonica, is said by some of our later authorities to be not the true *S. japonica* of Thunberg, but the plant to which that name is applied by other subsequent writers, and which is really said to be a native of China. It is, I see, in the "Dictionary of Gardening" referred to under its best known specific name—that of japonica. In this species the flowers are hermaphrodite, so that a specimen will berry freely without associating with any other plant, which is not the case with the larger-growing forms, as they are dioecious, that is, male and female flowers are borne on different plants. The Skimmia known as *S. oblata*, which is believed by some to be Thunberg's true *S. japonica*, produces only female blossoms, the male being usually met with under the specific name of *fragrantissima*. Thus while *S. oblata* planted by itself will produce an occasional berry, far great numbers will, as a rule, be borne if a flowering plant of *S. fragrantissima* is in close proximity to the other, as many of the blooms will be thereby fertilised. The commonest form

of *Skimmia*—that is, *S. japonica* of gardens—will not thrive where the soil is at all parched up during the summer, but it prefers a cool, fairly moist spot, especially where it is slightly shaded from the full rays of the sun, as where fully exposed, more particularly if the soil is rather dry, the foliage is apt to acquire a yellowish tinge, which is not easily got rid of. From its small size and great profusion of berries this *Skimmia* may be often met with in Covent Garden Market, the plants of which have been lifted from the open ground and potted up when in full berry. If this is carefully done they will with ordinary attention remain fresh and bright for a long time. *S. oblata* is, irrespective of berries, well worth growing as an evergreen shrub, but, of course, when studded with fruits its beauty is greatly enhanced. Both this and the male form are decidedly pretty when in flower, while they both succeed better than most shrubs in the environs of London. The suggestion of Dr. Masters, who elucidated the confused nomenclature of the *Skimmias*, is that the true *S. japonica* of Thunberg is the plant known in our gardens as *S. oblata* (of which *S. fragrantissima* is the male form), while the species usually under the name of *S. japonica* is henceforth to be known as *S. Fortunei*. Messrs. Veitch, I see, in their latest tree and shrub catalogue have adopted this system of nomenclature. The most attractive *Skimmias* that have come under my notice were shown at a meeting of the Royal Horticultural Society in the winter of 1888 under the name of *S. Foremani*. They were certainly beautiful specimens, laden with their bright coloured berries, and formed the most noticeable feature of the meeting. *S. Foremani* is said to be a hybrid between *S. oblata* and *S. fragrans*, but doubts have been expressed as to its parentage. None, however need be entertained as to the great beauty of the specimens shown. H. P.

SPOILED BY LAURELS.

THE common Cherry Laurel and the Portugal Laurel have done more to mar the beauty of English pleasure gardens than any other plants, not excepting the worst weeds. At some past day our planters were attracted by the beauty of the leaves of these plants and their ease of culture; so in many estates they were put everywhere, and as they grow much more rapidly and largely than people allowed for, walks are closed in by them and pretty views are closed up; all character and interest are thus taken out of many of the most beautiful pleasure grounds in England. Many fine trees are starved by these vigorous and voracious evergreens. One would not mind seeing a group or mass of them placed in the full sun, but that every plantation and every beautiful group of trees about a place should be embedded in them is a misfortune. We have just come from some places in the eastern counties where there are miles of Portugal Laurel, robbing and running into everything, making large pleasure grounds gloomy, and in wet weather most depressing. These shrubs do not show the changeable life of our English covert plants, such as Brambles or wild Roses, Hazels or Thorns, but always the same monotonous verdure, and not half so pretty as the wild things of our hedgerows and coverts. Where they run under fine Oaks and Beeches they are quite out of place, being natives of quite different countries from ours. If people would be content with a bold group or two and then stop, all would be well; but the ceaseless planting goes on until they so impoverish the ground that many trees have suffered much this year. As people walking about their grounds see most easily that which comes about the level of their eyes, these bushes get high enough to often take possession of the whole effects of the garden landscape. In innumerable cases the best thing to do in

these pleasure grounds would be to grub up and burn the wretched Laurels in every case where they give a crowded and dismal air to what ought to be a beautiful shrub and tree garden, and where they are likely to rob the roots and mar the beauty of other trees and shrubs. As to many beautiful flowering shrubs, it is quite impossible that they can live among Laurels, and hundreds have been killed by them. Yet such a flowering shrub as *Stuartia* is worth an army of Laurels of the kinds we allude to.—*Field*.

London trees.—Several interesting notes have appeared recently in THE GARDEN about street trees. A great evil is planting them where none are required. The streets are too narrow, and dwelling houses are made unwholesome through the keeping off of the sunlight. Planting Elms, Planes, and Horse Chestnuts in streets scarcely wide enough for a decent path is one of those curious anomalies often presented to us by local boards. Instead of removing the trees when they get too close together, they are pruned, and in such a way that their characteristic aspect is lost. Branches are cut back recklessly and the trees rendered an eyesore, as was the case some time back in the Chiswick High Road. When first planted, too, a great stake is thrust down by the side of them for support, a hideous pole, very unsightly, and hurtful to the roots. A very good way of supporting trees is to have a guard of iron rods, inserting a circular cushion of old india-rubber hose or similar material at the upper end of the guard, inside, to prevent the bark chafing. In suburban districts in particular, late and careless planting and want of a properly prepared soil have much to answer for. The trees are often planted in the spring, and literally stuck into a hole too small for the roots, the soil possibly saturated with gas from pipes. It is necessary to plant well, use good soil, stake firmly, or better, use the iron guards mentioned, and put over the root surface a grating. It is not the proper thing to go to a nursery and take a lot of stuff that the nurseryman wants to get rid of.—T.

PUBLIC GARDENS.

Proposed open space in Clerkenwell.—The Parks Committee reported that they had considered in what manner the money received from the Postmaster-General under the Post Office Sites Act should be used. The money was paid in lieu of a portion of the site of Coldbath Fields prison being sold to the Council for the purpose of an open space, but it did not follow of necessity that all or any of the money need be expended in Clerkenwell, or in any other particular part of London. Their attention had, however, been directed to two sites in Clerkenwell. One was occupied by a small block of houses between St. James's Churchyard and Clerkenwell Green, and the other was some ground in Rosebery Avenue between Lloyd's Row and Rydon Crescent, cleared by the Council in connection with the Rosebery Avenue improvement. They had ascertained that the value of the land in Rosebery Avenue was £10,000, while the cost of acquiring the block of houses between the churchyard of St. James's and Clerkenwell Green would amount to £28,000. Apart from the monetary consideration, however, they had carefully considered the arguments put forward in favour of each of these sites, and thought that the plots in Rosebery Avenue, being adjacent to Spa Green, would, in conjunction with the green, form an open space in a thickly-populated district where it would be greatly appreciated. They therefore recommended the Council to authorise the committee to incur an expenditure of £10,000 for the purchase of the two plots of vacant land on the eastern side of Rosebery Avenue to the north of Spa Green, and lying between Lloyd's Row and Rydon Crescent, the purchase

money being provided from the amount paid by the Post Office authorities under the Post Office Sites Act, 1889. Mr. Elliott moved that the report be referred back, but after a short discussion this was rejected and the report agreed to.

SOCIETIES AND EXHIBITIONS.

NATIONAL CARNATION AND PICOTEE SOCIETY.

(SOUTHERN SECTION.)

THE annual general meeting of the above society was held at the Hotel Windsor in the rooms of the Horticultural Club, by kind permission of the members, on Saturday, October 28. Mr. Martin R. Smith, president of the society, presided. The president, vice-presidents, committee and office-bearers were re-elected. It was decided to hold the exhibition for 1894 under the auspices of the Royal Horticultural Society on July 24. The following alterations were made in the schedule: two new classes were added for twelve blooms and six blooms respectively, with a growth of the plant to each bloom and without dressing. It was also proposed and unanimously adopted that the class for yellow ground Picotees be judged on the same principle as the white ground varieties, that is, a pure yellow ground with a margin the same as the white ground class (fancies excluded). A distribution of seed saved from choice fertilised flowers grown in the garden of the president of the society has been made to the members applying for it, and it was decided to offer prizes for the best seedlings raised from the seed so distributed in the year 1895. The statement made by the treasurer showed that the society was in a very prosperous condition. The subscriptions as per list amounted to £154 9s. 6d.; amount received for special prizes, £18 17s. 6d.; prize money distributed, £99 15s. 6d. The balance from last year was £65 10s. 5d., and the balance in hand is £118 5s. 4d.

National Chrysanthemum Society.—On Monday last the general committee of this society met at Anderton's Hotel, Mr. R. Ballantine being in the chair. Mr. Richard Dean referred to the recent October show, and explained that the sum of about £45, inclusive of medals, had been awarded ten exhibitors on that occasion, but had not yet been paid over. In addition to that amount upwards of £6 had been offered by Messrs. Sutton and Sons for prizes in the vegetable classes. He also presented a rough financial statement showing that about £230 has already been received by him on account of subscriptions, advertisements, catalogues, affiliated societies' fees, &c. Mr. Dean proposed that the members of the floral committee be invited to the judges' luncheon on the first day of the society's show next week in recognition of their valuable services. Several applications and inquiries relating to the show were disposed of, and Mr. Dean reminded the committee that the annual dinner will take place at Anderton's Hotel on the 30th inst. Sir Edwin Saunders will preside on that occasion. New members were then nominated for election, and it was announced that 120 new members and Fellows had been added to the roll this year. One society, the Beckenham Horticultural, applied to be affiliated, which was granted. The schedule sub-committee for 1894 was elected, being composed of the same members as last year.

The Auricula and Primula Society.—The annual meeting was held on Saturday, the 28th, in the Hotel Windsor. Mr. Henry Cannell, of Swan-y, presided. The president, vice-presidents, committee, office-bearers, &c., were re-elected, the name of J. T. Bennett-Poë being added to the list of vice-presidents. The exhibition for 1894 is to be held under the auspices of the Royal Horticultural Society as usual, and it was decided to offer the same prizes as last year. The subscriptions as

per list amounted to £63; prizes paid, £60 16s. Other expenses brought the expenditure up to £74 1s. 6d., leaving a deficit on this and last year's working of £8 16s. 6d. due to the treasurer. If all the members would pay up their subscriptions this amount would be materially reduced, and with a very little effort on the part of the members, the deficiency might be made a handsome surplus.—J. DOUGLAS, *Hon. Sec.*

The Gardeners' Orphan Fund.—The monthly meeting of the committee took place at the Horticultural Club, Hotel Windsor, on the 27th ult., Mr. William Marshall in the chair. The minutes of the last meeting having been read, the secretary reported that the sub-committee appointed to act with him during the recess had paid the quarterly allowances to the children due on October 31. The following special receipts were announced. Mr. W. Elphinstone, The Gardens, Shipley Hall, Derby, opening the gardens to the public, £11 1s. 6d.; Mr. J. H. Vallance, local secretary, Bristol, legacy by a deceased lady, £3 3s.; Mrs. Bowerman, Hackwood Park, Basingstoke, sale of flowers, £1 6s.; Mr. J. Plowman, Woodstock Gardens, Long Sutton, per box, 10s.; Mr. G. Tubb, Minley Manor, Farnborough, box, £1 2s.; Miss Barron, Sutton Court Road, Turnham Green, box, £1 11s.; Mr. F. A. Burbury, The Gardens, Highbury, Birmingham, £1 16s.; Mr. J. B. Stevenson, Church Cottage, Bournemouth, box, 6s. 6d.; and Mr. C. Sutton, The Gardens, Chevening Park, Sevenoaks, box, 6s. 6d. The secretary reported the receipt of a cheque for £100 from Mr. N. Sherwood (Messrs. Hurst and Son) as a jubilee celebration gift by the firm, and a hearty vote of thanks was passed to this generous supporter of the fund. The death of Mr. Hugh Low, of Clapton, a member of the committee, was reported, and a vote of condolence with his widow and family was passed. A vote of thanks to the chairman closed the proceedings.

PRUNING: SHALL WE LOP OR THIN?

I AM obliged to THE GARDEN for publishing "J. S. W.'s" able and fair critique of the "Fruit Growers' Guide" on p. 401. Endeavour has been made in that work to show different methods of training and pruning for adoption or rejection. Some trees may be appropriate for one position and some to another, and the choice of any particular kind and form to adopt must be left to the intelligence of readers.

"J. S. W." is entitled to a reply to his closing question, "How can the statement be reconciled of Apple trees left to Nature assuming forms not pleasing, and proportions exceeding the limits available for them?" with former expressions to the effect that "trees allowed to assume their natural forms and adapted to small gardens are ornamental and reduce the necessity of pruning to a minimum."

That numbers of trees exceed the limits of the positions assigned them is only too apparent in many gardens, and there are only two ways in which the encroachments could be prevented—(1) the choice of more compact growing varieties, or (2) restricting the strong, especially at the roots. I have no hesitation in saying that I prefer the former, on the simple grounds that if we can get what we want without hacking root or branch—trees appropriate to the positions they occupy, yet abundant fruit-bearers—it is altogether better than accomplishing the object by artificial means. This statement brings me in line with "J. S. W.," but he knows as well as I do that there are varieties of Apples so gaunt and spreading as to be in certain positions in which we see them the reverse of pleasing and productive. The addition then of one word "some" (Apple trees left to themselves) reconciles the apparent conflict that "J. S. W." has been the first to discover, and I should be well pleased if the omission had been noticed in correcting the proofs for press. At the same time there are given in the work in question lists of Apples of "compact," "medium" and "strong" growth with planting distances for each, compiled for the very object that "J. S. W." be-

lieves in as sound, and which I may fairly describe as the reduction of restriction to a minimum. In some cases checks to extension are necessary with trees in the open, as with trees against walls or under glass, and with the two latter restriction follows extension in "J. S. W.'s" own practice, though he would, it may be assumed, prefer more lofty walls and capacious houses to let them "go."

The pruning of trees for the production of fruit, regardless of any particular form or adaptability to circumscribed position, is beautiful in its simplicity, and when this aspect of the case is treated, namely, fruit-growing for commercial purposes, I suspect "J. S. W." will not find very much that widely differs from his views. Moreover, I am one of those who can see as much beauty in a tree that is allowed to display its natural character under good cultural guidance as is displayed by a tree moulded into prim, symmetrical form by elaborate manipulations. The "pretty" little Apple tree that "J. S. W." admires is undoubtedly a correct representation of a growing specimen, but it would not be what it is if it had been wholly "left to Nature," for in that event it would not have been the dwarf bush tree it is, but more of a standard. I like the style of tree just as much as he does, as it combines, in my opinion, beauty with utility. I thank "J. S. W." for his pertinent observations. "Lop" till you get the requisite number of branches, then "thin." J. WRIGHT.

The weather in West Herts.—The St. Luke's summer we have recently been enjoying suddenly gave place on Tuesday to a short spell of quite wintery weather. On Sunday the highest reading in shade was 56°; whereas on Tuesday the temperature at no time rose higher than 44°. During Monday night the thermometer on the lawn registered 11°, and on the following night 12° of frost. The first of these two frosts destroyed all my Dahlias. They were, therefore, killed this year two days later than the average date of their destruction in the previous eight years, and four days later than last year. In 1888 they succumbed to a keen frost on October 3, but in 1885 lasted until November 16. Since Sunday the temperature of the soil at 2 feet deep has fallen 3°, and at 1 foot deep as much as 7°. At the former depth the ground is now (Wednesday) 1° warmer than on the same day last year, but at 1 foot 4° colder. The past week was the only dry one in October. During that month rain fell on sixteen days to the total depth of 4½ inches, which is 1 inch in excess of the October average.—E. M., *Berkhamsted.*

The season in Berks.—It may be worth mentioning to you a very unusual circumstance, viz., that we have to-day had a dish of ripe well-flavoured Strawberries grown in the open air in the gardens here from the same beds that supplied us with a crop in June. The soil is sand and gravel, though the garden is a very old one, and the climate, though dry, is by no means a warm one, being close to Ascot Heath.—T. CORDES, *Silwood Park, Sunninghill, Berks.*

The common house fly.—I promised on my return home to answer "W. M.'s" question in his letter of August 29 about the life-history of the common house fly. I am sorry I have not been able to fulfil my promise sooner, particularly as the interest in house flies is, I am glad to say, over for the season, as they have been very troublesome this summer. The common house fly breeds in horse manure, that is to say, the insect lays its eggs on that substance, and the larvæ or maggots which hatch from them feed on it. This insect undergoes its transformations very rapidly; the eggs hatch in about twenty-four hours, and the maggots attain their full size and become pupæ or chrysalides in a week, and in the course of another six or seven days the flies make their appearance. The flies live for several weeks; some hibernate, choosing for their resting place during the winter a sheltered place in a room or elsewhere. Besides the common house fly there is another which infests dwelling houses, and is at times almost as common as the species just mentioned, but it belongs to a different genus, and is known scientifically as *Homulomyia*

runicularis; the larvæ of this species are found in decaying vegetable matter. The fly is not quite so large as the common house fly, and it is rather lighter in colour, and its body is more pointed. The chief difference is in the nervures of the wings, which are arranged in a somewhat different manner to those of *Musca domestica*. Besides these two kinds there are one or two species of very similar looking flies which are often found in dwelling houses. It is a curious fact that these flies, though bred under decidedly open-air influences, should have such a partiality for rooms in houses, and it is very difficult to find out where these creatures breed in towns so as to infest houses in the numbers they do. I am living in the suburbs, and in my kitchen alone many thousands must have been caught this summer, and I have no reason to doubt but that all the houses round me were infested in the same manner, and yet there were very few stables about or places where there is any accumulation of horse manure. House flies are no doubt very prolific in the number of eggs which they lay; still it is astonishing where all the flies come from.—G. S. S.

Sweet Williams.—The Rev. G. H. Engleheart, Appleshaw, Andover, will be much obliged to anyone who will send him a plant or two, for blooming next summer, of a good variety of deep crimson Sweet William. It is required for a scientific purpose.

Epilobium latifolium.—Can any reader of THE GARDEN tell me whether this is in cultivation in England? At one time it was not uncommon, and F. Wheeler, of Warminster, always kept it in stock. As a low-growing creeping plant easily kept in order, it was useful and pretty, but I have not seen it for many years, and should like to get it again.—E.

Names of fruit.—J. K. T.—Pear Beurré Bose. —T. Denny.—Apple Duke of Devonshire.—Upton.—1, Doyenné du Comice; 2, Beurré Clairgeau; 3, not recognised.—R. C. Coode.—Probably Golden Reinette. —Box, no letter.—Pear Vicar of Winkfield; Apple: 2, Brabant Bellefleur; 3, King of the Pippins; 4, Rymer; 5, not recognised (worthless); 1, Gravenstein. —T. Bull.—Large red Apple Mère de Ménage; other Yorkshire Beauty.—George Stairmand.—1, Rymer; 2, Ribston; 3, not recognised.

Names of plants.—E. Semper.—1, Aster Novi-Belgii var. Flora; 2, A. paniculatus variety (?); 3, A. Nova-Angliæ ruber; 4, A. Nova-Angliæ pulchellus; 5, A. ericoides var. Chlo.—T. Ryan.—Catasetum luridum.—S. Emmett.—1, Cattleya labiata, light form; 2, Pleione lagenaria; 3, Cypripedium Scgerianum.—Erin.—Odontoglossum hastilabium.—C. Curtis.—Odontoglossum Lindenii.—Inquirer.—Dionaea muscipula.—C. J.—1, Aralia Sieboldi variegata; 2, Hippomane spinosa; 3, Paulinia thalictrofolia; 4, Aralia crassifolia.—T. Johnstone.—1, Oncidium varicosum; 2, Oncidium tigrinum; 3, Trichopilia tortilis; 4, Cypripedium villosum.—W. M.—Your Fern is *Loxogramma involuta*.

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No. 1147. SATURDAY, November 11, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

ROSE GARDEN.

ROSES IN THE AUTUMN.

ROSES in the summer, that is, during May, June, and July, are decidedly most attractive, no flower more so, but I must confess that I greatly admire the queen of flowers in August, September, and October, when many of the true Perpetuals, the Tea-scented, and the Noisette varieties yield an immense number of useful flowers. No further proof of this could be needed than what could have been seen by inspecting the really beautiful display which was made by several of the chief trade growers at the show held under the auspices of the Royal Horticultural Society in the Agricultural Hall at the end of last August. This was followed by two or three further exhibits of great attractiveness during September at the Drill Hall meetings of the R.H.S. In these cases most of the Roses were shown in bunches, both large and small, and this method of exhibiting deserves more encouragement in my opinion than it receives. It is quite true that the individual flowers are not nearly so large in the autumn as during the height of the summer season, but it is not right to attach too much importance to mere size alone. That this is done, however, by many growers must be acknowledged, more particularly by those who are classed as exhibitors. These large blooms also find favour in the eyes of many who attach more importance to mere size than to other points of beauty. This fact reminds me that in most catalogues there are Roses which are given the additional honour of being best suited for exhibition, whilst others of presumably secondary rank are only termed garden Roses, as if they were not fit to be staged in a flower show. In prize schedules it is customary to state "trusses" rather than individual blooms. This is quite right, but it is more honoured in the breach than in the observance, for are not the majority of the flowers the result of disbudding? How can they, therefore, be termed trusses? A step has been made in the right direction by admitting classes for garden Roses in bunches (I suppose it is, however, only on sufferance, or at least looked upon as a needless innovation). The last few seasons have seen several good exhibits in this way, the only mistake, so far as I have noticed, being that the bunches have been too large and too much packed. This is not what should be aimed at, and in order to stop it the limit of trusses ought to be given (six or eight would be enough). I noted in one case the effort had clearly been to outweigh an antagonist by mere size of bunch alone. This spoils the effect and is in itself absurd.

I have been led away somewhat from my first thoughts in making these remarks. To return to them, however, it is, I think, a point to be noted that more encouragement should be given to such exhibits as I quoted at the commencement. I have myself noted more than once the amount of lingering that was to be seen over Roses in bunches, cut as they were grown with buds and foliage. These exhibits have many admirers, chiefly those who love the Rose for

its beauty in the garden. There are numbers of Roses that are scarcely surpassed for their beauty or their utility, but which, through not possessing more size, are passed over. They shine forth, however, in the autumn, and thus prove their value from a decorative point of view—such, for instance, are *Boule de Neige*, *Perle d'Or*, *Idéal*, *Homère*, *Mme. Falcot*, *Ma Capucine*, *Safrano*, *Rêve d'Or*, *Mme. Pernet-Ducher*, *Vivian d'Or*, *Morel* (a new variety certificated R.H.S. 1893), *Mme. Caroline Testout*, and *Grace Darling*. Of others which are also known as "exhibition" varieties I have noted *La France* (always in the front rank), *Mme. Cusin*, *Mme. de Watteville*, *Augustine Guinoisseau*, *Mme. Berard* (always better in the autumn), *Belle Lyonnaise*, *General Jacqueminot* (not yet surpassed), *Duke of Wellington*, *Susanne Marie Rodocanachi* (an absurdly long name), *Mrs. John Laing* (a grand Rose north or south), *François Michelon*, *Louis van Houtte*, *Pride of Waltham*, *Alfred Colomb*, *Senateur Vaisse*, *Star of Waltham*, *Jean Liabaud*, *Ulrich Brunner* (not the abnormally large flowers as seen in June and July), *Mme. Eugène Verdier*, *Charles Lamb*, *Spenser* (a lovely pale flesh colour with more of the old-fashioned shape), *Viscountess Folkestone*, *Gustave Piganeau*, *Marie van Houtte*, *White Lady*, *Mme. Hoste*, *Dr. Andry*, *Etienne Levet*, *Ella Gordon*, *Jules Finger*, *Hon. Edith Gifford*, &c. These I have not classified, but merely given the names; a catalogue will in most instances supply the rest. The *Dijon Teas*, the *Hybrid Tea-scented*, and the other climbing Teas with most of the *Noisette* varieties should have every consideration. For these every available space on walls, trellises, and verandahs should be taken advantage of, whilst the hardiest, which comprises nearly every one, may be planted so as to be trained up old tree stumps. Conifers, for instance, which have been cut down for some reason or other may all be utilised for training these autumnal climbers on; it is far better than consigning these old stools to the fire, considering that they have a far better appearance than straight erect stakes of either wood or iron. I have planted Roses around old conifer stools after having prepared the ground well and thus saved their removal.

GARDEN ROSE.

Roses in pots.—My Roses in pots are plunged outside, and the soil they are potted in does not suit them. I have some green turf to pot them with. Would it be advisable to leave them as they are until the spring when the loam would be in better condition for them? Would they be fit for forcing if potted now? Will it not be better to force them first and then pot them to make their growth for another season?—CONSTANT READER.

*** As your Roses are plunged outside, I presume the wood upon them is matured. If so, and more particularly as the plants do not seem happy in their present compost, I would prefer to repot them at once, or at any rate as soon as the wood is sufficiently ripe. You will do little good by forcing them while in uncongenial soil. Unfortunately, you do not state whether the varieties are climbers or not; unless they are, a fair crop of bloom might be obtained if potted at once and allowed to make a few fresh roots before introducing them to any heat. Plants to be suitable for forcing should certainly be in the best of health, there being such a strain upon them. I would strongly advise your purchasing a few additional plants to force, repotting these you already possess, and working them up into good stuff for next year's use. Or you might place the few best into gentle heat and so get a few blooms before repotting in the spring as you suggest. So much depends upon their condition, that it is somewhat difficult to advise you without seeing the plants. I would suggest that you take the advice of some gardener in your neighbourhood,

who would be much better able to say if they or some of them would bear gentle forcing or not with a fair prospect of success. As for pottling material, it is by no means so necessary to have turf as many persons imagine. My own batch of about 2500 plants has not had any of the yellow fibry turf so frequently recommended, nor could I procure it except at an almost prohibitive price. You could doubtless choose a portion of the rottenest turf if you decide to pot them at once. A good mixture of leaf-soil, loam, old vegetable refuse thoroughly decayed, and burnt earth will answer as well as turfy loam, but it is imperative that good drainage be provided, and that the compost be close without being liable to run together from watering. A little sharp sand will secure this.—R.

Rose Caroline Testout.—I am very pleased to see Mr. Grahame's note upon my previous remarks in favour of this Rose. If the impression was conveyed that I considered this grand variety as absolutely the best of all Hybrid Teas, that is a little further than I intended to go. My note was upon four new Hybrid Teas, and it was in this connection that I meant the superlative to apply. But I must say it is one of the very best with me, and not surpassed by any but *Augustine Guinoisseau* and *Viscountess Folkestone*. It is very singular how differently Roses behave with growers; for example, *Caroline Testout* is all I have claimed for it at Ridgewood; while, curious to say, *La France* comes with me exactly as Mr. Grahame describes *C. Testout* to behave with him. This only proves how necessary it is not to be too positive respecting the qualities of Roses, and is another instance of their extreme variability. I am by no means alone in my belief that *La France* would not take so high a position if it was a recent introduction. True, like many other Roses, it is remarkably good in some districts, but I have not cut a good flower during the last five years, although I have about 700 plants to choose from.—R.

Rose The Engineer (now Crimson Rambler).—In reply to "H. P.'s" inquiry in a recent issue as to the origin and after-history of this Rose, I can supply the information. The Rose was purchased by Mr. Jenner by commission from Japan in the year 1878, along with a number of other plants, through Professor R. Smith, then of Tokio, now of Masen College, Birmingham. In the year following its introduction it bloomed so freely and its effect was so striking, that it won Mr. Jenner's admiration. After having been grown for eleven or twelve years in a private garden, Mr. Jenner presented all the plants to Mr. John Gilbert, Bulb Nurseries, Bourne, Lincolnshire, and, with his consent, Mr. Gilbert sold the stock to Mr. C. Turner, of Slough. Mr. Turner gave it, with Mr. Jenner's consent, the name of *Crimson Rambler*.—M. CHAPMAN.

Rampant climbers.—Under the above heading I propose giving a few notes upon the general usefulness of the Ayrshire, Beursault and evergreen classes. No Roses are strict climbers—at least not in the way of Ivies, Ampelopsis and other subjects which cling and support themselves. But perhaps the varieties under notice deserve the term climbing more than any other Roses; they possess a slender and very rapid growth, and will clothe any rough fence, an odd corner of old roots, &c., the gaunt stems of trees that may be carrying a useful top growth, but which are unsightly below; in short, for cultivation where no attention is needed, and with the object of hiding some unsightly corner or building, there are few subjects so useful as those now under notice. During the past summer I have more than once noticed the Ayrshire Rose used to hide the rubbish corner, without which no garden can be properly and conveniently managed. Owing to their being almost evergreen, and the fact that the generality of such corners are beneath the shelter of trees, the screen of Roses is effectual almost throughout the year. Once a few of the shoots are supported, they will intertwine with one another and among any old branches or stakes in such a firm manner, as to need no further support. They are the

hardest of all Roses, and will positively revel beneath trees and in such poor soil that few other subjects can exist in. They are also very useful and picturesque in the shrubbery, either as grand masses supported by a few stout stakes or else planted against the stem of some dead tree. In this latter connection they are seen in all their beauty, it only being necessary to shorten back the branches of the dead tree and plant one or more of the Roses at its base; in a couple of seasons they will have made grand bushes, and carry long weeping branches of graceful growth which will be more or less covered with bloom throughout the season. I can think of no Roses which will bear town atmosphere better than these, nor any more suited for planting over rough places, such as banks, open ditches and unsightly fences. On pergolas they are grand and are certain to please. The flowers are usually small and double, but some varieties are only semi-double. The majority of them possess a beautiful scent. It is unfortunate that so many of the old varieties are only found in out-of-the-way corners of old-fashioned gardens or growing at will over the outbuildings of some cottage.—R.

Rose Mme. Alfred Carriere is a Noisette Rose which hitherto has not met with the notice which its merits deserve. It is a beautiful Rose both as to form and delicacy of colour, but its distinctive merit lies in its exquisite fragrance, which reminds one of the delicate and peculiar flavour of the Muscatel Grape. The foliage is especially good, and it is a vigorous grower and most prolific bloomer. One tree in a garden on the east of Scotland produced hundreds of blossoms this last summer, beginning early in July and continuing without intermission until the middle of October. This Rose was budded on a low standard Brier three years ago and is now a remarkably fine tree fully 8 feet high.—R. L.

MONTHLY, OR CHINA ROSES.

OF all autumnal blooming Roses these are probably the most certain. Whether they were called Monthly Roses on account of their particularly free-flowering qualities or not I am unable to say; but this might easily be the reason, seeing that if a crop of bloom has been realised, there is little fear but that another will be upon the plant within the month. They commence to flower as early as any, are remarkably continuous, and seldom cease to carry some presentable blooms as late as the middle or end of November. The old Blush variety has now been known in our gardens for close upon a century, having been introduced by Mr. Parsons in 1796. The Chinas have close affinity with the Tea-scented class, and exceed the latter in freedom of blooming. I do not consider them quite so hardy as the majority of the Teas and Noisettes, but this is probably owing to the extra late growth they make, and their consequent greater susceptibility to frost. When cultivated in masses, or even as a hedge, they can be pruned in the roughest manner imaginable, and will still continue to bloom as freely as ever. The common China, or old Blush, also Abbé Mielan and Mrs. Bosanquet, are perhaps the best for this purpose. These grow freely, and will bear keeping to any height or dimensions that may be required. For small beds and groups I prefer the shorter growers, which should be planted sufficiently thick to make a good show from the first. Owing to the exceeding freedom with which these Chinese or Bengal Roses can be propagated upon their own roots, the expense of thick planting is not prohibitory to the same extent as when dealing with other classes. When planted in a warm nook or corner, especially if the winter is not severe, it is nothing extraordinary to cut blooms all through the winter, nor does such interfere in the least degree with their continuous flowering during the whole of the succeeding summer. Equally beautiful and useful, no matter what the season may be for other Roses, this old class thoroughly deserves the greater attention and popularity it has been accorded during the

past three years. The blooms being few-petalled and opening freely, it matters little whether the summer be an ordinary one or phenomenally wet or dry; in either case the old Monthlies will be equally happy and showy. If a cold and naturally wet soil be avoided, I do not see that those of any other character are more suited to this class than another, nor does it much matter what the aspect may be. Mrs. Bosanquet is perhaps the fullest and largest of the Chinas, and has been classed both among the Bourbons and the Teas. I have little doubt it should rank among the Chinas; indeed, the National Rose Society and most of the leading Rose growers have classed it as such. R.

NOTES OF THE WEEK.

Osmanthus ilicifolius.—This handsome Evergreen comes from Mrs. Robb at Liphook—all the shoots set with the little white flowers fragrant as any flower can be. In this state it is charming.

Aster cordifolius.—We were charmed with a bed of this late Aster in full beauty on Nov. 5, every shoot crowded with the small delicate lilac flowers. The large masses of bloom weighed down the stems and made a fine autumn bed.

Solidago nemoralis prostrata is worth a note. It is now (beginning of November) coming into full flower. The stems are about 18 inches long, prostrate, the secondary branches ascending, the whole forming a cushion of bright yellow 1 yard across by 6 inches to 8 inches high.—T. SMITH.

The Pennsylvania Blue Berry (*Vaccinium pennsylvanicum*) is one of the finest shrubs for the colour of its leaves in autumn. It is uncommon, but, judiciously and appropriately planted, creates a fine picture. The leaves change to crimson and scarlet tints and remain in beauty a considerable time.—T. SMITH.

Chrysanthemum Jardin des Plantes.—This is a fine outdoor kind. It is a capital companion to Cottage Pink and Jules Lagravère. We saw on November 6 a garden gay with it, and from the profusion of buds a display would be maintained throughout the month, if not into December, provided the weather kept fairly mild.

Calceolaria Kellyana.—This, one of the brightest flowers at Harrow Weald a few days ago, sows itself freely. It is hardy, the stems about half a foot high, the rich yellow flowers being produced over a long season. Their aspect is very distinct from that of the usual run of border and rock plants. This is quite worth establishing on the rockery in light warm soil.

Parrotia persica.—This is one of the finest shrubs or dwarf trees for the colour of its leafage in autumn. The fading leaves change from green to a galaxy of tints—orange, scarlet and yellow. It belongs to the same family as the Witch Hazels, and is an interesting tree to have on the outskirts of the lawn. It is one of the first to change colour, but the leaves are not retained long on the branches.

Camellias in a London garden.—When in Mr. Mills' garden at Highbury New Park a few days ago we made note of several remarkably fine Camellias fully 20 feet high and 10 feet through. When in full bloom they must present a fine picture, and each year they flower profusely. The chief varieties are Lady Hume's Blush, the old Double White, one of the most useful for cutting, the Double Pink, and Donckelaari.

The scarlet trumpet Honeysuckle.—This was pleasing recently in a Middlesex garden. It is known in catalogues and books as *Lonicera sempervirens* minor, and succeeds best against a warm wall and in a well-drained, moderately light soil. The flowers are bright and attractive in colour, profusely borne, and there is plenty of foliage to accompany them. It wants a warm corner, which may be given in many gardens, and is far more

interesting than many creepers and climbers repeated in every garden until one gets tired of them.

The Loquat at Southampton.—I have growing on my house a plant of the Loquat (*Mespilus japonica*), which is at the present time showing for flower for the second time this year, it having already bloomed in the months of July and August. Some of the fruit is set, although I fear in our climate it will hardly ripen. The plant is 24 feet high. It grows tremendously, is very healthy, and is never protected during the winter. I wonder it is not more grown in England.—H. W. HAY.

The Winged Everlasting (*Ammobium alatum*).—This is one of the handsomest of the Everlasting Flowers and very easily grown. It is almost perennial on light warm soils, but the best way to ensure a long and plentiful display of bloom is to sow every year. In good soil the plants grow very strong and compact, and keep blooming till cut down by hard frost. The flower-stems with their curious winged appendages look very distinct, whilst they are tall and showy. The flowers are white with a yellow centre, and make a fine display in the garden apart from their additional value for drying to arrange in winter bouquets.—A. H.

Hardy Cyclamens.—These, amongst the most charming of autumn flowers in Mr. Kingsmill's garden at Harrow Weald, are established at the base of Beech trees in a small break of woodland. They love the shelter of such a spot. The leaf colouring of many kinds is delightful. They grow well in vegetable soil mixed with brick rubbish, and if no such place as at Harrow Weald is available, plant bold clumps in nooks on the rockery. At Kew the Cyclamens are planted in the low-lying stretch of ground at the base of the Cumberland mound, and when in bloom are very effective.

Two good Chrysanthemums for pots or beds at this season are the single-flowered Miss Rose and Mlle. Elise Dordan, a pompon variety. In the greenhouse at Kew is a number of plants quite smothered with flowers, those of the former very neat and rose in colour, those of the latter being pink and like little balls. When grown freely and not stopped too much, they make delightful decorative plants. We noticed also in the open a charming bed of them near the Palm house. The edging, so to say, was of the variety Miss Rose, and the centre of the bed filled up with the pompon kind. Every leaf was hidden with the mass of bloom.

Abutilon vexillarium.—This fine South American plant is even now (Nov. 6) bright with a number of flowers in the Royal Gardens, Kew. There is a large plant against the wall of the Victoria Regia house, and here it succeeds remarkably well, the heat from within and warm sheltered position exactly suiting it. Throughout the summer until now the mass of deep green leaves has been enriched with a profusion of the brightly coloured flowers. It is in this border that the Belladonna Lily and other warmth-loving plants are at home. In many gardens such things as this Abutilon may be grown well against the walls of plant houses.

Vallota purpurea one sometimes sees well grown, but more often than not it is a failure. During the past autumn we have seen excellent specimens, and often in cottage windows, where the plant is left practically to itself. In a paper read by Mr. O'Brien at the Royal Horticultural Society's meeting on April 21, 1891, he mentions that a friend writing to him from South Africa, as regards its culture, says: "Vallota purpurea always dies here if planted in the open. The only way that we can keep the plants alive is to compress their roots into a small space either in small pots or among rocks or stones. They will thrive by keeping them in pots until the roots burst the pots, and they will flower profusely." This is the kind of treatment the Vallota gets in cottage windows, not too much warmth, nor too frequent disturbance of the soil. Under cultivation in gardens it is not left sufficiently alone.

BUCKLAND ABBEY.

ANCIENT buildings of historical importance justly absorb a large amount of public interest, but when a building of this kind is associated not only with well-preserved relics of times long gone by, but also with scenery naturally grand and beautiful, this interest is increased.

Such a spot is Buckland Abbey, formerly the residence of that world-famed navigator, Sir Francis Drake, whose descendants of that name still hold possession of this charming estate, with its extensive woodlands, park and meadows, situated near the valley of the river Tavy about six miles south of Tavistock (Devon). The ancient house, a portion of which is depicted in the annexed engraving, is at present

(Isle of Wight), who cultivated the land, and, besides their spiritual functions, carried on farming on a large scale. The Cistercian monks sprang from the order of St. Benedict, and their history has been chronicled by Brook- ing Rowe in his "Contributions to a History of the Cistercian Houses of Devon" (Plymouth, 1878). A huge barn and other buildings are still almost as the monks left them, and the remaining witnesses of their industry.

On the landing of the French in 1339 the place was fortified, and the battlemented wall, which still surrounds the abbey buildings, probably dates back to that period. At the time of the Dissolution in 1538 Buckland Abbey was spared the fate of destruction which befell so many other monasteries, because Robert Tucker,

traverses pleasant meadows, which by the recent formation of plantations have been made still more park-like in appearance. In a long curve this drive leads to the heavy oaken doors with iron clappings, supposed to be exactly the same as in the time of the monks. Passing through this entrance we find ourselves in a sloping square piece of pleasure-ground an acre or so in extent and entirely surrounded by the battlemented wall already referred to. There is, however, nothing stiff in this pleasure-ground, which, though probably laid out several centuries ago, is, nevertheless, in the natural style. A striking feature is the magnificent Cedars of Lebanon, many of which are of enormous size, though a few of them suffered severely during the heavy blizzard in March



Buckland Abbey, near Tavistock, Devonshire. Engraved for THE GARDEN from a photograph by Mr. Hayman, Launceston.

occupied by Mr. J. Phillips, and by the kindness and courtesy of Mrs. Phillips I was not only allowed a full inspection of the house and grounds, but I am also indebted to this lady for most valuable information anent the history of the abbey, of which I will here give a brief summary. Six hundred years ago Buckland Abbey was a flourishing monastery of the Cistercian order. It was the Countess Amicia, widow of Baldwin, seventh Earl of Devon, who founded the abbey, and in the year 1273 acquired the land for that purpose from her daughter Isabella, Countess of Albemarle. In 1275 the deed was confirmed by the king (Edward I.). Meanwhile the abbey and extensive farm buildings had been erected and prepared for the monks. In 1280 the foundation-deed was signed and the abbey was colonised with Cistercian monks from the abbey of Quarr

the sixteenth and last abbot, voluntarily surrendered to King Henry VIII., and this accounts for so many portions of the venerable old building being still intact in spite of its conversion into a dwelling-house. In 1541 the abbey was granted by the king to Sir Richard Grenville for the sum of £233 3s. 4d., but in 1580 the abbey and lands were sold for £3400 to John Hele and Christopher Harris, who only a few months later conveyed the property to Sir Francis Drake of Armada fame, whose descendants have held possession of it ever since.

Such briefly is the history of Buckland Abbey, and I will now describe its present appearance. The mansion (for such it must now be called in spite of its ecclesiastical origin) is situated on the side of a gently sloping hill and is approached by two drives through the park. From the south lodge the drive

1891. There are also two very large Tulip trees and good specimens of *Pinus excelsa* and *Abies Smithiana*, with a row of ancient English Yews near the boundary wall. The old house is nearly at the bottom of the hill, and before reaching the front door depicted on the engraving, the drive describes a bold curve almost in a semi-circle. The other approach to the house is by the "North Lodge," and by a longer drive winding through groups of ancient trees and affording delightful views of the wooded hills enclosing the valleys of the rivers Tavy and Tamar. Here also recent plantations have been added to the park, but so as not to mar the scenery. This drive terminates at what was once the porter's lodge with a well-preserved picturesque old watch-tower close to the front of the mansion. A portion of this is now used as stables, from

which a short tunnel leads to the house. Behind the stables is a well-stocked kitchen garden about 1½ acres in extent, and close to the east side of the old abbey is the grand old tithe barn, built entirely of stone, about 180 feet in length with a profusion of buttresses and loop-holes which would suggest its having once been a useful stronghold in time of battle. With the exception of a new roof this barn is exactly as it was built for the monks.

Returning to the pleasure grounds, we find near the old barn the remains of what must have been a gigantic Sycamore tree, which unfortunately succumbed to the great snowstorm in 1891. The pollard (now only 10 feet or 12 feet in height) has, however, been reinstalled in its place, an Ash tree is growing from its top, and what the bulk of the original tree must have been like may be judged from the fact that the diameter of the stump is about 7 feet or 8 feet through.

On the west side of the battlemented wall is the "fishing door," leading from the pleasure grounds through extensive orchards to the river about a quarter of a mile distant. The flower garden is a small one; it is on the south-east side, and consists of a small plateau reached by steps, and bordered on the east side by a wall covered with Magnolias and various creepers. The flower beds are of the diamond pattern and planted with Begonias, Calceolarias, &c. The exterior of the house itself is highly picturesque. By far the greatest portion of the building consists of the ancient walls of the original abbey. The tower especially is well preserved, and no modern architectural additions have been made since the time of Sir Francis Drake, whose arms are emblazoned over the entrance. The north front, which is shown on the engraving, is covered with Ivies, Clematises, Escallonias, Berberis Darwini and Roses. On the south side the spaces between the Gothic windows are covered by Magnolia, Passion Flower, &c., and from the wide door on this side a good view is obtained over the lawn, skirted by pleasant shady walks. On the same side of the house and over a small side door is a head carved in stone supposed to represent the foundress (Amicia).

Entering the house itself, the visitor is at once struck with its quaint antiquity. The hall is a spacious compartment, decorated with panels and Jacobean carvings in Oak. Some parts of the panelling are supposed to be of ebony, but unfortunately the whole of the woodwork has been painted. Engraved over the fireplace is the date 1576, and it is, therefore, assumed that it was during the possession of Sir Richard Grenville that most of the work of converting the abbey into a mansion had been completed. On a side wall above the panelling is a plaster cast of a knight meditating over a skull; his war-horse stands beside him, but he has cast off his armour, which is lying on the ground before him. On the opposite wall is the bust of Sir Francis Drake, and close beside it the sword and shield he used. Here is also the drum he had with him on his voyage around the world, and another drum taken by him in battle. The old capitals and corbels of the abbey and also the arches supporting the tower are in an excellent state of preservation. On the north side of what was once the nave of the church is "the little vaulted chamber," supposed to have been once a porch leading into the cloisters; here also the ancient arches are beautifully preserved. The staircase is illuminated by a beautiful Gothic window, whose delicately

stained glass is presumably the same as when the monks left the place several centuries ago. In this staircase also hangs the portrait of Don Pedro de Valdez, vice-admiral of the Spanish Armada, who had been taken prisoner by Drake. Another celebrated portrait hangs in the dining-room. It is that of Sir Francis himself, painted by Cornelius Jansen, and dated 1590. The drawing-room affords a capital view of the grounds, and is panelled in Oak in the Jacobean style. The corridor leading to this room is covered by seventeen large engravings representing battle scenes from the Armada, and, according to the inscriptions, these were published in 1739 by John Pine. The tower is almost intact, with the exception of being divided into several floors. On the second of these floors is a large mantelpiece beautifully executed, and representing the crest and motto granted to Sir Francis in 1581.

Altogether Buckland Abbey is one of the most delightful relics of olden times, and interesting not only to the lover of picturesque scenery, but also to the historian and the archaeologist. F. W. MEYER.

Exeter.

ORCHIDS.

BATEMANNIA BURTII.

I AM asked by "H. J." what is the cause of this and others of this section losing their leaves. I have no hesitation in saying, judging by some of the leaves which have been sent, that it comes about through the attacks of red spider and thrips which have spread over the plants through their being kept in too dry an atmosphere. Your plants are in a very bad state, and unless they are put into more warmth and a moister atmosphere and well washed with soap and water, you will stand a chance of losing them altogether through the winter months. Batemannias are usually considered difficult to grow and unsatisfactory when grown. The only time that I have seen the plant called Batemannia Burtii was when exhibited before the Horticultural Society some twenty years ago by Mr. Murrell from the collection of the late Burnley Hume, Winterton, in Norfolk. This plant, although classed by Reichenbach with Batemannia of Lindley, appears to differ widely from the typical species, and also appears to differ quite as much from the genus Zygopetalum, into which modern authorities put it. The present plant, Batemannia Burtii, we are told, grows naturally in the deep shade of the forests in Costa Rica, where it was discovered by the traveller Endres some twenty-six years ago. It grows upon the stems and the branches of trees, but always in heavy shade. The climate is very equable, and even in the dry season the dew at night is very heavy, whilst in the wet season, we are told, the atmosphere is "quite saturated with moisture," so that "H. J." will see how wrong he has been in keeping his plants dry. Many persons, too, have from time to time complained to me of this and the nearly allied genera, that they cannot make specimen plants of them. It should be borne in mind that these kinds, making no pseudo-bulbs, are not fitted for retaining their leaves to such an extent as are those which have the bulbs to support them. If they are kept in the Cattleya house with the plants always in a state of moisture, they will retain a great many of their leaves. In this way they are grown by Mr. Sander. B. J. Burtii varies considerably. Mr. Hume's plant was a very beautiful form. It is well figured by Walter

Fitch in Warner's "Select Orchidaceous Plants," 2nd series, t. xxxv. Another form is figured by H. G. Moon in the "Reichenbachia," 2nd series, t. 66, taken from a plant in the collection of M. Otto Friebe, of Zurich. The latter also is a very fine form, yet very different from that previously named.

WM. HUGH GOWER.

Dendrobium Phalaenopsis Schroederianum.—Several fine forms of this variety have been sent me by various readers. Some of them express themselves in terms of surprise at the ease with which it appears to grow and the freedom with which it flowers, a feature which will endear it to the Orchid grower of the present day. Although it requires strong heat, this is amply compensated for by the magnificent display of bloom. From the Rev. E. Handley's collection at Bath comes a very pretty flower of a rich magenta, the base of the lip being bleached with deep maroon. Mr. Kerslake says this is the finest and darkest form he has. From C. Fischer comes a very large flower, but its colours do not recommend it. Mr. Sander sends a very bright magenta flower, the lip broad and large, stained at the base with maroon. I have also from the same gentleman a splendid light form of the same species, the flowers large, the sepals white, the broad petals being also white veined delicately with heliotrope; lip large, white, stained at the base with violet, having bold lines of this colour running out on to the front lobe, the side lobes flushed and streaked with magenta; this is a superb form. Yet another very singular form comes from Mr. Ransom, who has charge of the collection of Mr. T. Gabriel at Palace Road, Streatham Hill. This has the sepals white, and the petals and lip of a rich magenta. The above will show what a number of forms there are.—W. H. G.

Cypripedium Rothschildianum.—With this remarkably handsome Cypripedium Mr. J. Deacon, gardener to Mr. H. Harris, Bowden House, Calne, seems to be more than usually successful. It is a variety not looked upon as one of the most easily managed, but the photograph sent with this note clearly depicts the healthy condition of the small specimen under notice as well as its free-flowering tendency. One remarkable feature connected with it is that the same plant which is blooming now gave a similar display in June last, an instance I presume by no means common in *C. Rothschildianum*. It is by no means commonly grown, because its slow growth commands for it a high market value, but those who are fortunate enough to get so healthy a specimen as that in possession of Mr. Harris may well be proud of the same.—W. S.

* * The photograph showed a small plant with two leads, each bearing a spike of bloom. On one there were three flowers and on the other two.—Ed.

Orchids in flower at Bowden House, Calne.—The present is not the most interesting time among Orchids, so far at least as regards a floral display, but at Bowden House, the residence of Mr. H. Harris, on a recent visit I noted among those in flower the autumn-flowering *Cattleya labiata*, comprising some two dozen plants, carrying from five to nine blooms each, of great substance and varied in form as well as colour. Some of these were imported, but are now wonderfully vigorous and healthy. *Dendrobium Phalaenopsis* is quite a feature, although the plants have been blooming for some weeks past. There is, too, such a diversity of colour as is not commonly found in this Dendrobe, some being pale and delicately shaded, others richly coloured. The old leafless pseudo-bulbs on several of the plants are flowering freely, which, together with the display from the young growths, makes altogether an extensive and varied show. Of other Orchids in bloom in this interesting collection may be mentioned *Vanda tricolor*, *V. Sanderiana*, *Cattleya Bowringiana*, *Laelia autumnalis*, *Lycastes*, represented by L. Skinneri

alba, *Cypripedium grande*, *C. callosum*, *C. Spicerianum* and *C. Rothschildianum*. *C. grande* is a robust-growing plant and flowers freely; so also does *C. Spicerianum*. *Odontoglossums* flowering now are *Roezli* and its allies *roseum* and *album*. *Calanthes* will shortly make a good show, *C. Veitchi*, *C. vestita oculata*, and *C. vestita lutea* being the autumn sorts grown in goodly numbers. A large number of *O. Alexandræ* are grown, some being planted out in peat and *Sphagnum* beds. This method restores unhealthy plants to their former vigour, and provides a source for obtaining good strong ones for placing in pots to replace any that may not be thoroughly satisfactory. These which are enumerated are only a tithe of what are cultivated at Bowden House by Mr. J. Deacon so successfully, several houses being filled to overflowing with large healthy plants as well as smaller importations.—W. S.

Cattleya labiata.—Of this species I am in receipt of several flowers from various readers. All of them are exceedingly beautiful, but two of them only are worthy of special commendation. The best form is a flower from the Hon. Miss Winn, of Nostell Priory, Wakefield, from a plant that bloomed last year, and of which I made a note in THE GARDEN. I am glad to see it again, for it is a remarkably fine coloured variety, coming well up to the original form, but I am sorry to find it has not improved in size. From the Rev. E. Handley, of Bath, also comes a very handsome flower of excellent contour, the sepals and petals rosy lilac, the whole of the front lobe blotched with deep magenta, with a light border round the prettily frilled edge. This flower, however, like that of Miss Winn, wants size.—G.

Cattleya Bowringiana.—First introduced by Messrs. Veitch in 1834, this species has now obtained an established position in every Orchid collection of any size. At the time of its introduction it was hailed as especially useful on account of its flowering in October and November, a time when *Cattleya* flowers are scarce. Although the re-discovery and importation of the autumn-flowering form of *C. labiata* have brought into cultivation a rival of even greater merit, the two are so different from each other, that its popularity need not be affected. It is very like the older *C. Skinneri* in the shape and colouring of its flowers, but that species of course flowers in spring. The stems are 9 inches to 15 inches high, bearing at the top two or three oblong leaves. The umbellate racemes carry about eight flowers, each a little over 3 inches across the sepals. Although they are, therefore, small as *Cattleyas* go, they lack nothing in richness of colour. The sepals and petals are deep rosy purple, the convolute lip being white in the throat, but with a blotch of velvety dark purple on the centre. The species is a native of British Honduras.—B.

ORCHIDS AT SYON HOUSE.

DURING the past few years the collection of Orchids at Syon has increased in interest, and several houses are filled with plants representing really useful species and varieties. Considerable trouble is experienced here in the late November and winter days from fog, which often plays sad havoc with the flowers, especially those of the *Calanthes*. When there a few days ago many kinds were in bloom, comprising a large houseful of *Cypripedium insigne*, previously noted. *Trichosma suavis* and *Masdevallia tovarensis* were opening the first flowers. This *Masdevallia* is one of the best Orchids an amateur can grow, as it is easily cultivated and produces a wealth of pure white flowers, very useful to cut for decoration, whilst they remain long in beauty either on the plant or when gathered. *Maxillaria grandiflora* is another good cool-house species in bloom in this collection. It enjoys a very cool, but moist temperature. Amongst *Odontoglossums* many species and varieties might be named, including, of course, *O. crispum* in variety, but in bloom recently was *O. grande*, which during the past few days has been imported largely. At

one time it was so scarce that very few plants were met with, but this is altered now. The flowers in the best forms are very large and rich in colour—chestnut-brown with bands of yellow, and if kept dry they remain in beauty several weeks. Mr. Wythes has some really good varieties of *Lycaste Skinneri*, which display considerable variation in colour, especially in the lip. The pure white *alba* is a lovely flower, and we hope it will become more common than at present. Some good plants here in bloom were in contrast to the coloured forms of this fine species. *Cattleya Bowringiana* was blooming freely and is a bright Orchid at this season. It varies considerably in colour, the darker varieties being the more striking. *Vanda tores* is well established close to the glass at the sides of the house, and next year we anticipate a good display of this Orchid, which is not one of the easiest to establish well. Sunshine, moisture when growing and comparative dryness in the winter are the chief cultural details. In a few days' time the house, largely occupied with *Calanthes*, *C. Veitchi* in particular, will be a mass of colour. The rising stems are of great vigour and promise spikes several feet in length. We hope fog will not cut short their beauty. This sometimes happens, and *C. Veitchi* is one of the first to succumb. It is exceedingly disappointing to see a splendid forest of flower-spikes, so to say, spoilt by fog, against which there is practically no remedy. The *Pleiones* were going over, at least *P. lagenaria*, and we should like to see these Orchids more grown. A few panfuls are very pretty and they are not difficult to manage. An objection urged against them is the absence of leaves at the time of blooming.

SHORT NOTES.—ORCHIDS.

Cattleya aurea.—E. Jones sends me two flowers of this plant for an opinion. They are remarkably good, but I do not see anything unusual in the markings of either flower. No. 1 is by far the larger and better form.—W.

Cattleya maxima.—From Sir W. Marriott's collection comes a large flower of this species with a very dark and well marked lip; it also is peculiar in having the upper half of the two convolute side lobes pure white, which is very striking when the lip is spread open. I do not remember to have seen a form like it before.—G.

Oncidium tigrinum.—This very beautiful plant is flowering very freely with Mr. Ransom in the gardens of Mr. T. Gabriel, Palace Road, Streatham Hill. The various plants exhibit a considerable difference, but yet the flowers of all of the varieties have the same delightful perfume of the Violet which renders them most acceptable. The plants are put into the *Cattleya* house to open their flowers.—W.

Dendrobium Leeaeum.—This beautiful species I think I have noted on a previous occasion. I now have a remarkably handsome flower from Mr. Sander. Although in growth it much resembles *D. Phalaenopsis*, with which it grows naturally, and with which it came home, its flowers are very different, the petals of a rosy-purple hue, lip deep violet, having several raised fleshy plates on the disc, which are fringed; the front lobe is waved at the edges.—W.

Dendrobium Phalaenopsis Statterianum.—This, although a very elegant flower, cannot be compared with the fine forms of the typical plant. The present plant is another of Mr. Sander's introductions, but although the flowers are smaller than those of the typical plant they are very rich in colour. In the flowers now before me the sepals and petals are rosy-purple, the lip of a purplish-maroon, becoming deeper in the throat. It likes the warmest end of the East Indian house, and during the growing season an abundance of water. Even at the dullest and driest season it should have moisture enough given it to prevent shivelling.—W. H. G.

Lælia præstana.—"J. H." sends me a very fine flower of this species, saying it is the second

time it has flowered this season. This is a frequent occurrence with newly-imported plants, because it flowers twice in a state of nature in the twelve months. After plants have been cultivated for a short time they usually flower but once. To induce them to continue to bloom twice the growths now flowering should be finished up well, and to accomplish this the plants should be removed from the cool house to a warm and light place in the *Cattleya* house. The flowers now before me are in the sepals and petals of a deep rich rose colour; the trumpet-shaped lip overlaps and is very thick and fleshy, the front lobe and the tips of the side lobes of a very deep and rich purple with a triangular white blotch in the centre; the throat is very rich orange.—W.

KITCHEN GARDEN.

ECONOMIC VEGETABLE CULTURE.

METHODS in vogue among growers of vegetables for exhibition are anything but economical, and the results are equally unsatisfactory as far as such products are concerned when these happen to reach the kitchen. Coarse or overgrown vegetables have been repeatedly condemned in these pages. As it happens, growers for exhibition are not the only offenders in the matter of growing vegetables to a size not calculated to please either the cooks or those whom they serve, and it is quite time methods of culture were varied with a view to producing better vegetables at less expense than formerly. When I allude to the expense of present methods of production, it is not to be understood any charge of extravagance, recklessness, or even of resorting to needlessly expensive practices is intended. What I shall attempt to prove is that in very many instances heavier crops of smaller, therefore superior, vegetables might be had from a given breadth of ground without any increase in the cost of production, the saving being effected in the labour bill, and the gain in weight and quality of crops considerable. Some of the practices to be advocated may not be altogether the best in the case of poor ground or light hungry soils, but would answer well in the majority of private gardens the soil of which is fairly retentive and the manure supply not stinted. If we crop heavily and closely, it follows that every attempt should be made to sustain the fertility of the ground, or otherwise the exhaustion of such important elements of plant food as phosphates, potash, and nitrogen, separately or collectively, must end in partial or complete failure of such crops as stand most in need of them. When, however, the manuring is heavy and constant and the cropping comparatively light, there is every likelihood of the soil being actually poisoned with manure, and few gardeners need be told that good crops are rarely, if ever, taken from manure-sick ground. The best results, as abundantly proved by market growers, attend the practice of manuring heavily, fairly fresh solid manure and not washed-out stuff little better than a mass of humus being used, and cropping close and heavy.

If we desire to grow extra large vegetables, anything in the shape of crowding is avoided, and crowding is also objectionable sometimes even when only good average produce is wanted. When, however, it is seen that allowing so much space favours coarseness, why, if smaller vegetables are preferred, persist in the practice of over-thinning or wide planting? What gardener has not had a good object lesson in the shape of Savoy left in the seed bed after what were wanted for pulling out had been duly drawn? Unless left very thickly or raised on

the poorest of poor ground, these sprawling plants, left most probably without any thought of their doing any good, will yet form excellent small hearts superior in quality, it may be, to any obtained with very much more labour and expense elsewhere. At the present time we have Savoys with excellent hearts pressing against each other all round, more being obtained from a bed 6 feet square than is often cut from three times that space of ground. Large hard, much-blanching hearts of Savoys are not good eating; whereas the neat, moderately firm, partially blanched hearts and which can be cooked whole are not surpassed or scarcely equalled for mildness, tenderness, or delicacy of flavour by any other kind of winter green vegetable. Instead, therefore, of planting them so far apart it would, as a rule, answer far better to either sow the seed thinly in rows where most of the plants that come up are to remain, or else put them out closer together. One foot apart each way is ample for the Tom Thumb section, 15 inches for the Early Elm and Dwarf Curled, and 18 inches for the Drum-head, rather less space in each instance being allowed when the seed is sown where the plants are to grow. The ordinary Cabbage again is very frequently grown far too large to be good. The neat little hearts produced by the small quick-growing varieties, including those treated as Coleworts, are, I find, always preferred on the dining-table—in fact, when nothing but large close Cabbages are forthcoming there is no further demand for them. Just now we have a great abundance of green vegetables, but of nothing am I so proud as a great breadth of Little Gem and London Rosette Cabbages. These were raised late in July and duly planted out 1 foot apart each way. As yet they are scarcely forward enough to cut, nor do we want them, as any quantity of pretty little hearts are being cut from the plants left thickly in the seed bed. The seed was sown in long drills drawn 9 inches apart, and the plants left about 4 inches apart. Ellam's and other good varieties that do not attain a large size, the seed of which was sown about the middle of July, have been put out in succession to Onions, the distance apart being 15 inches each way, and although somewhat forward, I do not anticipate many failures. Those left in the seed-beds will also most probably do good service.

Borecoles, again, are often grown too strongly—at any rate, such has been the case with me repeatedly. Fully-grown tops or hearts of Scotch or curled Kale are what are most preferred, but these are liable to be badly damaged by snow and frosts, while those that have been left more thickly in the long rows where raised have not been injured in the least. The question is, therefore, whether it is not more economical to either sow the seed where the plants are to grow, arranging the rows 2 feet apart and thinning out to 1 foot apart, than to transplant from seed-beds and allow very much more room. Sowing the Asparagus or Buda Kale where the plants are to remain has always answered well with me, this being done after ground has been cleared of second early Potatoes, and the plants left about 6 inches apart. Lettuces and Endive sown where the plants are to remain are more often than not over-thinned. Supposing the rows are 1 foot apart, if the plants are left from 4 inches to 6 inches apart they will grow quite large enough, the Lettuce hearts being close and good, while the Endive becomes self-blanching. In very many instances Carrots, Onions and Parsnips are over-thinned, large roots not keeping so well as the smaller ones, and are certainly the least

preferred by all good cooks. The large varieties of Beet, and the Turnip-rooted in particular, should not be given very much room, or they become too coarse, and even Turnips "bulb" fairly well when left growing not more than 4 inches apart in rows 15 inches asunder.

Brussels Sprouts, Broccoli and Cauliflowers are among the subjects that it does not pay to crowd in the least, though the owners of small gardens might yet try what could be done in the way of economising space. I have seen really good crops of the first-named obtained by sowing the seed on firm, but not very poor ground in drills 2 feet apart, leaving the plants 18 inches asunder. In this case there is no redundancy of leaves, and no failure of the sprouts "buttoning" properly. Broccoli is an uncertain vegetable under almost any form of culture, and is not therefore worthy of much space being devoted to it in small gardens. It is particularly liable to destruction by frosts if "long in the leg," hence the necessity of plenty of room as well as a firm root-run. A good supply of small early hearts can be had, however, by sowing the seed of Veitch's Autumn Protecting and other early varieties thinly in rows where the plants are to remain, autumn Cauliflowers being similarly treated. My plants of both kinds are usually raised in long rows from 9 inches to 1 foot apart, and unless badly wanted for the principal breadths some are left about 1 foot apart. This season a capital lot of neat hearts has been cut from these cheaply grown plants, and gave as much or more satisfaction as any cut from stronger plants. There is no economy in crowding Globe Artichokes, only those given good room and not starved in any way being really profitable. Nor ought either Peas, Beans, Vegetable Marrows, Jerusalem Artichokes and Potatoes to be allowed to smother each other, this being the reverse of economical. W. I.

A remedy for the Carrot grub.—When walking through the gardens at Gunton Park last September my attention was drawn to an extra fine crop of Carrots growing upon a long west border. Mr. Allan informed me that in early summer, as soon as growth had well commenced, the whole border was severely attacked by the Carrot grub, so much so indeed that the Carrot foliage flagged. Being anxious, if possible, to save the crop, he had a bushel of lime and one of soot thrown into a vessel containing 100 gallons of water. The mixture was well stirred and allowed to stand for a night, after which the border received a thorough soaking with the clear water from the tub through a rosed watering-pot. The result was a complete destruction of the grub. Growth recommenced, and at the time of my visit the crop was a credit to the grower. Such a simple, cheap, and effectual remedy ought, I think, to be widely known.—J. CRAWFORD.

The Onion maggot.—THE GARDEN being always a week old when it reaches me will explain delay in noticing "A. Y.'s" communication respecting the Onion maggot. There is not a particle of evidence that the pest feeds on any other vegetable but the Onion, and no one but "A. Y." has ever been led to suppose that it does. Whether the fly does or does not visit the Cabbage bed, or the grub feeds on the roots, as "A. Y." imagines (p. 379), is of little consequence, as no one but he would think of an old Cabbage bed for Onions. We in this part manage to get another crop, such as Peas or Celery, from the old Cabbage plot before we want to get the Onions in. "A. Y." draws wrong conclusions from the act of the grubs quitting the lime and the paraffin, as stated by me. It was not from any dislike to either of them that they hastened away, but they retreated from a desire to get to their hiding-place and their feeding ground, for the grubs experienced no inconvenience when an Onion containing some was dipped in

paraffin; at any rate they showed no desire to escape. If there is any cure, as Mr. Burrell says (page 379), it must be applied to the plant and not to the soil. Even the application of paraffin to the growing plant, on which "A. Y." lays so much stress, is a questionable preventive, as it does not adhere to the tops, and its odour is so evanescent, that there is very little trace of it in a few hours after it is applied. Wherein, then, lie the distasteful or the obnoxious properties of the paraffin to the Onion fly?—W. P. R., *Preston*.

FLOWER GARDEN.

TRANSVAAL GARDENING.

TO THE EDITOR OF THE GARDEN.

SIR,—Pretoria is the capital of the South African Republic, perhaps better known to Europeans as the Transvaal, and is situated in about 25° 45' 2" S. latitude and 28° 11' 30" E. longitude from Greenwich. The height above sea level is about 4450 feet. It is estimated to contain a population of about 6000, most of whom are of British or British colonial origin, with a fair sprinkling of Germans, Hollanders, French, and Swiss, and a good many Hindoos from various parts of British India. The town lies in a valley having a gentle slope to the eastward until the Apies River, which forms the boundary on that and the north side, is reached. The soil varies from a shallow, but fertile gravel in the higher part of the town to a rich alluvium composed of decomposed shale with a gravelly sub-soil. The climate is very variable, and would lead an English gardener to despair of doing anything with those objects which he loves so dearly. In the winter season, which lasts from the beginning of May to the middle of August, we have seldom a drop of rain, and while the temperature in the middle of the day frequently stands at 80° Fahr., in the night the thermometer shows several degrees of frost. These extremes of temperature, however, are by no means so destructive to vegetable life as might be supposed. We are not able to do much to shelter our plants, as conservatories and green-houses are not at present available. The chief feature of Pretoria is that nearly every house has a garden ranging from a quarter to three-quarters of an acre in extent, and gardens of larger proportions in the outskirts an area of two to five acres. Generally speaking, Roses are cultivated with great success, as the conditions appear to be very favourable. Many of our rosarians have collections of from one hundred to two hundred and fifty varieties, and can make a brave display at our flower and agricultural shows. Last year about the end of October we had a show of Roses which your nurserymen would have found it hard to beat, whether as regards the quality of the blooms or their variety. I was able to stage thirty-six high-class blooms, and obtained a second prize for them, although I had made no particular preparation for the show. Where you limit the number of blooms to two or three dozen for the professional gardener we do not consider it unduly taxing our amateurs to stage the same number, and I have been assured by gentlemen from England that our displays would have been considered first-rate at your best shows. We have another show coming on on the eighteenth of next month, the prize list of which I send herewith, so that you will be able to form some opinion as to the class of Roses most popular with us.

But Roses are not the only objects of the gardener's attention here. Carnations, Pansies,

and Fuchsias are also in favour. The first-named grow wonderfully well with us, and are laden with bloom for many weeks in the year. Some, indeed, scarcely go out of bloom during the whole year. It is no exaggeration to say that some established Carnations have hundreds of flowers upon them during the height of the blooming season. Tufted Pansies do not do so well, as the climate is too dry during the winter for them, but where a little shade and plenty of water can be afforded they are as fine as you get them in your gardens. Of course the Carnations and Pansies are generally raised from seed, and consequently are not named, however fine in quality they may be. Verbenas grow like weeds. Cinerarias and Cyclamens give no trouble under the shade of a verandah, but Calceolarias are not suited for the climate and such rough-and-ready gardening as we bestow upon most things. I am still in doubt as to how Japanese Lilies will do here. I imported a good variety a year ago, but none of them have flowered yet; indeed, nearly all remained dormant in the ground for nearly a year, and are now only beginning to show signs of life. *L. auratum* is just coming through, and *L. lancifolium* varieties have only grown about 4 inches out of the ground; and this, too, notwithstanding that they were planted early last November and had all the forcing of the sum-

mer weather and abundance of rain. The same has occurred with Lilies of the Valley, which are only now beginning to show through the ground. *Begonia Rex* in all varieties is a great favourite here, and it thrives well without much trouble. The unusually heavy frosts of last winter have, however, tried the plants considerably. Tuberous Begonias are coming into fashion, and several very fine varieties are to be found in many houses. Primulas are of easy culture from seed grown here, but I have had very many disappointments in raising plants from imported seed. With seed of my own saving of two and three years old I have no difficulty in getting young plants, so that I infer the seed sent out to Africa is not so fresh as it should be to secure germination.

Pretoria.

HORTUS.

A new break in Sunflowers.—In a garden near here a new and what promises to be a valuable break in annual Sunflowers has occurred. Seed was saved last year from some plants of that excellent variety known as the New Miniature, and among the produce of this seed (which came true in all but this solitary case) one plant grew away rapidly and developed into a very fine and showy specimen over 6 feet in height that has bloomed very freely all the summer through, and still, at the end of October, has dozens of flowers on it. In all its parts, except for size of flowers and leaves,

it is exactly like the parent plant, but the largest flowers now on it measure nearly 7 inches across, while earlier ones have been larger. There is nothing heavy or lumpy-looking about them, as the stems are slender and the discs characteristically small, being only $1\frac{1}{2}$ in. in diameter in the largest flowers and of a dark brown colour, looking black from a short distance, and making it a very striking object. If the break can be perpetuated it will take the place of the common Sunflower to a great extent, as flowers of the latter, even if of no greater diameter, look lumpy and less graceful by the side of the new one, and the plants bear no comparison with it for length of season and freedom of flowering. Only a small quantity of seed has been saved from this plant, as it seems to be naturally shy in setting its seeds. This of course lengthens the flowering period. Similar breaks may have occurred before, but I have never seen or heard of them, though plants of the type sometimes vary slightly in height and size of flower, but to nothing like the same extent.—J. C. TALLACK.

NELUMBium SPECIOSUM.

HERE is a little picture which tells very plainly the story of the *Nelumbium* naturalised in the Northern United States—in New Jersey, in fact, where the frosts in winter are more severe than they are in England, and yet not so severe



Nelumbium speciosum naturalised in New Jersey.

as to be injurious to the *Nelumbium* when planted in 2 feet of water. We hear from visitors to the States, as well as from the Americans themselves, how large a place this and other Water Lilies fill in the outdoor gardening there, even the most tropical species being a success with a little simple contrivance to afford artificial heat to the water in spring and autumn. There is a long account of *Nelumbiums* in THE GARDEN, Vol. XLIII. (p. 462), with a picture of *N. speciosum*, to which all who are interested in water plants should refer. There is no apparent reason why the *Nelumbium* should not be made a feature in our ponds, in the warmer parts of the country at any rate. Mr. Smith-Barry might grow it in his water garden at Fota, and it might also be tried in South Wales and Cornwall. The probability is that failure at the start has convinced those who have tried to grow *Nelumbiums* out of doors in this country that the conditions were unfavourable; whereas, the difficulty generally experienced in transplanting them, even under glass, is most likely the cause of failure. There are not a few clever cultivators who cannot establish the *Nelumbium* in their indoor aquaria. On the other hand, when once it gets hold it takes care of itself. Seeds sown in baskets of soil and sunk in a warm corner of a sunny pond out of the reach of birds would grow, and the baskets could be transferred to permanent positions in

the following year. Good roots may be purchased from Japanese growers, but they ought to be established in pots or baskets in Japan before being sent over. It is scarcely necessary to urge the claims of the *Nelumbium* in order to its becoming a feature with us. The Americans have succeeded in adding it to their popular garden plants even to the extent of naturalising it, acres of it occurring in the water meadows in some States, and, so far as we can make out, we ought to be able to do as much in some parts of the British Islands. Mr. Sturtevant, of New Jersey, got a plant from Kew a few years ago, planted it in a submerged meadow and it now covers acres, the accompanying woodcut being from a photograph of this most successful experiment. W. W.

NOTES ON HARDY PLANTS.

Oxalis lobata.—After having been brown or invisible most of the summer, this little species becomes green and pushes forth its abundant orange-yellow flowers in the months of September and October. It, therefore, at this late season presents all the freshness and brightness of a spring plant. It is at most but a few inches high, and the flowers but slightly crop out of the short tufts of delicate pale green leaves. I daresay it is a plant that should be protected in some gardens, especially as it is one of the kinds better for being left in the ground the year round. On a sunny bank of black, somewhat dry soil it remains out with me from year to year without protection, and I should say it would be fairly safe in any garden of moderately light soil if planted at a depth of 5 inches or 6 inches. I would suggest one way of planting it for effect, and that is between the shorter varieties of *Erica vulgaris*; the foliage effect is good from the sharp contrast of dull green to pale apple-green, and the tufts of *Erica* are ample protection for the little tubers in the severest weather. Those who know the plant will readily imagine the pretty effect it has among Heaths.

Helianthus (Harpalum) rigidus.—The kind now in flower is not the typical plant, but a capital variety that, so far as I knew, occurred here naturally. It resembles the type in all ways excepting that it is a little taller and its flowers or heads are fuller as regards the ray florets; in short, it is a semi-double flower. Then it begins to flower in early August and never stops until severe frosts come; whereas the older plant stops flowering and gets quite brown by the middle of September. One more good point is that its root-stems do not run to such great distances as those of the presumed parent. My plant is now simply grand; it is 6 feet across, and it keeps compact, and has kept in its place for four years. I not only consider this a better plant and the flowers more valuable than those of the older *H. rigidus*, but I find it by far the most useful of all the Sunflowers.

Aster Novæ-Angliæ roseus.—This, as indicated by the name, belongs to one of the most marked and distinct species of Michaelmas Daisy. There can be no mistaking the species, and the varieties may be identified by the colour of the heads.

Stokesia cyanea.—This handsome and by no means common plant is likely to reward those this season who have persisted in its cultivation. Usually it is so extremely late in flowering as to be practically in these northern parts a flowerless plant. It is proved, however, by the weather conditions of the past summer that it only needs hastening on by more sunshine, when it may flower freely with or slightly before the Michaelmas Daisies. The habit of the plant and its bold and singular flowers all stamp it as a subject worth having. I believe that our more southern friends, especially those who grow it on the lime or chalk, may fairly well rely on it as an early

autumn bloomer. It is a perfectly hardy species, but better in several respects for being deeply planted.

Saxifraga Mertensiana.—I have as yet had no cause for great love for this plant. I have grown it about six years, but never yet flowered it. I am aware that this might not be saying much had I not changed it about, but I have done so, and still I neither get flowers nor, what is practically the same, much vigour of growth. It is, of course, a naturally small species, but, even allowing for that, the plant does not get on. It has the very annoying habit of beginning to grow in the autumn months, and, what is worse, the fresh leaves are injured by the early frosts. This, some would say, is only another way of describing it as a non-hardy plant. That, however, is scarcely correct, because I have grown it quite exposed these six years and the corms never seem to suffer with cold, and in their way do make foliage strongest in the autumn, and after being nipped and killed down in the winter, a more feeble growth starts in the spring.

Polemonium humile.—At the present time the bronzy yellow foliage of this little species or variety, whichever it may be, is most attractive, resembling coloured Spleenworts. It may be that the hot summer has something to do with this pretty feature; still the fact remains. At all times it is a dainty plant, very superior to *P. repens*, which often passes for it.

Dictamnus gigantea.—Whence comes this specific name and why? I have just been reading a description of the plant, evidently by a careful observer, and he speaks of seeing well-grown and long-established plants 2 feet high; but I see nothing in the description that does not apply fully and strictly to the type. I have suspected the gigantea for two years. I got a plant three years ago under the name from Germany, and to the present I have seen nothing about it differing from the old species, *D. Fraxinella*. My old plants of *Fraxinella* invariably reach a stature of 2 feet and sometimes 3 feet. In the summer of 1892 they were fully 3 feet high, evidently enjoying the wet season. If there are really special features about *D. gigantea*, I should be much obliged for the information.

Veronica Hectorsi.—My oldest plants of this are now truly beautiful, their rudimentary and imbricated leaves imparting a cord-like appearance to the forking branches which fairly shine with a golden brightness. The puny shrub of but 4 inches to 6 inches is so distinct and quaint as to be beyond description, and to gain an idea of its form and charms it must be seen. Singular as many of the late arrivals of this shrubby class are, aping mostly the conifer tribe, this is the most remarkable of all, and also, though a slow grower, perhaps the hardest of the batch.

Eremurus robustus.—This is certainly one of the strongest growers and hardest of the genus, and I think that it does not take quite so long to obtain a flowering specimen from seed as we supposed it necessarily would a few years ago. I know several instances of plants flowering considerably under the age of seven years. After the second or third year the plants make rapid progress, quite out of all proportion to that of the first year or two, which can be easily understood when we allow for the root habit. After the second year the radiating roots increase in numbers, so that the progress of the plant afterwards is commensurate with the root growth.

Arenaria norvegica.—This Moss-like Sandwort is remarkable for its shining character and pleasing deep green shade. Though but an inch high, it stands out distinctly as perhaps the freshest and neatest thing in the way of a winter cushion plant. We do not, as a rule, find the Sandworts of much value for their flowers alone; it is the combined characters of the plant and especially the habit that fit them for gardens or rockeries.

Sagina Boydi.—This, I believe, will become a favourite plant for decorating rockeries on the same principle as the *Arenaria* just noted. It is a charm-

ing little thing, found, I believe, by Mr. Boyd on the Scotch hills. Evidently a very distinct variety.

Veronica loganoides.—This is another pretty and very distinct form of the dwarf conifer-like section. Its colour is yellowish green, and the minute leaves, like the merest bracts, are sharply recurved. I suppose it is not of much use to speak of these Veronicas in regard to their leaf form, or until the plants have become well acclimatised, for we have proved that according to the way in which a plant may have been raised it assumes a given habit; that is to say, if you raise a plant from a cutting in a warm house, it may be somewhat drawn and the leaves longer than would have been the case if raised out of doors. This we know is common, but the singular thing in these Veronicas is that for years a plant will go on giving evidence in its habit of its special treatment in its infancy. I can point to many instances of this kind, and can show examples with such kinds as *lycopodioides*, *salicornioides*, *Armstrongi*, *Hectorsi* and *cupressioides*. So different are some of those plants from the cause mentioned, that I would not have believed in their identity had I not known all the facts.

Ostrowskia magnifica.—The Rev. Mr. Ewbank has kindly informed me of his experience with this at Ryde, and as I esteem the hint as very valuable, I produce it now—being exactly seasonable, and that in the double sense of either planting new roots or placing protectors over old roots. The treatment mentioned by Mr. Ewbank is the drying off the roots in summer like *Oncocylus* Iris, to be done by means of a glass shelter open at the sides. This is said to make all the difference in the world with this plant. I know the plant to be capable of enduring its share of cold, even in Yorkshire, so that we need not suppose the Isle of Wight climate has much to do with results in that respect, that is of cold.

Aster cordifolius Diana = Photograph.—A plant of this given me by the raiser, the Rev. Mr. Dod, has been glorious for the past two weeks, and it seems capable of sustaining its beauty for yet two weeks more. Like the other varieties of this species, the flowers are very small, but the two features of beauty in this case are its enormous panicles and the delicate, very pale lilac or mauve flowers. With me it is 5 feet high. Nothing could be more useful than short sprigs (which may be picked by the score from the enormous clusters and never missed) for bouquet or table work. I believe that Mr. Dod, up to the Aster conference date, spoke of the plant by the name "Photograph." Now we shall recognise it by its new name Diana. It has the merit also, like all the varieties of *cordifolius*, of not running at the root.

Morina longifolia.—At present one of the brightest bits of blossom in the garden is to be seen on a plant abnormally late. As is well known, this Thistle-like plant produces a long succession of flowers in whorls, opening velvety white, turning to clear rose, and dying off vermilion. I merely mention it, though a well-known plant, because I think it is not so much grown as it deserves to be.

Morina Coulteri.—I cannot find by my notes how this plant came into my possession, but I think I am right when I say that I have possessed it three years, possibly from seed. Has anyone flowered it? If so, what are its merits, and wherein does it differ from *longifolia*? That it is distinct, though not much in foliage, is evident from the fact that it has remained so long flowerless. Such negative evidence may not be much to go by, but it often puts us on the right track for useful conclusions. I also imagine that I see a difference in the foliage. Certainly in the case of my plants the foliage is longer than that of *M. longifolia*, but that may be accounted for by the fact that plants of three years' growth that have never flowered may have stronger leaves than that of other plants that have bloomed.

Campanula muralis (Bavarian var.).—This is a variety showing an advance in the right direction. Not only is the plant more vigorous, but

its flowers are brighter, bigger, and produced all summer and up to the present time in profusion. Compared with the type, it is thus seen to be more useful.

Aster alpinus speciosus.—What is this by description? Who raised it and authorised the name, and when was it raised? The fact is it is a most distinct and splendid plant by contrast with the type, and there are already signs of disputes as to its identity and origin, and it is also a fact that other varieties of the alpine Aster are going under this name. Personally, I believe that, distinct as the plant is, similar ones may be had. Now that plants are being largely raised from seed of the type, many varieties are turning up. I have seen no less than eight, and whereas all seem improvements on the type, I have never yet seen an inferior seedling. If this is a fact that can be relied upon in gardens generally, it is an important one; but we should not forget that seedlings in the first flush of their vigour often display results that are not sustained by the older plants. J. Wood.

Woodville, Kirkstall.

FLOWER GARDEN NOTES.

WEeping ROSES.—The one or two notes that have appeared in praise of *Aimée Vibert* recall an experiment with that variety that has proved a decided success and which may prove worth recording for the benefit of any who are able to place it in a similar position. Some four or five years ago I formed a large bed round the stump of an old *Pinus Cembra* that had been headed back to a height of 7 feet from the ground, intending to plant it in the summer with Canary Creeper and allow this to ramble over bed and stump. This was accordingly done, and we had a glowing mass of colour all through the summer; but when the creeper was removed in autumn, the old stem looked bare and ugly, and I shifted a large plant of *Aimée Vibert* from a wall and planted it close up to the old tree. Sufficient shoots were brought round and over to clothe the old stem and the remainder were allowed to ramble at will. Not much growth was made the first season, but all long shoots available at the end of the second season were arched down and the tops lightly pegged into the soil. Certainly all through the early part of the present summer this Rose was about the most attractive feature in the flower garden—a mass of white 7 feet in height and 15 feet in diameter. A rather strange thing is that the plant in question is growing in almost pure leaf-mould, that compost having been originally used to make up the raised bed round the tree. Ivy is often recommended for clothing tree stumps, and it certainly may be of use if better things are not to be had; but there is a stiffness about it from which the weeping Roses are free, independent of the wealth of flower the latter will furnish.

Besides the increase of many herbaceous plants by division, as mentioned in previous notes, any special sorts of Phlox, Pentstemon and Snapdragon may be propagated by cuttings. They will do fairly well in the ground under a frame or handlight, but are best in boxes or small pots if these can be spared. If a number of mixed beds are contemplated for another year, a few good Pentstemons and the white Snapdragon will come in well for the purpose, and if so required should be worked on from the cutting pots in the spring so as to have nice bushy plants for turning out. A mixture of these and some good double Zinnias thinly planted with a carpet of some dwarfier plant that is in its turn relieved at intervals by a graceful *Acacia lophantha* makes a very handsome bed. If *Lobelia cardinalis* and the varieties of *fulgens* (very beautiful summer plants) are in a position where they cannot be thoroughly protected, it is best to lift them and store away in boxes until the worst of the weather is over. Among the list of grand autumn flowering plants noted for division are *Helianthus Soleil d'Or*, *Senecio pulcher* and *Stokesia cyanea*. The recent interesting note (October 28, p. 391) which tells of the one Lily at

the Colchester banquet sets one thinking on the absence of these flowers from English gardens. Is it attributable either to indifference to their beauty or a lack of desire to attempt their culture? I hardly think so, but rather to the fact that they will not make themselves at home in the majority of gardens. Take *Lilium auratum*, for instance, that has been imported into this country in hundreds of thousands, "perfectly hardy," we are told, and "easy of culture." Is it? How comes it then that one may go into so many places and not find in the open air a single representative? I fancy the most of us have yet a lot to learn about the successful outdoor culture of Lilies. With the autumnal alterations in herbaceous borders, replanting, rearranging, &c., comes the question of labels. I have tried terra-cotta labels, which are broken by the foot, hoe, or rake, and vanish; Chandler's copper labels, which require a small iron rod whereon to rest them, and which tarnish badly unless coated with paint previous to writing on them, and the raised letters of metal on a metal ground, excellent in their way, but rather expensive if one requires them in quantity. No one likes to see great heavy labels showing perhaps over some tiny plant, but something in the way of a mark is absolutely necessary, or choice plants of small dwarf habit may be uprooted, consigned to the basket in the company of weeds, and ultimately to the rubbish heap. E. BURRELL.

Claremont.

Cornflowers in autumn.—Cornflowers that stood the winter came into bloom very early. I grow a large patch of both the double and single forms, as they are so useful for cutting in early summer, and the flowers are generally finer on autumn-sown plants than on those that are raised in spring. This season, by reason of the early ripening of the seeds, a good many self-sown plants came up early in August, and these have been blooming quite freely for a month past. I can now, in the third week of October, cut a nice lot of blooms. The blue Cornflower is ever welcome, as we have nothing to cut from of its colour at this time of year.—J. C. B.

Fragrance in Carnations.—In the interesting notes from Mr. Engleheart in THE GARDEN, October 21 (p. 367), he insists upon Carnations having fragrance, and rightly remarks, "Surely a scentless Carnation is scarcely worthy of the name, just as a scentless Rose is unfit to bear the name of a Rose." This is very true, but raisers of late years have overlooked this precious virtue, and many new Carnations and Roses are without the most exquisite charm of the flower—sweet scent. I think fragrance is quite as important as colour or form, and a Carnation without its sweet characteristic perfume should be condemned as much as if the pods burst or the growth of the plant was weakly. Two of the most fragrant of all Carnations are the old crimson Clove and the white Gloire de Nancy. I saw a large bed of the latter in a Middlesex garden one year and the fragrance was delicious, scenting the air for many yards around. We want to get this fragrance into the ordinary garden Carnations. It is almost lost in the winter-flowering or tree kinds, and in the yellows and scarlets, as Mr. Engleheart mentions, the most fragrant of all being the rose-coloured kinds. In July I looked over a very large collection of new Carnations and Picotees, many not yet in the trade, and very few were fragrant. One must not look to the exhibition for fragrant Carnations, as one seldom sees either the old Clove or its white counterpart there. It is the same with the Roses, and many new kinds are absolutely scentless, not a trace even of the characteristic perfume. A Carnation is far more acceptable when strongly fragrant, and by getting the Clove scent into the seedlings this fine garden flower will gain greatly in interest.—F. P.

Verbena venosa.—More use is made now of this fine bedding plant in the parks. It is very rich when boldly massed, as at Finsbury Park, and the purplish violet flowers remain fresh until quite

late in the year. The ordinary type of *Verbenas* is more graceful, and, of course, one gets a greater range of colour, but *V. venosa* is certainly hardier and not so apt to get diseased. Even after a few frosts the flowers look fresh and bright. The roots can be easily stored in boxes during the winter and fresh stock raised in the following spring. It must be grown in good clumps or masses if effect is desired.

Cosmos bipinnatus.—This is a delightful annual, though one seldom sees it grown in a bold way. We saw a mass of the white form recently which had kept blooming from August until late in October. The leafage is quite feathery and the flowers pure white, the whole plant exceedingly pretty and graceful. It should be grouped with other annuals or in a colony by itself. Sow the seed in February in heat, transplant in May, choosing a warm sheltered spot, as it is a little tender. The flowers are pleasing when cut for the house.

IMPORTED LILIUM AURATUM.

THE first consignment from Japan this season of bulbs of *Lilium auratum* has reached here and was disposed of on October 19, this being at an earlier date than the two years immediately preceding, for in 1892 the first sale was held on November 7; in 1891 on November 3; in 1890 on October 7, and in 1889 on October 1. The bulbs this season were in the majority of cases plump and firm and apparently well ripened; but my experience is that the best results are not always obtained from these very earliest importations, as those that reach here about Christmas or a little earlier are generally better ripened than the first arrivals and commence rooting with greater freedom when placed under conditions favourable to growth. The importation was by no means limited to the golden-rayed Lily, as large quantities of both the red and white forms of *L. speciosum* were also sold. The white-flowered variety from Japan consists almost entirely of Kratzeri, whose bulbs are distinguished from those of any other form, except the allied album novum, by their yellowish colour. Singularly enough, the other white-flowered variety, which is principally grown by the Dutch under the varietal name of album, has the darkest coloured bulbs of all the varieties of *L. speciosum*, for they are of quite a mahogany-red tint, though in this respect a considerable amount of variation is to be found, owing to the soil in which they have been grown, the amount of exposure and other particulars. The bulbs of *L. Krameri*, of which 1600 were offered for sale, cannot be induced to thrive in this country unless in a few isolated instances; therefore it is impossible to obtain English-grown bulbs. It is a beautiful Lily, but its delicate constitution is against it ever being very popular. Of this the very largest bulbs are only about the size of a Walnut. The first batch of *L. longiflorum* from Japan was also disposed of on the same day, and of this large quantities are almost sure to arrive later on. Some fine bulbs of a variety of *L. elegans* were also sold, and, concerning them, it may be noted that very superior forms are often sent here from Japan. As an instance of this I may mention that out of a few hundreds purchased just as received, I have had the following varieties in greater or less numbers: *robustum* or *marmoratum aureum*, a large full flower, yellow, spotted red; *pictum* or *bicolor*, yellow, splashed crimson; *brevifolium*, salmon-red; *atro-sanguineum*, deep red; *staminosum* or *flore-pleno*, crimson, and *Van Houttei*, rich crimson, spotted black. H. P.

The Flame Nasturtium.—We were pleased to see this *Tropæolum* running about here, there and everywhere in Mr. Kingsmill's charming garden at Harrow Weald, its long shoots covered with vermilion flowers twining through a hedge or amongst shrubs. It likes damp and shade, whilst the plant can be quickly increased by taking up bits of root in the spring, putting them into boxes and planting out again the following spring when

they have got thoroughly well established. In Mr. Wilson's Wisley garden it is planted at the foot of a hedge, the flowers gaining in intensity of colour against the leafage.

Setaria macrochaeta and **Milium nigricans.**—These two annual Grasses are very distinct and well adapted for arranging with flowers in large vases, as they grow tall and sturdy, and even alone are effective. Both have broad bristling leaves, whilst the flowers of the *Setaria* are clustered in a close, long head like a small Foxbrush. The *Milium* is graceful and bold, having very strong upright stems, which grow 2 feet or more in height, bearing a large much-branched panicle at the top, the large leaves sheathing the stem quite up to the flowers. This species appears in striking contrast with other dwarf slender kinds belonging to the same family. On looking up the "Dictionary of Gardening," I was surprised to find no mention whatever of the *Miliums*, and yet such a species as this under notice, easily grown as it is, would find favour with many even if only for winter arrangements of dried flowers and grasses.—A. H.

Panicum virgatum.—This is a very handsome North American Grass, hardy, truly perennial, and worthy of a place in most gardens. It makes strong thick tufts of graceful leafage of about 1½ feet high and of a deep green colour, and flowers freely in summer, having a branched panicle borne on a slender, but erect stem 3 feet or more in height. These stems are now of a rich yellow colour, and standing up from the green tuft they show off the plant in one of its prettiest aspects.

FERNS.

FERNS IN THE HOUSE.

No one will dispute for a moment the popularity of Ferns as decorative plants for rooms. If a vote were taken they would probably receive greater support than Palms even. The Ferns at any rate have the advantage as regards variety, whilst if taken one with the other they have also the preference as regards freedom of growth, for a plant of either if taken of the same age would at the end of two years be found to have the balance of size and utility on the side of the Ferns. I have often heard complaints made by ladies and other amateur cultivators that they fail to keep their plants fresh and vigorous. This may be and is undoubtedly a fact in many instances, but it is not so much the fault of tenderness on the part of the Fern itself if properly managed beforehand as it is of preparation by the growers. Ferns as they are offered for sale by market growers are not always at the time they change hands in the best possible condition to resist the change between the humid atmosphere and other essential advantages afforded by a well-appointed glass structure and the more trying atmosphere of a living room. With a slight modification on both the vendor's and the purchaser's sides this might be to a great extent overcome. The vendor before he offers his plants for sale should see that they are well rooted into their last shift, approaching in this respect the pot-bound stage, and they should also be more freely exposed to a greater amount of air, so as to harden them in a measure. This, it may be urged, I know, on the part of the vendor would all take more time before the plants were turned out of hand, but on the other hand if greater satisfaction could be afforded to the purchaser, surely it would be an inducement to extend their cultivation. After repeated failures one is discouraged in his attempts to succeed, and frequently the ultimate attainment of that desired end is finally despaired of altogether. It is this fact that should be

borne in mind by growers who cater more for this class of trade than for those who have every convenience at their disposal.

On the part of the purchaser there are several essential points to observe so that better results may be arrived at. When the plants are first purchased they should not be too freely exposed to draughts, nor should the amount of light be excessive. The plants should be gradually inured to the usual atmosphere of the room, and in this way they will be far more likely to succeed. The watering of plants in rooms is oftentimes very variable; the two extremes of drought and moisture in excess may frequently occur within forty-eight hours. This is altogether irrational, and under such treatment it will be no wonder if the plants soon show marked symptoms of declining vigour. No regular time for watering can be assigned, but those who are conversant with plant culture are often asked, "How often should they water their plants?" To this it is not possible to give such a satisfactory answer as would be expected. It will largely depend upon the state of the weather and the surroundings of the plants. Just now, for instance, less water would be required than in a few weeks' time when fires are more in use, as well as more gas or oil being consumed. The plants can be more easily mauaged now than in a few weeks hence; hence the present is a good time to add to or start afresh in the case of Ferns. Later on there will be the extremes of temperature, a warm room during the day, made warmer still at night, with a drop towards morning of several degrees, with the prospect at daylight of the windows being thrown open whilst the outside temperature is several degrees below freezing point. Under these conditions, and it is not an uncommon thing for them to occur, it is more of a wonder that the Ferns, or for that other plants as well, survive so long as they do. Open the windows by all means, but before doing so the plants should be removed to sheltered corners, or be at least stood upon the floor out of harm's way, it being assumed, of course, that the plants are being grown in or near the windows. Fresh potting should never be attempted for several months after purchase. Plants bought now should not require it before next April, and possibly not then even with good attention given to the watering. Whilst the weather is mild a gentle damping overhead out of doors with a fine rose on a watering-can will wash off any accumulations of dust and be beneficial, and during colder weather the same work can be done over a sink. To sponge Ferns as one would the *Aspidistra* or *Ficus elastica* is not practicable; hence the greater need of the work just suggested. When the soil upon the surface is noticed to be at all loose, it should be pressed down moderately firm. Some lovers of Ferns (and other pot plants) feel at times an uncertainty as to whether they should water their plants or not. The best criterion is to rap the pot with the knuckles; if it sound hollow it may fairly be assumed that the need of water is indicated. The soil also will afford indications. It should not be dust-dry, but in a medium condition, when, for instance, it does not adhere to the fingers to any extent after pressure.

For starting with at this season of the year the following is a good selection of Ferns; others could be named, but the spring would be a more favourable period for such. The best to start with now are *Asplenium bulbiferum*, *A. diversifolium* and *A. lucidum*; *Davallia canariensis*, *Lastreas* in variety, *L. lepida* and *L. Sieboldi* being two of the best; *Phleb-*

dium aureum, *Pteris cretica* and its variegated form, *P. cretica albo-lineata*; also the crested variety, *P. cretica nobilis* (a grand Fern), *Pteris serrulata*, and the beautifully variegated *P. serrulata Mayi* and *P. tremula*, which is one of the best of all for room culture. FILICES.

SEASONABLE NOTES ON FERNS.

THE work amongst Ferns at this season of the year is of a somewhat limited character in private establishments where entire houses cannot be set apart for their special culture. It is otherwise, of course, in the case of those who, like nurserymen, grow for sale only; in their case there is always something or other to be particularly attended to so as to make the best use of the time. With these latter we have not now so much concern as with the former, who not unfrequently have to grow their Ferns under more disadvantageous circumstances. It is not, for instance, every private gardener's good fortune to have the best possible place for growing that every-day plant, the Maiden-hair Fern (*Adiantum cuneatum*), which for a supply of cut fronds still holds the most prominent position amongst Ferns. Others, it is quite true, have the place to do it well, but do not for some reason or other take advantage of it as they should do. On the other hand, in many private gardens we have noticed this fine old Fern in splendid condition, more so of late years than formerly. At one time, as it may still be in some places, it was a customary plan to grow it under the shade of other plants. This ought never to be the case; on the contrary, all the light possible, save in the hottest weather, should be accorded it, with an abundant ventilation also. At this time a good supply of well-hardened fronds will in many establishments be most desirable. Outdoor foliage now getting scarce must have a substitute, and Ferns which have enjoyed an immunity of late can now be resorted to as a change.

Supposing a supply of cut fronds is required for the dinner-table at night, these should not be left upon the plants until the last moment, but be picked early in the day and then be immersed in water until near the time of use. If needed in the morning, then cast them into a tank for a few hours over-night and afterwards roll them in damp paper until the morning, or cover them with Moss where that useful article is plentiful. In picking fronds of the Maiden-hair it is not advisable, save in exceptional cases, to run over all the plants and take the best fronds only; the better plan is to keep to a few and use all that are fit thereon first. The stock of Maiden-hair Ferns should not now, or at any time for all that, be crowded together, nor should a damp atmosphere be maintained. With a little warmth constantly in the pipes and a little air on at all times save when it is absolutely too cold, a buoyant atmosphere can be had, which has a hardening effect upon the fronds. A temperature now of from 50° to 55° at night will be sufficient, the lower point being preferable to anything approaching 60°; during the day a rise of 10° or so will be enough. The watering should now be in a measure limited; sufficient to prevent flagging, but not enough to excite fresh growth.

Under these same conditions many other useful decorative Ferns can be grown both for assisting the cut supply and otherwise. A close, stuffy atmosphere with an excess of atmospheric moisture may do for some stove plants, but it is not now congenial to many Ferns. True, what is termed a growing temperature will often produce more vigorous growth, but it is not of such a lasting character, nor is it at all desirable from now onwards until the spring comes round. Even *Adiantum Farleyense* is none the better for being grown in a high stove temperature; the fronds may be of a deep green hue and the individual pinnae large and fine, but it is open to serious doubt if the somewhat smaller, but beautifully bronzy-tinted fronds of plants grown in more exposure to light with less heat and more air would not in nearly every instance be preferred. The same remarks apply to

several other so-called tinted Ferns, as *Adiantum Collisi*, *A. tinctorum*, and others.

On the whole, the *Gymnogrammas* require more warmth than most Ferns during the winter months, and they should at the same time have as dry a position as possible. At present it is not at all a bad plan where the growth is dense to thin out the older and partially shabby fronds, either to be cast aside or to be used with others in a cut state. By doing this there will be considerably less danger of damping off, which is a failing to which these Ferns with their dense farinose powder are particularly subject. The best sorts of the Gold and Silver Ferns should receive more notice as decorative plants in small pots; excellent plants may be grown in 6-inch pots fit for many purposes. As vase plants they are peculiarly appropriate where the same colours prevail in the ornamentations. Even in 3-inch and 4-inch pots very pretty plants can be grown that will do good service. A dry atmosphere, as in rooms with fires, does not come at all amiss to these Ferns, but exposure to cold has to be avoided. For every-day use during the coming winter season in favourable and unfavourable positions there are hardly any Ferns to surpass *Pteris cretica* and its crested form, *P. cretica nobilis*; also *P. serrulata* and its best crested variety, *P. serrulata cristata compacta*. Another excellent *Pteris* is *P. tremula*, of which there are also variations, *elegans* and *flaccida* being two of the best. For winter use more note should also be taken of the hardier *Aspleniums*; these will withstand the cold almost as well as some of the British Ferns, particularly *A. bulbiferum* and *A. lucidum*. It is far better to depend upon such Ferns as these than to use tenderer kinds during the more unfavourable weather. What has in addition to be well looked after is to see that no freshly potted or partially established plants are ever employed; it must not excite wonder if these do fail to give satisfaction. G. H. A.

GARDEN FLORA.

PLATE 935.

THE WATER LILY TREES.

(WITH A COLOURED PLATE OF MAGNOLIA FRASERI.*)

ALL the *Magnolias* deserve culture in our southern gardens, or the best of them might be grown in tubs in cool greenhouses along with the choicest of Sikkim *Rhododendrons* and other rare half-hardy shrubs. Most of the North American and Japanese species of *Magnolia* are hardy with us in sheltered positions, and in Devon and Cornwall, as also in the south of Ireland and in Co. Wicklow, *M. grandiflora*, *M. conspicua*, and one or two others luxuriate fresh and fair and blossom splendidly every year. Even so we can never hope to see these trees so luxuriantly rampant as in Florida and Carolina and elsewhere towards the Mexican Gulf, nor even so free flowering as they are at Lyons, Marseilles, Genoa, and on the fertile Barrorean Islands in Lago Maggiore, at Palanza, or at Milan. In the parks and gardens and public squares of S. France and Italy *M. grandiflora* forms a free-growing glossy-leaved tree, 30 feet to 50 feet in height, blossoming in spring and again in autumn, when the great ostrich-egg-like buds and great white flowers are seen beside the bright red fruits which result from the spring blossoms.

Still, our climate has possibilities, and when we think of the *Magnolias* in Devon, or the Yulan trees that formerly graced the walls at Rollisson's nursery at Tooting, and those that

* Drawn for THE GARDEN by H. G. Moon from flowers sent by Mr. Latham, Botanic Gardens, Birmingham. Lithographed and printed by Guillaume Severyns.



MAGNOLIA FRASERI.

are nearly every year so fine at Gunnersbury House and at Syon, we may arrive at the conclusion that these noble flowering shrubs are not so largely planted in our gardens as from their distinctness and beauty they deserve to be. Not only in the south and in sheltered nooks and corners by the sea, but even in the cold midland counties I have seen these plants do well.

Take, for example, the beautiful grove of Magnolias that has existed for many years on a declivity in the Botanic Gardens at Birmingham, where there are specimens of *M. acuminata* 50 feet or more in height, surrounded by *M. Yulan*, *M. conspicua*, *M. Soulangeana*, and other of the smaller or shrubby kinds. Here one lovely fresh morning in April last I saw the fragrant blossoms of *M. Fraseri*, which Mr. Moon has so faithfully portrayed, opening their creamy petals to the sunshine and scenting the air for yards around. The flower-buds, so fresh and Lettuce-like, are so nearly of the colour externally of the young leaves, that had it not been for their exquisite fragrance, one might have passed the open flowers without noticing them. It has long been grown at Birmingham under the synonym of *M. articulata*, in allusion to its having leaves hastate or auricled at the base, but its right name appears to be *M. Fraseri*.

Mr. W. B. Latham (who has had charge of the Birmingham Botanic Garden for over twenty-five years) tells me that Canon Ellacombe admires the group of Magnolias there very much, and well do they deserve the honour, for it is rare to see the like in a town garden elsewhere. Mr. Latham kindly gathered a beautiful group of buds and opening blossoms for me. These were much admired in a big bowl of fresh water before they were divided, half going to Mr. Nicholson, of Kew, who verified the name for me, and half to St. Albans, where Mr. Moon made the original sketch for the illustration. The genus was named long ago in honour of Pierre Magnol, a medical man and director of the Botanic Gardens at Montpellier from about 1638 to 1715. There are in all about twenty species of Magnolia proper, and the genera *Drymis*, represented by Captain Winter's Bark Tree from the Straits of Magellan; *Illicium*, or Star Anise; *Liriodendron*, the well-known Tulip Tree of N. America, are near relations pretty well known in our gardens.

The best species for general culture are *M. grandiflora*, especially the sort with rufous under-surfaces to its leaves, known as the Exmouth variety; *M. conspicua* in all its forms and *M. Fraseri*, *M. Umbrella* or *M. tripetala* is well worth culture as a fine-foliaged plant, even if it but rarely flowers in our climate. *M. macrophylla*, another species having gigantic leaves 2 feet to 3 feet in length, is worthy of conservatory culture. Several species, such as *M. fuscata*, *M. pumila* and *M. glauca*, are also worth greenhouse culture for the sake of the exquisite fruity perfume or aroma, even though their flowers are sombre and unattractive in colour. *M. Halleana*, *M. stricta* (GARDEN, Oct. 28, 1893, p. 391), *M. obovata*, *M. purpurea*, *M. glauca major* or *Thompsoniana*, *M. parviflora* and *M. cordata* are other types well worthy of a place in the pleasure ground or arboretum.

One of the very finest species is the Himalayan *M. Campbelli*, introduced from Sikkim about 1868. This, so far as I know, has only produced its flower-buds in Ireland, the late Mr. Wm. Crawford, of Lakelands, Cork, having devoted much care to his specimen, which, when I last saw it, was a branching tree 30 feet to 40 feet in height. The figure in the *Botanical Magazine* was prepared from speci-

mens sent from Mr. Crawford's garden some few years ago.

All the species known belong to two distinct sections, one or two, as *M. grandiflora*, being evergreen; but, as a rule, they are deciduous, and such kinds as *M. conspicua* and its hybrids or seedlings produce their great waxy upturned blooms like goblets at the ends of the naked twigs or branchlets. Although this and most of the other species are hardy in mild, sheltered localities, their flower-buds are produced so early in the year, that they are liable to be nipped and injured by our early frosts and east winds, rendering some slight protection necessary, or at least desirable.

The Magnolias deserve wider and more general cultivation than they have hitherto received even in our southern gardens, and especially are they worth a trial in sheltered sunny localities by the sea. F. W. BURBIDGE.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

MUSHROOMS.—It will have been observed that Mushrooms appeared very plentifully this season after the soil had been fairly soaked with rain, and this, followed by a fairly high temperature for the time of year, gives the key to the whole system of Mushroom culture under cover throughout the winter. Mushrooms will not thrive on almost dust-dry beds, or with the atmosphere in a dry state. Some houses are so situated that the temperature is quite genial for the growth of Mushrooms without much damping being necessary; whilst in others it is the reverse, especially where artificial heat has to be maintained to keep up a growing temperature. Much artificial heat is not needed, a temperature of about 55° being ample. A genial atmosphere may be maintained in some structures without any artificial heat, whilst in others it is needed. In those cases where a genial atmosphere cannot be maintained from the want of artificial warmth, this may be assisted by placing within the structure a heap of fermenting material, or say equal parts of fresh stable litter and leaves. Where artificial heat has to be applied, this may be greatly tempered by laying some old mats or bags across the pipes and keeping them moist. I find it is an excellent method after the young Mushrooms commence to appear to lay a mat over the whole surface, placing strips of wood on bricks to keep it off the bed. This, of course, refers to Mushroom houses where the temperature has to be maintained artificially, as in cooler structures, such as confined sheds, stables and such-like places, a genial warmth must be maintained about the surface by covering more or less, as occasion may arise, with dry hay, turning it as often as is necessary to prevent the surface from becoming too damp. This latter is very necessary. Thick coverings of hay or litter are often placed on beds in artificially heated structures, but this is a mistake, as they certainly aggravate the evil of fermentation.

WATERING MUSHROOM BEDS.—What has to be guarded against is the two extremes, either of keeping the beds too wet, or, on the other hand, too dry. If once the beds are allowed to become over-dry, it is astonishing the amount of water that is necessary to give a thorough soaking, or at least sufficient to permeate the whole bulk of material. Therefore, the better course is to anticipate this state of over-dryness, and apply water when first needed. Some structures, again, cause over-dryness more quickly than others, especially if too much fire-heat has been applied. The better course is, directly the young Mushrooms commence to appear, to give a gentle, but thorough watering. Soft water should be used and at a temperature of 90°, a little salt being added to each canful. It must be applied through a fine rose, and gradually over the whole bed until sufficient has been applied. This watering would be

sufficient until the first crop is gathered, or when signs of exhaustion are apparent. Ridge-shaped beds in the open air if at all dry will have to be watered also. The water in this case must be applied through a covering of litter, or there would be difficulty in applying it effectually; care however, must be taken that the watering is done on the mornings of fine days, afterwards covering with mats. It will be an easy matter to apply a warm covering of drier material afterwards.

GRUB-INFESTED SOILS.—Root-eating insects having caused much havoc in many gardens this season both amongst Onions, Carrots, &c., much may be done to effect a clearance of the larvae, which are now harbouring in the ground, and so lessen the chances of attack another season. Gas-lime is one of the best antidotes which can be applied. Those soils intended to be dressed should now be well stirred, either by deep digging or bastard-trenching, and then have the surface lightly dusted over with the gas-lime, in quantity only just to colour the surface, afterwards pointing it in with a fork, but only whilst the surface is dry. Freshly-slaked lime may also be used, although it does not produce the same effect upon the larvae as gas-lime. It very often produces a marked effect upon the quality of Potatoes grown on such soils. Parsley, again, in some gardens will barely grow at all, but after the application of lime there has been a marked change for the better.

AUTUMN-RAISED CAULIFLOWERS.—These were sown about the first week in September, as advised in a former calendar, are now in good condition, not being any too forward. In many cases they were sown no doubt much earlier, and there will thus be a difficulty in keeping them from growing too freely on account of the very mild autumn. To prevent this state of things as much as possible, the plants must not be coddled, the lights being kept off on all fine days, and also tilted up at other times. Injury from frost will of course have to be guarded against by affording adequate protection whenever necessary. A. YOUNG.

HARDY FRUITS.

PEARS.—This season trees well exposed have produced finer, clearer skinned fruit than usual, the quality generally being good, but, as a rule, if extra good Pears are desired the trees must have the benefit of wall shelter. In any case a good proportion of wall space may well be devoted to Pear culture, supplementing this with a goodly number of trees grown in the open. Pears will succeed fairly well against walls or fences facing any point of the compass, but it is not often that the quality of fruit grown on trees in a cold site will equal what is obtained from those growing in sunnier positions. It is the late ripening varieties that appear to need the warmest sites, and they certainly merit the preference. Reliable selections for all purposes and sites have repeatedly been given in these pages, and need not, therefore, be repeated now, though no collection may be said to be complete unless it includes such old favourites as Jargonelle, Williams' Bon Chrétien, Beurré d'Amanlis, Louise Bonne of Jersey, Beurré Superfin, Pitmaston Duchess, Marie Louise, Doyenné du Comice, Beurré Diel, Winter Nelis, Thompson's, Durondeau, Glou Morceau, Josephine de Malines, Easter Beurré, Beurré Rance, Olivier de Serres and Bergamote d'Esperen, with Beurré Clairgeau, Vicar of Winkfield and Uvedale's St. Germain for stewing.

FORMS OF TREES FOR WALLS.—Horizontally-trained trees are most generally grown against walls and fences, and if these are on the Pear stock they may be arranged from 18 feet to 20 feet apart, while if quick and comparatively heavy crops are desired the Quince stock is preferable, the trees being planted 10 feet to 12 feet apart. When, however, trees on the former are selected, these eventually develop into much the best trees, and can long be kept in a healthy, productive state if prevented from rooting principally in a cold subsoil. Midway between these trees should be

planted two or three-branched cordons on the Quince stock, these quickly arriving at a bearing state and serving to tide over the longer period of waiting for the larger trees to yield good crops. In not a few cases horizontally-trained trees long since planted have failed to cover their allotted space, and cordons ought, therefore, to be planted midway between these instead of Red Currants, as of old, the latter scarcely paying for so much valuable shelter. Pears, whether on the Pear or Quince stocks, succeed remarkably well trained fan-shaped, this certainly being the best method of training in the case of Jargonelle and other strong growers for which plenty of head room can be allowed. Plant fan-shaped trees on the Pear stock about 15 feet apart, and on the Quince 8 feet apart. For clothing walls very quickly, cordons on the Quince stock are recommended. These may consist of a single main stem or have two or three branches. Those with a single stem may be planted about 18 inches apart, the other sufficiently wide apart to admit of a distance of about 15 inches dividing the branches. Training obliquely or at an angle of about 45° answers best, this having a tendency to check undue wood growth. Branches may be laid in from the end trees to clothe what little space needs covering. Palmette Verriers, and which may be roughly described as four or six-branched cordons, are also admirably adapted for quickly and effectively clothing blank walls or spaces between trees already existing. If only four branches are to be laid in, purchase young horizontally trained trees with two pairs of branches and cut out the leader. A six-branched tree may be had by planting a similar kind of tree, only instead of cutting out the leader, this should be shortened to a length of about 12 inches, and two side shoots from this be eventually laid in 12 inches apart, training these after the first curve is given straight up the wall; the lower branches to be trained horizontally at first and then straight up the wall 12 inches clear of each other. These six-branched trees may be on either the Pear or Quince stock, and should be planted not less than 6 feet apart. For clothing archways or doorways and wall space over these, plant single-stemmed cordons or maidens on each side of opening, and when they are sufficiently high lay in side shoots 12 inches apart.

ESPALIER FENCES.—These form a neat and profitable background to herbaceous borders and such like, Pear trees succeeding well under this form of training. These fences should be not less than 5 feet in height, and consist of strong upright stakes, or, better still, be made like an ordinary strong wire fence, having stout posts at the ends to stand the strain put upon them when the wires are strained; these latter to be about 12 inches apart or the distance apart it is intended to lay in the branches horizontally. Ordinary horizontally trained trees are most often planted at the same distances apart as recommended for wall trees, but the cordon system of training may also be practised, the branches or single stems being laid in obliquely. Most of the varieties already mentioned would succeed espalier trained, and so also would Clapp's Favourite, Souvenir du Congrès, Jersey Gratioli, Fondante d'Automne, Beurré Hardy, Maréchal de la Cour, Beurré Bachelier, Zephirin Grégoire, Huyshe's Victoria, Comte de Lamy, Marie Louise d'Uccle, and Eliza d'Heyst.

PYRAMIDS, BUSHES AND STANDARDS.—Formally trained, much-restricted trees ought to be on the Quince stock and not expected to produce other than a few dozen fruits at a time. These may be planted 6 feet apart; small bushes, these differing from the former only so far as having no centre, to be given the same space, all being arranged 3 feet from the garden walks, or else grown among standards. In addition to being on a dwarfing stock, these miniature trees also require good attendance in the shape of annual or biennial root-lifting, and when bearing heavy crops must be mulched with manure and otherwise attended to. Many of the Pears when allowed to grow, after the foundation has been well laid, almost unrestricted develop into fine natural pyramids, or the centres may be taken out of them and a more bush

shape be obtained. In either case trees, if on the Pear stock and not greatly restricted, are not so long in arriving at a very productive state, the fruit being produced by the bushel instead of by dozens, as in the case of the miniature trees. Such trees should be planted not less than 16 feet apart and 8 feet from the edge of garden walks. Varieties that succeed exceptionally well thus naturally grown are Williams' Bon Chrétien, Louise Bonne of Jersey, Pitmaston Duchess, Marie Louise d'Uccle, Duchess of Orleans, Beurré Superfin, Marie Louise, Maréchal de la Cour, Beurré Diel, Huyshe's Princess of Wales, Glou Morceau, Bergamote Esperen, Doyenné du Comice, Beurré Rance, Duchesse d'Angoulême, Durondeau, Althorp Crasane and Vicar of Winkfield. Standard trees to be 20 feet apart, an extra 5 feet each way being allowed when pyramids and bushes generally are planted among them. Some of the best varieties grown as standards are Chalk, Lammis, Jargonelle, Williams' Bon Chrétien, Beacon, Hesse, Beurré Capiaumont, Fertility, Bishop's Thumb, Beurré d'Amanlis, Pitmaston Duchess, Durondeau, Beurré Superfin, Beurré Diel, Beurré Clairgeau, Emile d'Heyst, Maréchal de la Cour and Josephine de Malines, with Catillac and Verulam for stewing.

W. IGGULDEN.

PLANT HOUSES.

FUMIGATING PLANT HOUSES AND PITS.—At this season of the year there is frequently an increase of aphides and thrips, but more particularly the former. This will occur in nearly all houses, be they warm, temperate or cold. This should be nipped in the bud, for it never pays to defer fumigation when even only a few insects have to be destroyed; it is better to destroy the few than the many. When a case becomes a bad one, a strong dose is often given and a repetition within twenty-four hours; the repetition may be all very well, but the strong dose is no more needed than in the case of a few insects only. It takes no more actual strength to kill 1000 than it does to kill 100. Frequent fumigations so as to make it as distasteful as possible for the insects are by far the better plan. Everything in the house or pit should be as dry as it is practicable to make them. By this it is not, of course, inferred that dryness at the roots is intended; it is rather that of the foliage and amongst the plants. Moisture acts as a deterrent to the free circulation of the smoke, and where it exists upon them, the result will not be nearly so effectual. It is not so much that the smoke will act injuriously where there is moisture as that it should reach all parts of the plants.

I note that green fly has made an appearance on Bouvardias that are in a temperate house, and this has been stopped whilst there were yet but a few of them. Pelargoniums are also subject to it. In our case it was appearing on the scented-leaved varieties even before they were housed; now it will on no account be overlooked. Roses and other climbers on the roof will in all probability have some lingering amongst them. A good cleansing would do these good a day or two prior to fumigation by the application of the garden engine. Then when the fumigation is done do not at once syringe again. In fact to syringe in any case after fumigation is a mistake; it may knock down a few insects, but it will revive rather than destroy many more. This fact of syringing after fumigation is one of the popular delusions that should be abolished once and for all. In pits it is just possible that the green fly will make headway before it is so readily detected, particularly where there is a little warmth in the pipes. But in cold pits and frames whilst the weather is mild it will also increase. In the case of Cinerarias, for instance, it may in all likelihood be found on the under sides of the larger leaves. This also applies to the herbaceous Calceolarias that are fairly well advanced.

Thrips will be troublesome on such plants as Ixoras, Pancratiums, Dracenas, Azalcas, and on some of the Palms (those which have been in a dry house more particularly). In every case with

sponging or dipping, syringing or fumigating, or the latter combined with either of the former, they ought not to give much trouble. No quarter should be given them. It is grievous sometimes to see the manner in which they permanently disfigure the foliage of many plants. It is necessary to give stronger doses in order to deal effectually with thrips, but with care this can be accomplished safely. What I would advise is to fumigate three evenings in succession. I consider this better than a morning dose, which is scarcely ever so effective. As to material, I would add that we rely mainly on Campbell's fumigating cones; these deal with scale as well as aphides and thrips in a most satisfactory manner. It is necessary to have them as fresh as possible. I would never advise laying in more than will be used in all probability during the ensuing six or eight weeks. McDougall's sheets are also excellent, but not so well adapted for pits or confined spaces. A large house they will fill more quickly. Of tobacco paper the best quality is most decidedly the best; cheap and inferior articles of this description are the dearest in the end.

OTHER INSECT PESTS.—Of these it is hardly necessary to say much upon the mealy bug now, it having been frequently alluded to in previous calendars. Where it exists no labour or effort to extinguish it should be deemed too great; it is now the best season of the year to make a determined stand against its further increase. The work should be done effectively, but the idea must not be entertained that once going over a stock of plants is sufficient to last for months. It is thus that a great mistake is often made. The better way by far is never to give it any peace, but be incessantly on the watch for stragglers. Remedies have been given to which reference should be made. The white scale is another troublesome pest to many plants; the plants, unfortunately, that this insect is to be found thriving upon most are such as are of a permanent character. The Lapagerias, Camellias, Yuccas, and other succulents, some Cape and New Holland plants, Palms, and Crotons are all troubled with it. The first remedy had better be an insecticide with which one is quite conversant; this should first be used at the maximum strength recommended, and if that be found not strong enough, then increase the strength gradually. The mixture should be used at from 85° to 95°; these temperatures liberate to a greater degree the composing elements from a chemical point of view and thus render it much more effectual. Where sponging is too difficult a matter, a soft paint-brush will be found useful; as long as the composition reaches them in good quantity it is not absolutely necessary to remove them; time will do this, the dose being repeated. In extreme cases syringing had better be the medium of application, taking care that the mixture does not reach the roots of the plants. Where the white scale is to be found most upon old or ripened wood, the dose may with safety be a much stronger one. The mealy scale is a much easier insect to deal with, so also is the brown variety; but there is another small form often found on Crotons which is almost as bad as the white kind, but with the composition at a good strength it may be eventually overcome.

JAMES HUDSON.

ORCHIDS.

I LEFT off last week after remarking about the over-resting of some Dendrobiums, and as they are nearly all in their resting period now, attention must be given to this matter. The least likely to be injured are the varieties of Dendrobium nobile and a few of the more vigorous garden hybrids raised from it, such as D. Ainsworthi, D. Leechianum, &c. The D. nobile varieties are most valuable for forcing early, and a few of the plants which flowered very early last year, and consequently made up their growths early, should now be placed in a warm house. I do not like placing them in the warmest house at once out of the rather cool temperature and dry atmosphere of the vinery

or warm greenhouse where they rested. It is better to place them for two weeks or so in the Cattleya house, and when a start has been made to stand them in the warmest house. This may be done if the blooms are required as early as possible, but if there is no hurry, leave them in the intermediate or Cattleya house, where I fancy the flowers will be larger and the substance better. *Dendrobium nobile* is by far the best for this early forcing. I had a plant which produced upwards of 1400 blossoms at Christmas. Next to it are the garden hybrids between it and *D. aurum* (heterocarpum) alluded to above. They are as beautiful as *D. nobile* and have the peculiar aromatic perfume of *D. aurum*.

We may have handsome *Dendrobiums* in flower all the year round. The varieties of *D. Phalenopsis* are truly beautiful at the present time, and the home-made growths are in some instances stronger than the native ones. I saw a group of plants lately staged by a good gardener (Mr. Lyne) at the Blackheath Chrysanthemum exhibition, the leading feature being varieties of this beautiful *Dendrobe* in flower, and for grouping they are far superior to *Cattleya labiata*, which was also used. The florists' shops are abundantly decorated with this *Cattleya*, showing how free blooming and how abundant it is. The *Pleiones* are now in flower—the well-known species *P. maculata*, *P. lagenaria* and *P. Wallichiana*. They are really very charming arranged slightly above a group of plants of the common Maiden-hair Fern (*Adiantum cuneatum*). If the pretty little flowers are required for decoration, do not cut them. Take hold of the stems with the fingers and gently pull them out. As soon as the flowers are disposed of the plants will need to be repotted, for new roots push out from the base of the current growths almost as soon as the flowers are removed. We usually part out the bulbs and plant from nine to a dozen of them over the surface of the compost, contained in a 6-inch flower-pot, using Sphagnum Moss and good fibrous peat in about equal portions. Careful watering is required at first until the bulbs have rooted well. I have to admit that these little Himalayan *Crocuses*, as they are sometimes termed, succeed better in the collection of Sir Trevor Lawrence, Bart., than they do with me; in fact, I never saw *Pleiones* do better anywhere than at Burford Lodge, and Mr. White, who has charge of them, was good enough to inform me that the bulbs were not parted out every year, but were repotted without disturbing the roots much, leam and leaf-mould being added to the usual peat and Sphagnum compost. The plants may be kept two seasons in the same compost, but not more, and it is better to remove some of the old material and surface-dress with fresh stuff. They will be for some time a charming addition to the occupants of the Cattleya house. The cooler growing *P. humilis* and *P. Hookeri* have not yet passed through their resting period. These are not quite so easily grown as the varieties I have named above, but they may be kept in a healthy condition by being watered whenever the bulbs show signs of shrinking.

On the evening of October 30, or rather the morning of the 31st, the thermometer registered 8° of frost, and on the morning of Nov. 1 10°. Our instrument is by one of the best makers and has been verified at Kew. I mention this, for it seems this wave of cold has been very unequal. Our houses were all right, for the frosts set in steadily early in the night, and the fall was steady, being, as it generally is, lowest about daylight before the sun shows above the horizon. Besides keeping up the temperature when sharp frosts set in, another weak point in the armour of the Orchid fancier is the drip which too frequently comes down from the roof in these cold nights from condensed water. Well-erected modern houses ought not to have any drip from the roof; in none of our houses has drip troubled us. They were erected by Messrs. Foster and Pearson on a plan which they adopted fifteen years or more ago of cutting the panes of glass concave at one end and convex at the other, so that the external water from rain or dews is conveyed down the centre of the panes instead of at the sides, and no water seems to get in

from the outside. The rafters inside are grooved, so that any condensed water filtered down the rafters runs down these grooves and is conveyed outside the house at their base. Old houses or new ones not provided with these grooves should have the condensed water carried down the rafters by means of a narrow strip of zinc nailed to their under side, running the whole length of the rafters and turned up at the edges. Meantime attention must be given to drip; the water falls cold from the roof, and if it finds its way to the heart of the plants much mischief may be done; moreover, certain Orchids at rest may be started into premature growth and be materially injured in that way. Plants in flower if touched with drip for one night would be rendered unsightly by the flowers becoming spotted. We are also careful not to overload the atmosphere of the houses with moisture. The evaporating water troughs over the pipes have now no water in them, and it is easy to control the moisture by sprinkling the paths and stages of the house less or more according to the state of the weather. In damp, dull, foggy weather scarcely any moisture is needed, but when east winds blow dry and cold with a clear atmosphere and much artificial heat is needed to keep up the temperature, then the moisture from evaporation is needed to keep the plants in a healthy state. Those who have not yet cleaned the glass outside and inside should see to it as soon as possible, as light is now of the utmost importance. The woodwork of the houses should also be washed, and everywhere let cleanness be the order of the day.

J. DOUGLAS.

CHRYSANTHEMUMS.

SEASONABLE CULTURAL NOTES.

GREEN-FLY is often very troublesome to the developing blooms, and is difficult to eradicate when allowed to congregate at the base of the expanded florets. Blooms so affected keep but a short time. The best remedy is to fumigate the plants with tobacco smoke on two successive evenings directly the plants are arranged in the house. If this is properly done seldom are the plants or blooms troubled afterwards with this pest. Should by any chance the plants not have had their usual fumigation directly they were housed and there are signs of the presence of aphides collecting about the developing blooms, no time should be lost in filling the house with smoke even if the blooms are partly expanded. Fumigating will not injure the florets if carried out properly, that is, the atmosphere should be dry, so that the petals will be hard and firm before coming into contact with the smoke. No method of fumigating a house with tobacco smoke is better than by the aid of an old worn-out sieve having wide meshes; turn the sieve upside down, standing it on three bricks to allow a free current of air to pass upwards to the fire on the sieve. A small quantity of fire is sufficient to give the tobacco paper a start. Two ordinary-sized sieves will quickly fill a good-sized house with smoke. The next morning it is wise to ventilate the house freely if the weather is favourable, so that the blooms shall be thoroughly dry before the sun shines upon them, as a means of preserving them from damping. To keep the blooms fresh for a long time requires considerable attention. One of the best qualities which Chrysanthemums possess is the long time they will remain fresh either growing on the plants or in a cut state; still, much to the disappointment of many growers for exhibition, they often fail to keep long enough; this is, however, very often owing to not knowing how to manage them properly. Blooms are much more difficult

to keep fresh in the south of England than they are in the northern counties, as they develop more quickly in the former than in the latter. The greatest trouble growers situated in the northern counties have to contend against in many seasons is the non-development of the flowers naturally in time for the shows. Those possessing the darkest shades of colour, namely, the chestnuts, bronzes and the deepest lilacs, retain their freshness the shortest period, while the primrose, the white and the yellow shades continue the longest in good condition. Some growers cut the blooms when expanded and strive to keep them a long time by placing them in dark closets in rooms in bottles of water, but I have found that they can be kept a longer period by judicious management upon the plants.

To have blooms in the best possible condition on any given date, four days previous is quite soon enough to cut them. If cut earlier the florets lose their necessary solidity, and in consequence are not so large as they otherwise would be; this is particularly noticeable in the Japanese section. It is useless to cut the blooms after they commence to decay in the hope of arresting their fading; when cut they should be perfectly developed, so that the solidity of the lower florets may be maintained. An experienced person can tell better by the feel of the lower petals than anything else when the blooms should be cut; crisp and solid they should be, not soft and flabby. When this occurs the white varieties will soon assume a pink tinge, and in some other varieties a faint brownness of the lower florets points to waning beauty; therefore, when the centre of the flower is developed and the lower florets fresh, the bloom will be right, and should be cut with a long stem, say 12 inches, so that a small portion can be cut off every day. Place it in a bottle previously filled with water, amongst which a little salt or sulphate of ammonia has been mixed, three-quarters of a tablespoonful of the former to three half pints of water. It matters not whether the water be hard or soft. Half the quantity of sulphate of ammonia will suffice. Place the bottles in a cool, slightly darkened room having a dry atmosphere. I prefer, however, to allow the blooms to remain on the plants until required, or at least two days before, when they may be cut with safety and treated as directed. The moment the blooms are at their best remove the plants to some cool structure which can be partly darkened and where air can be admitted freely. A potting shed having a northern aspect, Mushroom house not in use, coach house, or, in fact, any place having the necessary requirements, viz., coolness, dryness and partly excluded light, will be suitable. No more water must be given to the roots than is absolutely necessary to prevent the leaves and flowers flagging; simply enough to retain freshness suffices, as at this period of the plant's existence the work as regards the development of blooms is completed. Sometimes a week or more will elapse before the plant requires water, particularly if the soil is of a retentive character. The pot when sounded in the orthodox manner may ring clearly, still the soil may be moist enough. The best indication of water being required is by examining the leaves, and if they are in the least soft and devoid of freshness, then apply enough clear water to soak the soil through and give no more till the leaves again feel limp. When the soil is constantly kept wet, a stagnation takes place about the roots, consequent upon the plant not being able to absorb the moisture fast enough to free the roots. The result of such treatment is that many of the lower petals de-

velop small specks on the surface, which come from the inside of the florets and eventually cause them to decay rapidly. The water which drains from the pots should be at once dried up to prevent damping of the florets. Should any signs of this occur, at once remove such damaged florets, which only serve to contaminate others near them. Flowers managed in this manner will keep fresh and in good condition for ten or twelve days—sometimes longer.

E. MOLYNEUX.

CHRYSANTHEMUMS AT LEWISHAM.

MR. H. J. JONES, of the Ryecroft Nursery, Lewisham, has at the present moment on view there the largest and probably the most thoroughly representative collection of new Chrysanthemums ever yet gathered together in one place. Mr. Jones' own collection has always been regarded as a remarkably comprehensive one, he having for several years past imported from France, Belgium, Italy, and the United States all the novelties worthy of a trial, but when it is explained that to that collection he has just added 3000 plants in their flowering pots just on the eve of the Chrysanthemum season, it will readily be imagined that such an undertaking on his part is one of considerable magnitude. These 3000 plants, which so recently formed the stock of Messrs. Pitcher and Manda, comprise, besides the best known novelties of the past two seasons, about 1400 absolutely new varieties, which were raised from seed last year in the American establishment of that firm, they being a selection of the choicest varieties out of 35,000 seedlings grown for selection. In passing through the houses at Lewisham, it was quite annoying every time I stopped to admire some beautiful flower unknown to me by sight to be told that it was one of the new seedlings, and was unnamed. There is no doubt that this will be seen to in due course, but on the occasion of my visit it really seemed as if all the largest and most attractive flowers were varieties without a name. There were, however, many of the novelties of recent introduction in fine form, and, considering the flow of visitors through the houses, it is evident that Mr. Jones' reputation is well established, and that the large number of people who were present were much gratified with the grand display and were not much disturbed at the fact to which I allude.

The flowers grown in large quantities are principally Gloire du Rocher, a beautifully bright crimson Japanese, with golden reverse; G. W. Childs, another crimson Japanese already known to English growers; Wm. Seward, an intensely deep crimson-coloured Japanese, with a peculiar metallic reflection; Vivand Morel, the large rosy Japanese from which Charles Davis sported, the latter being very numerous and effective with its deep bronzy yellow colour at frequent intervals among the plants. Col. W. B. Smith, a golden cinnamon-buff-coloured flower of good size, and Lord Brooke, something similar in tone, are both well done; as also is Tribune, a grand light yellow globular Japanese flower recently certificated. All the above-named were in great abundance in the large show house, and furnished a wealth of colour not often seen in many collections where too frequently the presence of blooms of a dirty mauve or washed-out lilac deadens and spoils the effect of a good bank of colour.

Taking individual specimens, President Borrel, a very fine Japanese of bright rosy amaranth and golden reverse, was in capital form; Mrs. T. Denne, with long curly petals, colour deep pink, and much intermingled, was also good; and J. H. Runchman, a fine deep golden yellow, with large blooms, looks a promising sort. Very few incurred of the old type were to be seen, but Baron Hirsch, deep golden bronze, very effective, and one of the novelties of last season, was well grown, and M. R. Bahuant also. A large massive Japanese flower is Pearl Beauty, with deeply grooved petals of pure white; so is Excelsior, with deep purple florets and silver

reverse. Mme. Isaac is a white Japanese, very pure in colour, and a truly grand flower. H. Hammond-Spence, light blush with yellow centre, also a Japanese, and a large one, is very striking. J. H. Taylor, an American seedling, equally as large, with light purple florets and blush-pink reverse, arrests immediate attention; and another close by from the same country, President W. R. Smith, with very long grooved florets of a pale blush, is a fine variety. Florence Davis, the greenish white Japanese; Miss Dorothy Shea, a large deep crimson or terra-cotta-red with fine drooping petals; Beauty of Exmouth, the somewhat famous white Japanese that caused some discussion last season; and Duchess of Devonshire, light rosy pink with golden centre, all English raised seedlings, are well represented.

Among French raised seedlings, especial mention should be made of Mrs. C. Harman-Payne, a large, solid, rosy mauve incurved Japanese; Mme. Ed. Rey, an incurved Japanese, deep purple and silver; Mme. C. Molin, a pretty white Japanese of the Vivand Morel type; Mme. Oct. Mirbeau, long florets streaked light purple; l'Ami Etienne, pale mauve, globular form, and heavy grooved petals; Commandant Blusset, a pretty medium-sized flower of pure bright amaranth; Mme. Calvat, big bloom, pure white and creamy centre; and l'Isère, large drooping petalled Japanese, colour pure white. Most of these are seedlings raised in France by M. Ernest Calvat, and are quite worthy of this gentleman's reputation. Before concluding, reference ought to be made to Silver King, purple and silvery pink, a large and striking Japanese with long petals; Silver Cloud, most distinct in colour, about which nobody present seemed certain, a remark that will also apply to Dr. H. Hull, which has florets of almost imperceptible flesh colour with a shade of pale bistre in the centre. A truly magnificent flower is Mr. R. J. Hamill, with long grooved incurved florets of the purest yellow; and Joey Hill, with deep crimson florets and gold reverse, is very fine.

Hairy varieties are numerous, and there will probably be some curious discoveries made among them. Sautel (1893) is a light rosy amaranth incurved Japanese, with light pink reverse, most hairy, perhaps, of all. *Enfant des deux Mondes* is a pure white, one of the same class. Hairy Wonder is a very deep bronze of similar type, very distinctly marked in this way. Wm. Falconer, a sport from Louis Boehmer, but of a pale blush, is another.

I cannot take leave of the subject without observing that at the time of my visit there were about 7000 plants in large pots, of which the great majority were in full bloom. There had been others in flower before, which were over and cut down. These numbered 3000, so that Mr. Jones has had altogether 10,000 plants under his care this season, which will give the reader some idea of the attention that this popular autumn flower receives at Lewisham.

CHRYSANTH.

French raised Chrysanthemums.—I think it was only last autumn that a correspondent of THE GARDEN ventured to express the opinion that the French raisers of seedlings were "played out." My note-book for the present season has as yet only reached up to Oct. 28, and I find that eighteen new Chrysanthemums have been certificated by the National Chrysanthemum Society, of which six are from French raisers. At Lewisham a very large proportion of Mr. Jones' flowers are new French varieties, some of them, such as President Borrel, Sautel (1893), Vivand Morel, Mme. Isaac, Mme. E. Rey, Mme. C. Molin, Mme. Oct. Mirbeau, l'Ami Etienne, Comte F. Lurani, Commandant Blusset, Mme. Calvat, l'Isère, M. R. Bahuant, &c., will worthily maintain the reputation of the French raisers for some time to come.—C. H. P.

Notes from Kew.—One sees a different class of plant in the Royal Gardens, Kew, to what is common in private places. The Chrysanthemums at Kew are only stopped about twice, and form fine bushy plants crowded with flowers, which, if not big like show blooms, are far more pleasing. In both the greenhouse and temperate house they are in full beauty and make an interesting and beauti-

ful display, many kinds not usually seen being included in the collection. Edwin Molyneux is conspicuous for colour, and, as in other cases, the plants are clothed to the base with foliage. Sœur Melanie is delightful, and also a kind named Tendresse, a Japanese variety, the flowers of a rose-purple colour, yellow in the centre. La Nympe is similar in shade, and a charming kind to grow, so to say, naturally, at least, with little stopping of the shoots. The specimens of this are a picture. It will be noticed that the majority of the kinds are old, but many are rarely seen, although distinct and attractive in colour. Hiver Fleuri is a mass of bloom, so also are Francois Délaux, La Triomphante, the rich yellow Buttercup, Maiden's Blush, Source d'Or, Eynsford White, Lady Selborne, and Mlle. Lacroix. Very fine in colour are W. Holmes and Anatole Cordonnier, deep crimson-purple. Mrs. H. Harrold, white with the centre florets rose-purple, is not often seen, and a mass of yellow is Swanley Yellow, whilst the old Bouquet Fait and the pure white single variety Mary Anderson are in perfection. For several years past this type of Chrysanthemum has been a feature at Kew in the month of November, and this year the display is finer than usual. We hope that in private gardens the Chrysanthemum will be more grown in this way, as its characteristic freedom and beauty are preserved. There is no need to get every new kind with big flowers. Such varieties as Tendresse and La Nympe are quite as charming grown thus, and even the monster kinds, as Etoile de Lyon and Edwin Molyneux, are adapted for this form of cultivation.

CHRYSANTHEMUMS AT Highbury NEW PARK.

WE recently saw a collection of Chrysanthemums in the garden of Mr. C. Mills at Highbury New Park, and we are pleased to see that he takes great interest in the flower, intending to grow it more largely in the future. In such gardens the greatest difficulty is experienced in growing plants well, the fogs of winter playing sad havoc with everything of a tender nature. The spacious and well-built vineries and houses filled with some of the finest specimen Camellias we have seen are made interesting with a collection of Chrysanthemums grown not only for large blooms, but also in a graceful and free way. The Japanese varieties are in fine character, many of the best novelties being included. Vivand Morel is superb for colour and form. We have not seen finer blooms this year, and also of note are Etoile de Lyon and Col. W. B. Smith. The last-mentioned improves on acquaintance. It is pleasing on account of its form, deep colour—a self bronze-yellow, clear and attractive. We should like to see it grown naturally, at least with few stoppings of the shoots, as the colour would go well with decorations of many kinds. Mlle. Marie Hoste is a fine white, the flowers exceptionally pure, and Mr. Easey, the gardener, has also succeeded remarkably well with Condor, Mr. A. H. Neve, Mme. Baco, W. Tricker and other kinds which we have previously mentioned in recent notes. Two varieties not usually seen are Le Melesmie and Cleopatra, both belonging to the Japanese class, the former with rose-purple flowers, margined with a deeper shade, and Cleopatra, a reflexed Japanese kind, pure white, full and pleasing.

We were pleased to see a number of plants grown with little stopping of the shoots and made note of a few of the kinds, as their names may possibly be interesting to readers of THE GARDEN. Florence Piercy is delightful thus grown, the flowers with the florets charmingly arranged and wreathing the shoots. Source d'Or is one of the best for growing in this way, as also are Mlle. Lacroix, Elaine, Glorioso, Miss Gorton, Mlle. Louise Leroy and Elsie.

The incurved section is grown here exceedingly well, and the collection includes the majority of the best varieties in cultivation. We saw some splendid blooms of Queen of England, Lord Wolseley, Golden Empress, Lord Alcester, Miss Haggas

and Prince Alfred, and it is pleasing to see that there is far more colour in this class than was the case a few years ago, but there is still room for additions to the list. The varieties mentioned by no means represent all that are grown, but one does not want to repeat the names of those already described in our pages. It is sufficient to know they are well cultivated, and the more pleasing because the more natural way of cultivating the plants is not forgotten.

Chrysanthemum l'Ami Etienne.—Not only does this represent almost a new type in the manner in which the florets incurve, but the colour is unique. As a true type of Japanese this variety does not in my opinion come under that heading; the florets have too much of the ordinary incurved style for a Japanese. Catalogue description says it is in the way of Mme. C. Audiguier, but it is a poor apology for that old favourite. The colour is best described as an extremely pale lilac.—E. M.

Chrysanthemum General Hawkes.—This Chrysanthemum, which was first shown last season and received an award of merit from the floral committee of the Royal Horticultural Society on October 4, bids fair to be a useful addition to the semi-early or October flowering forms. It is of a sturdy habit of growth, with good foliage, which is retained to the base of the plant, while the flowers are large, full, and of a bright purplish-claret colour. Good flowering plants that have not been cut down may be had about a yard high. It blooms at about the same time as Lady Selborne, Mlle. Lacroix, and L'Isle des Plaisirs, and is quite distinct in colour from any of them. This Chrysanthemum is, I believe, an English seedling raised by Mr. Owen, of Maidenhead, by whom it was sent out in the spring of the present year.—T.

Chrysanthemum John Shrimpton.—A great future was anticipated for this variety and for William Seward when they were both shown at one of the meetings of the Royal Horticultural Society last autumn. The flowers of the two are of a deep rich crimson, yet quite distinct from each other. Both are largely grown this season, and while it is probable that for cut flowers we shall see more of William Seward than the other, yet where plants are grown for decoration John Shrimpton is sure to be an especial favourite, for it is of good sturdy habit, carries its leaves well, and the large broad petals are of a rich velvety crimson tint. The reverse of the petals is golden. In general appearance it is a good deal like an enlarged Cullingfordi, but a prominent and most desirable feature is that it produces grand flowers when from 2 feet to a yard high. For growing in bush form it should be one of the very best.—T.

New Zealand seedling Chrysanthemums.—Mr. H. J. Jones, of Ryecroft Nursery, Lewisham, besides having recently purchased by private contract the large collection of American seedlings belonging to Messrs. Pitcher and Manda, has also secured some of the New Zealand seedlings that were raised by Mr. J. Earland, and sent over to this country in blocks of ice in September, 1892. A large proportion of the plants despatched by Mr. Earland died in transit or soon after landing, but of those saved, Zelandia, a Japanese incurved flower of rosy amaranth, and Rimutaka, a flower of the same type, colour crimson and gold, are the most interesting.

SHORT NOTES—CHRYSANTHEMUMS.

Chrysanthemum J. H. Runchman.—A fine Japanese variety; large solid bloom of deep golden yellow.

Chrysanthemum Mme. Octavie Mirbeau.—This is a large bloom of the Japanese type; the petals are of good length and the colour white, streaked with light purple.

Chrysanthemum Mrs. Robt. J. Hamill.—This is one of the most beautiful incurved Japanese flowers in existence. It has long, grooved petals, incurving most perfectly and forming a very large-sized

bloom. The colour is pure light yellow of a very delicate shade.

Chrysanthemum Mme. Isaac.—Those who are fond of a good white Japanese will find this a useful variety. The colour is very pure and the size all that can be desired.

STOVE AND GREENHOUSE.

GREENHOUSE RHODODENDRONS.

IN the following remarks reference will be made only to those sorts which are, strictly speaking, amenable to greenhouse culture. It is well understood by experienced plant cultivators that the splendid javanico-jasminiflorum hybrids require different treatment to those which form the heading to this article. These are, nevertheless, equally as good and as much to be recommended as the hybrids just mentioned. Their flowering season, on the whole, is during March, April, and May, when they are grand objects for



Rhododendron Countess of Haddington.

large conservatories, winter gardens, or lofty greenhouses. These qualifications are given bearing in mind that some of them are of tall growth, and require a fair amount of head room. R. Nuttall is an instance of this. The one point which more than any other is conducive to non-flowering in this section of Rhododendrons is that of over-potting. This more often than not encourages wood growth too much at the expense of flowers. I have noticed in particular how absurdly small the pots of R. Nuttall used to look in the case of some plants grown by an experienced hand, but they produced grand trusses of flowers. Had these plants been too much encouraged at the roots the result would have been different, although they might have, on the whole, looked more robust and healthy. These Rhododendrons will thrive well for years in the same pots provided the soil be of the best description and kept at all times in good condition. When the potting is done, it should be in the very firmest manner, as if dealing with a specimen hard-wooded Erica. The soil should be composed chiefly of peat which is full of fine fibre; such as would suit Orchids would answer; to this might be

added a little fibrous loam of light character and a fair quantity of silver sand. More often than not after a plant has been for some years in the same pot it will be found a difficult matter to remove it without injury to the roots. If this be found to be the case, then smash the pot rather than injure the roots. Another good plan in some cases will be to soak the ball well before potting afresh, in case it may be dry at the centre. Potting should be done soon after the plants have flowered, as then the roots will be the most active, taking more readily to the fresh soil. Only allow a sufficient shift to work down the soil around the ball; a little less than an inch between the pot and the ball will suffice for this, or, in other words, a pot rather less than 2 inches more in diameter than the old one. In treating these Rhododendrons after flowering, a humid atmosphere, as in the case of Indian Azaleas, is not essential in any sense. What has rather to be aimed at is the securing of a short sturdy growth, which is far more likely to produce flower-buds than if it were stronger. Exposure to light and air under glass will tend to produce this result, after which, when the young growth is hardened, the plants can be turned out of doors for a time in a warm, sunny spot not exposed to strong winds, being housed again towards the middle of October at the latest. With respect to watering, it is needful to add that the plants should not at any time suffer; the fact of the roots being in such a confined compass should point to this. When the plants suffer from want of water there is a disposition to cast the leaves prematurely. These Rhododendrons do not, fortunately, lend themselves to a formal mode of training, which when it is attempted is a risky process. In some cases it will be found needful to stop strong shoots; it is better to do this than let them weaken the rest of the plant.

RHODODENDRON COUNTESS OF HADDINGTON is a well-known hybrid, first sent out, I think, by the late Mr. Robert Parker, of Tooting, nearly thirty years ago. It is a grand variety with flowers of a wax-like substance, bluish white in colour, being also a robust growing plant, making with age a fine specimen.

R. SESTERIANUM, a hybrid between R. Gibsoni and R. Edgeworthi, is another beautiful variety, the growth not so robust as in the case of Countess of Haddington, being somewhat scandent; the flowers are large, pure white spotted with yellow, and very fragrant.

R. VEITCHI is one of the finest of all the species; the flowers, of great substance, are pure white and very large, with the margins crisped.

R. WILLIAMSII, which has not been in commerce very long, is a decidedly distinct and handsome plant, with large compact trusses of rather small flowers, pure white, the growth compact and sturdy.

R. CILIATUM is a hardy plant, but on account of its flowering during the winter or extremely early in the spring, it is far better grown in pots.

R. NUTTALLI has immense flowers, white, suffused with rose, and is a grand plant for lofty houses.

R. EDGEWORTHII is a splendid species with flowers nearly 4 inches across, white, suffused with pale pink, and extremely fragrant.

R. HENRYANUM, a cross between R. Sesterianum and R. Dalhousianum, has sweetly-scented, pure white flowers, being a fine conservatory plant.

R. DALHOUSIANUM, already alluded to as a parent of the foregoing, should also be included; it is a grand variety, the flowers white with a tinge of rosy pink.

G. H.

Double Primulas at Brighton.—At Messrs. Miles' West Brighton nursery these plants are

grown well. I noted a large pit full of the white variety, also a fine lot of a pale mauve kind. The white variety, which I was informed was procured from the Continent, was different to that usually grown. I thought it was the variety *grandiflora*, but found it was a little different. The plants were remarkably vigorous and the flowers large and full. At the time I saw them the lights were removed and the plants fully exposed to the sun. Many people ruin this *Primula* through growing it in too much heat and a dry atmosphere. It is best to avoid wetting the foliage during the winter, but a moist cool bottom will suit it much better than a dry shelf, and the plants should not be allowed to become too dry in the pots. If kept in health and the old foliage removed, there will be no fear of damping. No other *Primula* will produce such a continuous supply of white flowers throughout the winter as the old double, that is if the plants are kept healthy.—F. H.

Marguerites in autumn.—I lately saw a fine batch of white Marguerites in Messrs. Miles and Co.'s West Brighton nursery. The plants were dwarf, bushy, and in various stages, some in full bloom and others coming on to succeed them, no sign of the troublesome maggot being apparent. As good pot plants in bloom are generally rather scarce at this season of the year, it is worthy of note that the Marguerites may be flowered so well. The plants referred to were in pits standing up close to the glass and plenty of air given them. The variety represented was that known as *Chrysanthemum frutescens maximum*.—F. H.

Agathæa cœlestis.—This is really a valuable plant for late autumn decoration. When planted out it is apt to run away to leaf, the crop of flowers being correspondingly scanty, but kept in pots all through the summer the growth is sturdy, short-jointed, and flowers are produced in quantity. I used to grow it for winter bloom some years ago, but had lost sight of it till lately when I came across a lot of nicely-grown specimens in a private garden. They were in 6-inch pots carrying individually a score of blooms. We have such a limited choice of blue-flowered plants for conservatory decoration during the autumn and winter months, that one ought not to neglect this *Agathæa*, which in a temperature of 50° will keep on blooming. Like the Paris Daisy, there seems to be no limit to the amount of flowers it will yield, provided the culture is right. Cuttings put in in spring will make good specimens by September, keeping all the buds picked off till that month. From October onwards the plants will make a nice show, and in spring also if encouraged with a little liquid manure. Through the summer the plants should have a sunny position, so that the wood may be thoroughly hardened.—J. C. B.

Streptocarpuses at Chelsea.—When in Messrs. Veitch's nursery recently we were interested in a collection of *Streptocarpuses*, which are steadily increasing in favour. The improvement in the colour of the flowers is great, and Mr. Heal has obtained many shades of superb colour—crimson, purple, maroon and so forth; whilst of lighter tones there is a large selection, ranging through delicate mauve, lilac and pink to pure white. With the improvement in colour has also come a larger-sized bloom, not coarse, but a distinct gain, as the flowers of the original hybrids were rather too small. Seed sown in January will produce flowering plants in seven months, and these will continue long in perfection, blooming again the following year. Those who cannot grow *Gloxinias* or things requiring much warmth cannot do better than raise seedling *Streptocarpuses*.

Russelia juncea.—This is an extremely pretty and graceful flowering plant, which helps to render the stove gay with its brightly coloured blossoms during the latter part of the summer and well on into the autumn—in fact, sometimes until winter. There is nothing else with which it is likely to be confounded, the branches being slender and Rush-like, while the leaves are but sparingly produced. The flowers, which are borne in considerable numbers for some distance along the slender pendulous shoots, are about an inch in length, tube-shaped,

and of a bright scarlet colour. This *Russelia* has a wonderfully pretty effect when trained to a rafter in a small house, as it is unsuited for large structures. In this way the bright green shoots form quite a fringe, and when lit up with its numerous blossoms the plant is additionally attractive. In suspended baskets, too, its various distinctive features are seen to great advantage. It may also be grown in bush form by staking the principal branches and allowing the minor shoots to dispose themselves at will. *R. juncea* will succeed well with the treatment given to the general run of stove plants. It is a native of Mexico, from whence it was introduced about sixty years ago, and at one time was a favourite subject for growing into specimens. There are two other species, *R. rotundifolia* and *R. sarmentosa*, but I am not aware that they are now in cultivation.—T.

Asclepias curassavica.—I should feel much obliged if you would give me the name of the enclosed shrub of which I enclose a flower and leaf. It was raised from seed I found in the jungle in India when shooting some two years since. The seed is contained in a long pod, and has a fly-away attachment. It has flowered and seeded freely this summer in a greenhouse, but I am doubtful whether it will not require more heat to take it through the winter.—W. A. E.

* * The specimen sent is this *Asclepias*, which is a pretty flowering plant, though a troublesome weed in some parts of the tropics, and one whose seeds float in the air like those of the Dandelion. It will grow and flower well in a greenhouse during the summer, but it needs a somewhat warmer structure in the winter, though it might pass through the season if kept rather dry at the roots. This *Asclepias* is said to be a native of America, but it is now spread over many parts of the tropics. According to the "Dictionary of Gardening," it was introduced into this country in 1692. All the members of the genus have the silky seed appendages by means of which they are disseminated over a considerable tract of country. There are several hardy species, the best being the autumn-flowering *A. tuberosa*, which produces bright orange-coloured blossoms.—H. P.

Plumbago capensis.—This beautiful greenhouse plant has many recommendations, and I quite agree with all that "H. G." (*GARDEN*, p. 380) has said in its favour. It undoubtedly has the best chance of showing its full beauty when planted out and trained against a wall; yet as a pot plant there is nothing of the same colour to equal it. I have also seen it used as a bedding plant with good effect, but I must say I am no great admirer of the practice of turning our prettiest greenhouse plants out of doors. It may be readily propagated from cuttings, which should have similar treatment to *Fuchsia* cuttings, and those rooted about February will make nice flowering plants the same season; or if propagated later in the season, three plants may be grown in the same pot. The plants may be stopped once or twice, and in the early part of the season should be grown on in warmth, but later on will do well in the cool greenhouse under conditions recommended by "H. G." I may add that the white variety, introduced a few years ago, is a good companion to the blue, differing only in the colour of its flowers.—F. H.

Habrothamnus (Cestrum) elegans is another free-flowering greenhouse plant, and a good companion for the *Plumbago*, the terminal clusters of rich crimson flowers forming a good contrast to those of the *Plumbago*. The same conditions will suit both plants, though the *Habrothamnus* is even more inclined to grow too strong, and should be planted or potted in poor soil. It requires a good deal of space to flower it well, and although not, strictly speaking, a climber, it should be trained against a wall. It is not so well adapted for pot culture as the *Plumbago*. *H. aurantiacus* makes a fine pot plant, not being of such vigorous growth as *H. elegans*. Good strong cuttings propagated late in the summer and kept in a cool house through the winter will flower the following sum-

mer, and the terminal panicles of rich orange-yellow flowers are both distinct and effective. This does not flower so continuously as *H. elegans*, the flowering period being generally confined to August and September.—F. H.

A note on winter-flowering Carnations.—The collection of winter-flowering Carnations in Messrs. Veitch's Chelsea nursery contains the best kinds now in cultivation. One of the most popular is *Winter Cheer*, which has rich crimson flowers and the plants are remarkably compact and free, quite little bushes. We wish, however, that this type of *Carnation* were more fragrant. Raisers should try and get sweet scent with them. *La Neige* is a good white, the plants compact and free. *Mlle. Thérèse Franco* is a new variety. It is a fairly good grower and bears a large salmon-rose flower, which does not split, and is distinct. This is a fine variety and should be much grown for winter. Its flowers are larger than in the majority of kinds. Improved *Miss Joliffe* is worthy of the name. The flowers are deeper in colour and larger, whilst the plant is not less free than the type. *Mrs. A. Hemsley* is a good deep crimson-purple, and *Sir Henry* a fine scarlet, but the plant does not grow so satisfactorily as one could wish.

Carnation Mrs. H. Cannell.—When looking at flowers of this *Carnation* last year I was not nearly so much impressed with their value and distinctiveness as during the present autumn. It is without doubt a really valuable acquisition, being one of the finest for autumn flowering that has been introduced, with blossoms of large size. If thinned, as in the case of the *Malmaison Carnations*, the flowers of *Mrs. H. Cannell* would nearly approach them in size. The growth is extremely vigorous, but very compact, an abundance of shoots breaking forth from near the base. The flowers seem to increase considerably in size, even after they are quite expanded, whilst there is hardly any bursting of the pod. The colour is a bright rose-pink, which is well maintained as the flowers gain age. I should not be at all surprised if it will prove as continuous in flowering as *Winter Cheer*; at any rate it promises to do so at present; if so, it will be another point in its favour. Whether cuttings or layers will prove the better and more reliable mode of increase has yet to be ascertained.—GILLIFLOWER.

ORCHARD AND FRUIT GARDEN.

SECOND CROPS OF FRUIT.

SECOND crops of fruit are the order of the day, —in fact, are causing quite a sensation. Never before, probably, have Strawberries produced such extraordinary second crops as they have done this season. It is no uncommon occurrence for forced plants duly turned out or plunged in the open ground to fruit again very freely in August and September, but it is not often that any not forced, or which, say, produce their first crops in the open ground, attempt to fruit a second time. This season the conditions have been very different to what are usually experienced. In the first place the Strawberry season commenced fully a month earlier than usual and was of comparatively short duration. Owing to the drought and great heat the crowns matured very early, a rest also being compulsorily brought about. Then came enough rain in August and September to re-excite the plants, the consequence being the development of a large number of strong flower trusses and an abundance of well-formed fruit. The weather still being favourable, no September frosts severe enough to cripple tender plants of any kind being felt, the Strawberry crop had a good opportunity of ripening properly. In numerous private gar-

dens as well as in the open fields in different parts of the country many gatherings of excellent Strawberries have been made. Of Raspberries, again, large quantities of fine well-flavoured fruit have been gathered during the past six or eight weeks, small plantations yielding several quarts in the course of a week. In this instance all the varieties are behaving very similarly; whereas in the case of Strawberries it is principally, and in some gardens solely, Vicomtesse Héricart de Thury, Noble, Keens' Seedling, John Ruskin, and other early sorts that are fruiting a second time this season.

In some instances Pear trees did undoubtedly flower and set fruit at fairly widely-apart intervals, or sufficiently so to warrant their being termed two crops, but even this is very different to the second cropping of Strawberries and Raspberries. The two latter were from crowns and canes respectively formed this season; whereas most of the so-called second crops of Pears or Apples were from buds formed, if not exactly determined in character, during the preceding year. It has long been my opinion that buds, on Pear trees more especially, are more affected by the weather experienced during the winter and early spring months than scientists are prepared to admit. Not till the trees are beginning to decline in vigour do they as a rule form many flower buds. A severe check to their vigour usually results in the formation of more flower-buds than formerly, and even in changing what was originally intended for wood-buds into flower-buds. This check may be caused either by a severe frost, root-pruning, or great heat accompanied by drought. Last winter we had one long severe frost, and it is to this we very probably owe more than the sunshine of July in 1892. I allude to the wonderful freedom of flowering of fruit trees generally. So freely did the trees bloom, that the loss of a third or more of the flowers by frosts did not greatly prejudice the prospects of a good crop of fruit, but many of the buds were checked considerably, these opening late and being followed by malformed fruit that has done duty as a second crop. What flowers opened still later were I think the outcome of the dry spring, buds flowering instead of developing into short fruiting spurs for next season. In all cases that have come under my notice of flowers produced by wood of the current year's growth none have been followed by perfectly-formed fruit. Both Apples and Pears have apparently set all right, but have failed to swell as large as a Cherry, though whether this is due to imperfect fertilisation or to a deficiency of support from the roots I cannot say. Nor is any of the fruit that set on the trees soon after midsummer of any value, though it has certainly ripened.

The question that most concerns us is, what will be the effect of this second cropping, or attempt at it, on next year's returns? As far as fruit trees are concerned, I am under the impression that there will again be a superabundance of fruit-buds. Already there is plenty of what are unmistakably fruit-buds, including many at the points of short growths made this season, and should we have a severe frost again this winter, then many of what may be termed undecided buds will also flower. There is likewise every possibility of fruit-buds being developed throughout the length of well-matured young wood on somewhat old trees if only these are left thinly at pruning time, and if something is done in the way of autumn or early winter manuring towards assisting in the recouping the strength of comparatively exhausted trees, the good prospect will be even more likely to be realised.

With Strawberries, and to a lesser extent Raspberries also, the case is different. Instead of the late crops of the former being produced by quite young plants, as conjectured by an usually well-informed writer in a daily contemporary, they were had solely from old plants or those that had already fruited once this season. The crowns that gave the flowers are those that ought to have waited till next spring before bursting, and what, therefore, is being had now will be greatly to the prejudice of next season's crop. Doubtless there are a few smaller or later formed crowns that have remained dormant, but it is scarcely feasible that anything like a full crop of fruit will be forthcoming next summer. In this neighbourhood ripe Strawberries are being gathered in nearly every garden where early or second early varieties are grown, and some growers that have neglected trimming off old leaves and runners are acting on my advice to leave a good sprinkling of well rooted plants between the rows, as it is very certain these will give fruit if the old plants do fail. Raspberries are fruiting somewhat curiously. The more advanced of the young canes (the old ones are all dead) have branched strongly, the points of the side shoots and the tips of the canes producing fruit in great bunches, while in other cases a few fruits are formed close up to the leaf axil. How far this behaviour will prejudice next season's crops remains to be seen, but it must have a bad effect. Probably the best plan will be to reserve rather more canes than usual, depending upon the joints that have not given fruit this autumn for producing fairly strong fruiting shoots next season. Most of the lower buds are dormant, and these can be made to break freely by rather hard pruning, so that, all things considered, we need not despair of having good crops of Raspberries as well as of other fruit next year.

W. IGGULDEN.

Gooseberries on north walls.—When I mention that Gooseberries netted on bush trees in the open were literally roasted, it will be seen how valuable a few trees on a wall with a due north aspect are for the supply during the late summer months. I have seen many walls where such trees would have given good returns furnished with fruit trees that rarely give a crop and look unsightly. A high wall of Warrington on the double cordon system would amply repay the cultivator. There are several advantages in having Gooseberries trained on walls in that protection from birds can be so readily performed, pruning is very simple, and the fruits do not decay as on bushes. Now is a good time to plant a wall. For a low wall or fence, trees with three or four upright shoots are very suitable. In selecting trees, only those varieties should be planted which are suitable. Some of the choicer and larger kinds have a pendulous growth, and are not suitable. Warrington always succeeds and the fruit hangs well.—G. W.

Apple Blenheim Pippin.—It has fallen to my lot to attend several public dinners lately, and at each I have taken particular note of the dessert fruit. Of Pears, Benrè Clairgean, past its best, and quite ripe Blenheim Pippin, or Blenheim Orange Apple, as it is more often termed, were principally placed on the table. The Blenheim is still the favourite Apple with lovers of good fruit, but it is in December when it is most wanted, and not October. So much is it liked, that it invariably fetches better prices than any other variety, and when available large quantities are bought and stored for future use by very many dwellers in country places as well as small towns. This season the crops were heavy and the fruit of good size and well coloured. The fruiterers were, however, somewhat backward in buying, the prices offered being about 2s. per bushel, sometimes even less being taken by the growers. Householders

being less wary, have bought what they want, also at much cheaper rates than usual, only to find that there is not the slightest likelihood of their being able to keep them much, if any, later than the middle of November. The crops ripened sufficiently for gathering and storing fully a month earlier than usual, and the very mild weather experienced up till the present time (October 26) has been all against keeping fruit. It is much to be regretted that good Apples are fit for use very much earlier than desirable; but there is no remedy, storing in very cool quarters not availing very much. There would appear to be only too much truth in the old saying to the effect that fruit which ripens quickly is also quickly rotten.—I.

STRAWBERRY PLANTS FOR EARLY FORCING.

It frequently happens there are plants left over from those required for the open or for forcing. There are various uses, however, to which these may be put, and I have frequently been glad of them for patching the permanent beds the following spring, and have plunged them in rows thickly together so as to preserve the roots from frost. They also make excellent plants for another season if put out in March or April and the flower-trusses removed. I admit this latter plan does not commend itself to all, as the plants occupy the ground some fifteen months before there is any return in the way of fruit, but the latter is very fine when it does come. I do not advise it myself, as quite five months of the year are wasted, and in gardens with every inch of soil required it is not a wise proceeding, as quite as good results may be secured by layering strong runners and planting in August for next season's fruit. The question arises, What shall we do with the small or left-over stock of late runners? It is well known there is considerable difficulty in getting plants from runners potted, say, in August to throw up their blooms late the same year or very early the next, as the plants have not had a sufficient rest. I find there is always a great difficulty in getting the blooms well above the foliage, and I was told by an eminent practitioner to use older plants, and by this means get early fruit with less trouble. I tried lifting one-year-old plants, but it did not answer, as the plants not being pot-bound, when called upon for increased exertion failed to respond. To get early fruit I tried the small plants left over. Of course, there is the same objection as to length of time these plants are about. They rarely fail, however, and this is important, as very early forced plants often fail badly. The plants at this date may be plunged in ashes in the open or kept in frames thoroughly exposed, as it must be borne in mind only the roots need protection. No harm will come to the plants, as the harder they are kept the better, provided the roots are preserved. Some pot up at this date into 4½-inch pots and winter in frames. I do not advise this, as there is often loss of plants in a long-protracted frost, as there is little root-action and the pots get soddened with water and the roots decay. I would advise potting up in March or April according to the season. When potting, 6-inch or 7-inch pots should be used, and only pure loam, as it must be remembered these plants have quite four months' start of the plants grown in the usual manner, and during early growth every flower-truss must be removed. Plunging in ashes or fibre is also necessary during the summer months. With late summer-potted plants plunging is not important, as the plants will not be a mass of roots till the cooler weather with longer nights comes. Early varieties should,

of course, be chosen for the work, and the plants kept to two or three crowns at the most. Some kinds split up into various sections worse than others, but there is no difficulty in keeping such good kinds as Keens' Seedling, La Grosse Sucrée to one crown, allowing Vicomtesse H. de Thury two or three. These plants will be ready for forcing any time during the late autumn, and there will be less trouble and anxiety to get early fruit. When I write early fruit I mean during the first two or three months of the year. I do not say that the fruit is as fine as from plants throwing up maiden trusses of bloom and fruiting, say, in April or May, but fruit of fair size in January or February is valuable. Of course, a great number of plants would not be required in a private garden. It is surprising how readily such plants fruit compared with those forced in the usual way. After forcing, these plants, if planted out after due hardening off, will give a lot of small fruit a little later than the plants in the open. These do well for preserving. Runners planted out in the early autumn may be lifted in spring if desired, potted up and treated as advised for plants in small pots. Of the two I prefer the pot system.

G. WYTHES.

PLANTING RASPBERRIES.

On gravelly or light soils Raspberries require more attention than when in good loam; indeed it seems useless to manure after the roots have gone down into the subsoil in search of food. I do not intend to convey the impression that manures are wasted on Raspberries, but replanting on new land would often be advisable, doing this in the early autumn and in all cases planting good canes with plenty of fibrous roots, so that a good start is made before severe weather sets in.

In a light soil I find none to equal Superlative and Carter's Prolific. The former is a heavy cropper, makes a vigorous growth, and bears fruits of a good flavour for a long time. I consider the latter part of September and the first week in October the best time to plant. Many may think this early, and prefer to wait till the leaves have all dropped, but in mild seasons the canes retain the foliage a long time, and if planted early the canes do not suffer. Raspberries start early in the spring, so that to secure the best results early planting is necessary. Where ground is not suitable it will repay to add good heavy soil of a turfy nature to poor gravelly soils. Trenching the ground is also important, but in trenching it is advisable to leave the poor soil at the bottom, mixing the good soil with the second spit and incorporating with it the manure. In heavy clayey land drainage is important, and such materials as brick rubbish, mortar rubble, charcoal refuse, leaf-mould, burnt soil, road scrapings, river sand and anything which will keep the soil sweet and allow free drainage are beneficial. Another point worth consideration is space. Even on land where the plants do not make a robust growth light and air between the rows are important details.

If space can be allowed I would plant 12 feet apart in the rows and crop between; this allows of greater freedom for the plants to develop, and the fruits do not decay in wet seasons by having the rows wide apart. It is an easy matter to dig out a trench 2 feet wide and fill in with better soil, and in places where failures occur this is the best system and causes the least trouble. Plant the new canes intact without shortening, as this is best done in the early spring, just as the sap is on the move. If cut down now there is danger in severe weather of losing the plants, as frost soon plays sad havoc with the cut portion. In the early spring the canes may be cut lower than is often practised, as the shoots on the planting canes are of little value, two or three strong growths from the base being what are required for the formation

of the next year's fruiting canes. Firm planting and a good mulch of short litter over the roots to protect from frost are essential. A mulch of good decayed manure twice a year in the spring and autumn will keep the roots near the surface. Only allow a few suckers to remain yearly to take the place of the old canes, and remove the fruiting canes at the earliest moment possible after the fruit has been gathered.

G. WYTHES.

Early Rivers Cherry.—This is, I consider, one of our very best early Cherries. With me Early Rivers never fails to crop freely; even the youngest trees bear very well. This variety is a seedling from Early Purple Guigne, a variety of great merit, but not one of the hardiest. Early Rivers is more robust; indeed, this season's crops ripened in the open on standard trees in June. Early Rivers is a large black and handsome fruit with fine flavour and a very small stone. For forcing it is first-rate, and in a cool orchard house it also does well. I would advise planting this variety both on a west and east aspect, as in this way earliness is secured and a succession can be kept up. There are also more chances of success, as often trees on one aspect are injured by frost and escape on a colder one. Those who are about to plant should not hesitate to include this variety where early and good fruits are desired.—G. WYTHES.

Pear Beurre Rance.—This old Pear, said to have been in cultivation about 300 years, is valuable still as coming into use when Pears are scarce. It has been in some seasons our latest of all in ripening, and is considered by many to be the best of our late Pears. To succeed well, Beurre Rance should have a south wall, where it will under proper treatment grow to a large size, and being a lover of warmth, will be improved in unfavourable seasons by being matured in heat. This Pear does not succeed on the Quince. I had a tree which bore well, but the fruit invariably cracked and fell off. Beurre Rance grafted on Pitmaston Duchess has a good head, and produced this season—the second from grafting—a heavy crop of fine fruit.—E. W. B.

Crab Apples.—These trees have been loaded with fruit this season, and beautiful objects they are for shrubberies. I read with interest the note at p. 370 on the beauty of the Dartmouth Crab—a variety with deep crimson fruit and of a beautiful Plum shape. We have it under the name of the Hyslop Crab, but I am sure it is the true Dartmouth variety, its shape and colour being similar. John Downie is lovely this season, the trees being heavily laden with fruit. This is Pear-shaped, and I do not know of any variety that fruits more freely in a young state. I saw some splendid fruits on three-year-old standard trees, the branches being bent down. Transcendent is also worth a note on account of its rich red and yellow fruits of an oval shape. The older forms, or Siberian yellow and red varieties, are well known, but even these are only sparsely planted for effect. The Crab Apples are also most delicious when preserved.—G. WYTHES.

Notes on Pears.—Van Mons Leon Leclerc (October 28, p. 399) is one of our best Pears, a heavy and consistent cropper, fruit large and of very fair quality. It is a worthy successor to Marie Louise and just hits the season between that variety and Winter Nelis. I can hardly, however, understand "T. A.'s" paragraph, "when it becomes better known." It is to be found in very many gardens, and, according to the "Fruit Manual," first fruited in 1828. I should imagine it was introduced into this country soon after this, many of the trees one meets with being of great age. Like many other varieties, the flavour varies greatly on different soils, although it is perhaps better in this respect than such sorts as Beurre Diel, Duchesse d'Angoulême, Baronne de Mello and Marie Louise d'Uccle. Some four years ago when planting a wall with cordons I was strongly recommended to try the last-named as being only slightly inferior to Marie Louise in flavour, and

much superior in constitution and cropping qualities. It certainly bears out the recommendation from the two last standpoints, but is practically useless for dessert—at least I have not had a toothsome fruit in the three seasons since planting. Duchesse d'Angoulême and Beurre Diel are a trifle better from cordon than from old horizontal wall trees, but still far from first-class. The remark one often hears that few first-class Pears are available after the middle of November is likely to be verified this year, most dessert varieties being three weeks earlier than usual. Marie Louise, Doyenné du Comice, Beurre Superfin and Van Mons Leon Leclerc were all over before the end of October, and we have almost finished Winter Nelis. The selection of good late varieties is not an easy matter, many being unsatisfactory in the majority of places. Easter Beurre is often gritty and full of core, Ollivier des Serres very small, and Bergamote d'Esperen not ripening up at all. A fairly good selection, including Winter Nelis, to carry through the latter half of November and December would perhaps be Rivers' Princess, Beurre Sterckmans, Glou Morceau and Thompson's.—E. BURRELL, Claremont.

LIFTING AND TRANSPLANTING FRUIT TREES.

FROM experience, there can be no doubt that the periodical lifting of fruit trees on some soils greatly benefits them, and enables us to obtain finer samples of fruit than are possible when the roots of the trees are allowed to follow their natural course and penetrate into the cold, clayey subsoil. As the time of year when it is necessary to commence such work is at hand, a few hints on the subject may not be out of place. I would by no means advocate the lifting of old orchard trees which have stood for years, and whose roots extend to a considerable distance, for by attempting such experiments their lives would be jeopardised. Trees of this description, however, might be greatly benefited by the removal of the soil from the roots, replacing it with some fresh rich earth, this encouraging new fibres and thereby giving renewed vigour to the old trees. If the roots of fruit trees growing on cold, stiff land be allowed to go straight down, few fibres will be made, so that there is not the same number of feeders as there would be if roots near to the surface were encouraged. Nor is this all, for without fibrous roots the fruit does not arrive at the same maturity in wet seasons as it does when grown on ground of a warmer nature. Trees whose roots are brought near to the surface are more under control, and can be fed at the time when the greatest strain is put on them by the growing crop of fruit. Most visitors to the great shows this season have been struck by the fine samples of fruit staged, especially of Apples and Pears. The best specimens were from trees whose roots had received special care. It is still thought by some that to cause a tree to be fruitful its growth must be stunted, but this is not the case, for the choicest samples are the product of the healthiest trees and largest flowers. The better the blossoms are developed the finer will the fruit be provided that receives proper attention while growing. To produce such buds the trees must be in perfect health, and as this cannot be maintained on some soils and in some districts without much trouble, those who have to deal with such must be prepared to assist their trees if they wish to obtain excellent results. It is not merely lifting and transplanting that the trees will require, but careful looking to afterwards, for however painstaking the most practical man may be in doing this work, there must necessarily be extra watering and so forth the following spring. Trees usually

suffer most after being lifted just as they are pushing their buds in April, and unless they can receive attention just at that time, the flower-buds often fall, and so the season's crop is lost. All these things should be taken into account at the present time and no more work be begun than can be done well. It is better by far to lift a few trees each season and give them proper treatment than to attempt to do a whole lot and be unable to look after them later on. For trees that have been planted four or five years, a trench should be taken out at least 6 feet from the stem, and the soil be carefully forked out from between the roots till it can be ascertained whether there are any under the centre of the tree with a downward direction. All such should be carefully cut through with a sharp spade. Some fresh, light, rich mould should now be filled into the hole left vacant, and afterwards the roots should be carefully laid over this and a little more fresh soil added to cover them, filling in the hole with the old soil taken out. If the tree is a large one, the roots should be lifted in sections of about a third each season; by this means there will be no serious check to its growth. Avoid as much as possible severing strong roots, unless they have a downward tendency and are under the centre of the tree. It is better to trace the others to near their points, for the greater the number of feeders the more chances there are of getting a full crop of fruit the following season. Some growers advocate the plan of allowing trees a couple of years to recoup themselves after being lifted, but if the work is done carefully there is no need for any such waste of time, as good crops of the finest fruit are invariably taken from trees the first season after being so treated.

Lifting is done with a view to encourage fruitfulness by preventing over-luxuriance, not deterioration of the tree's growth, for unless it is in the finest possible health, the desired results cannot be obtained. On chalk or gravelly subsoils it is seldom necessary to interfere with the roots for this purpose, but rather with the object of encouraging growth, for on the latter subsoil the upper layer becomes exhausted by the percolation of the vegetable matter through the gravel owing to heavy rains. The roots of trees on chalk cannot go to any depth, so must be supported artificially. Therefore, it is necessary sometimes to give the roots fresh soil to spread themselves in. No better time can be had for this work than the dull days at the beginning of November, for then the soil is usually in a workable condition, and not having a much reduced temperature new roots are soon made, so the tree gets established before the winter sets in. Much mischief is often done by lifting trees too late in the season, for the dry weather sets in before they have had time to make any fresh roots. The buds in consequence shrivel instead of expand, and the result is little or no growth instead of a flourishing tree carrying a good crop of fruit. When lifting has been finished, trees should always be mulched with some kind of litter, and this is best done as the work proceeds, for it prevents the ground from being washed too much by the heavy rains, thus enabling the soil to retain the warmth longer. It also acts as a preventive against frost penetrating the ground, so that root-action may go on for the greater part of the winter. Staking, too, must not be omitted if we would have our trees prosper, for if they are rocked about by the winds it is impossible for the roots to take hold of the soil to establish themselves. Care must be exercised with this, however, for if they are tied too tightly they will not be able to sink

with the soil, and consequently will often suffer. When the trees are well set the ties may be removed, as they are of no further use. Watering must be attended to, especially in the earlier part of the year if the weather be dry, as this causes the buds to burst more vigorously. It is seldom that trees so treated require pruning much, as blossom-buds set freely all up the young growths, and if they have attention during the summer by pinching and regulating the shoots, there need be little fear of their producing poor fruit crops unless the season be very unusual at the time of flowering.

H. C. P.

SHORT NOTES.—FRUIT.

Pear Catillac.—As a market fruit there are few that repay good culture better than this. Even in a year of abundant Pear crops good Catillacs are fetching as good or even a better price than many of the tender-skinned dessert sorts, and with far less loss in the way of decayed fruit. It is surprising that the Catillac is not more largely cultivated.—J. G., *Hants.*

Apple Chatley's Kernel.—I was glad to see "Y. A. H." (p. 399) directing attention to the above. It is all that he describes it, and it succeeds admirably as a bush, which is the only form in which I grow it. During the past five years it has not failed to produce from a fair to heavy crop of medium-sized and highly coloured fruit, beautifully dotted over with small brown spots. As a late Apple it is extremely valuable, keeping sound and fresh until June. Another advantage is that it will cook well at any time, and is worthy of a place in every garden. As a market Apple, I question whether it would pay to plant it extensively, as the public want something "big" in cooking Apples. My experience is that Bramley's Seedling and Lane's Prince Albert pay much better than Chatley's Kernel as market varieties.—W.

SOCIETIES AND EXHIBITIONS.

CRYSTAL PALACE CHRYSANTHEMUM SHOW.

NOVEMBER 3 AND 4.

At this, one of the earliest exhibitions within the metropolitan area of the season, the most prominent feature was the remarkably fine quality of the Japanese section. This was most pronounced in the stronger classes as well as in the champion class for forty-eight blooms, equal number of Japanese and incurved varieties. Of the other Japanese the following stood out prominently as the best, viz.: Edwin Molyneux, Avalanche, Standstead White, Sunflower, and Val d'Andorre; and of the newer kinds, Col. W. B. Smith, W. H. Lincoln, Vivand Morel, W. G. Bryceson, Mrs. Falconer Jameson, Lord Brooke, Mme. Thérèse Rey, Mlle. Marie Hoste, President Borel, Excelsior, the yellow and white sports of Vivand Morel, and Wm. Seward. In the larger classes as well as the smaller ones for blooms of one variety only the competition was keen. There were fourteen entries for eighteen Japanese varieties, thirteen for twelve vars., and seventeen for one variety, six blooms. The champion class was a fine feature, there being seven entries of forty-eight blooms each. There was not, however, so much competition for the pompons or the single varieties. This is to be regretted in the case of both, but more particularly of the singles. Only one exhibit of these was staged, but it was a remarkably fine one, clearly demonstrating their utility as well as their most attractive features. Plants collectively were good, notably the pompons, the Japanese bush plants and the mixed standards; the only fault to be found was the somewhat formal training. The groups, on the whole, were up to the average, not

so good as on some occasions, but they made a good display.

The class around which was centred the most attraction was that for forty-eight cut blooms, equal each of Japanese and incurved varieties. The competition was keen between all the prize-winners. Mr. Ritchings, The Yews, Reigate Hill, was placed first with a grand stand of Japanese varieties, but a trifle weak in the incurved section. Of the former there was an excellent variety as to colour, being also very fresh and well developed, the best being Edwin Molyneux, Col. W. B. Smith, Vivand Morel, Beauty of Exmouth (a lovely white with twisted petals), Excelsior (deep rosy pink), W. H. Lincoln, Margot, John Shrimpton, Harman Payne (large deep blush), President Borel, Puritan (fine), and Sunflower. Of the incurved, the best were Baron Hirsch, Violet Tomlin, Miss Haggas, Mrs. Geo. Rundle, Mrs. Dixon, Queen of England, and Jeanne d'Arc. Mr. Shoesmith, Shirley Cottage, Croydon, was an excellent second, his best flowers being Col. W. B. Smith, extra fine; Mme. Thérèse Rey, a superb new white; Charles Davis, the pale yellow sport of Vivand Morel; Harman Payne, Mme. Calvat, Vivand Morel, Charles Shrimpton, Anna Hartshorn, Eda Prass, the white Vivand Morel, G. C. Schwabe, and Wm. Seward of the Japanese, the light colours being, on the whole, predominant. Of the incurved there were fine blooms of Jeanne d'Arc, Princess of Wales, Mme. Darrier, Baron Hirsch, Mons. Babuant, Golden Empress, and Mrs. Coleman. Those well-known and usually so successful exhibitors, Messrs. W. and G. Drover, Fareham, Hants, could only secure fourth place in this class.

The next class, that for eighteen incurved varieties, was not on the whole remarkable for uniform excellence, save in the case of Mr. Lees, Trent Park Gardens, New Barnet, who was easily first for a grand stand of blooms, the finest of which were Mons. Babuant, fine; Mrs. Coleman, deep colour; Jeanne d'Arc, Hero of Stoke Newington, extra good; Alfred Lyne, pale lilac; Princess of Wales, Alfred Salter, Lord Alcester, Golden Empress, extra colour; Lord Wolseley, Empress of India, Miss Haggas, and Violet Tomlin; these were the best incurved varieties in the show. Mr. Carpenter, Broad Oaks Gardens, Byfleet, who was second, had Refulgens, extra deep in colour, with fine blooms of Mme. Darrier and Golden Queen. For twelve incurved varieties, Mr. Felgate, Burhill, Walton-on-Thames, was first with an even box of medium-sized blooms, the best being Mrs. Heal, Mme. Darrier, and Violet Tomlin. Mr. Jupp, Torfield Gardens, Eastbourne, was a fairly good second, his best being of the Queen family. The next class, viz., that for six blooms of one variety, produced a keen competition. The first place was worthily accorded to Mr. H. Brown, The Gardens, Basingstoke, Hants, for superb flowers of Mons. Babuant, very large, perfect in form, and of deep colour. Mr. Jupp followed with excellent ones of Princess of Wales, very bright and fresh.

The next class, viz., that for eighteen Japanese distinct, was a particularly strong one, there being no less than fourteen entries. The first prize was adjudged to Mr. Lees in a keen competition; his stand was uniformly good, fresh and bright in colour, forming a very fine exhibit; the best flowers were those of Mr. G. Bryceson, after Etoile de Lyon, but of a much deeper shade, being more of a plum colour; Vivand Morel, extra good; Charles Davis, Florence Davis, pure in colouring; Mrs. Falconer Jameson, Edwin Molyneux, richly coloured; Mme. E. Carrière, a fine white; Sunflower, W. H. Lincoln, and Col. W. B. Smith. The second prize went to Messrs. W. and G. Drover, who had an even lot of blooms; Mr. Wheeler, Col. W. B. Smith, and Lord Brooke, extra fine, were the best. For twelve Japanese varieties, Mr. Tickner, The Gardens, Sherburn House, Reigate, was placed first, there being thirteen entries. The premier lot was very bright in colour, even in size, and in other respects excellent, the best being Lord Brooke, a splendid flower; Vivand Morel, W. H. Lincoln, Col. W. B. Smith, President Borel, Mlle. Marie Hoste, Mr. Felgate, who was second, also showed well; his best blooms were those of Col. W. B. Smith, Mlle.

Marie Hoste, W. H. Lincoln, and Louis Boehmer. With six blooms of one variety of Japanese, Mr. Macdonald, The Gardens, Clanna, Lydney, Glos., was placed first with extra fine blooms of Edwin Molyneux, grand in size and perfect in finish, the second award going to Mr. Felgate for Col. W. B. Smith, the blooms large, full and bright; the third lot was grand flowers of Vivand Morel, and the fourth very excellent ones of Stanstead White; in this class there were seventeen entries.

The best eighteen reflexed, including those of the Japanese section, came from Mr. Salter, The Gardens, Woodhatch Lodge, Reigate. These were large and very bright, the selection being excellent; the best were Mme. Darquier, Ernest Asmils, a fine chestnut colour; Mrs. Sullivan, Edwin Beckett, Rosy Morn, a pretty blush; J. Shrimpton and Wm. Seward, dark velvety crimson. The second best came from Mr. Felgate, who had good blooms of Criterion, Mons. W. Holmes, President Hyde, a golden yellow, and Val d'Andorre. Mr. Salter was also first for eighteen Anemone and Japanese Anemone-flowered varieties—a class in which he always excels. His exhibit was an excellent one, the blooms staged being in true character. The finest were Delaware, a fine flower with white guard petals and a yellow cushion; Sabine, a yellow self; Sœur Dorothee Souille, very pretty; Grand Alvéole, blush; Mons. Lebosqz, extra good, and Acquisition, pale pink. Mr. Milner, The Gardens, Willenhall Park, Barnet, was a capital second, his best being Mons. Pankoncke, dull red, large; Mme. R. Owen, pure white, and Mons. Lebosqz. With twelve pompon Anemones, Mr. Salter won again, having the best sorts in first-rate condition; one of the very best of these was Bessie Flight, deep pink, with golden cushion. Regulus, bronze-red, Mme. Sentir, white, and Mme. Montels, white, with yellow centre, were also excellent. Mr. H. Harris, Denne Park Gardens, Hordsham, was a good second with similar varieties. With twelve pompon varieties, Mr. Knapp, Chichester Road, Croydon, was first with extra large and fine blooms, the finest of which were Florence Carr, bronze; Mlle. Elise Dordan, and Pearl Beauty, a deep crimson-claret colour, and Golden Mme. Marthe. Mr. Salter was a good second, two of his best being Toussaint Mauriot and Prince of Orange. In the class for twelve Japanese Anemone-flowered the only exhibit was disqualified for containing other than those of the specified section—an oversight which could not be passed over. The one class provided for single varieties only brought out one exhibitor, but no stand of blooms in the whole show was worthier of the first prize than this. Mr. Carpenter must be congratulated upon the excellent manner in which he staged in this class, which really ought to be a more popular one. None of the Chrysanthemums are more beautiful, if they really equal these simple kinds. The dozen were Bessie Conway, Miss Crissey, Mrs. D. B. Crane, Sir T. Symons, Miss M. Wilde, Miss Mary Anderson, Rev. W. E. Renfrey, Purity, Oceana, Lady Churchill and White Jane, with another. For descriptions of these kinds reference should be made to a catalogue.

In the open class for a group of Japanese varieties only, Messrs. J. Carter and Co., High Holborn and Forest Hill, S.E., were comparatively easy winners; their group was an excellent one, containing many of the best kinds in excellent variety of colour, the plants bearing individually some fine blooms. This group was well finished off with dwarf plants in the front. The best and most noteworthy kinds were dwarf plants of Val d'Andorre and John Shrimpton; also of W. G. Childs, with taller ones of Mrs. Falconer Jameson, Vivand Morel, Colonel W. B. Smith, Mons. Freeman, Sunflower, Edwin Molyneux, Mons. Holmes and Avalanche, excellent and effective varieties for grouping. The second prize was awarded to Messrs. Mobbsy and Son, Thornton Heath, for a good and effective group. In the amateurs' class for Japanese and incurved varieties the best group by far was that from Mr. T. W. Wilks, The Gardens, Cranbrook, Upper Norwood; this was in all respects a superior exhibit, the plants bearing many large

and fresh flowers. The front was tastefully finished off with dwarf plants, and altogether very well arranged. The best examples were those of Vivand Morel, Etoile de Lyon, Val d'Andorre, Mons. Freeman, Avalanche, Florence Piercy and Sunflower, the foliage in each case being very fresh and healthy. Mr. Baker, The Gardees, Westwood House, Sydenham, who was second, had somewhat overcrowded his arrangement, but amongst these plants there were many finely developed flowers.

The best of the trained plants were the half-dozen pompon varieties shown by Mr. J. Hughes, The Gardens, Eastlands, Dulwich Village; the finest of these were the lilac, white and golden forms of Cedo Nulli, an old variety, but one not yet surpassed in its section for specimens. Another good sort in this exhibit was Maroon Beauty, a rich shade of colour. These plants all bore very fine flowers in profusion. The second prize exhibit was smaller plants hardly so well in flower. For six Japanese varieties and for six incurved varieties, Mr. J. Hughes was first somewhat easily in each instance. The former were of the two the finer; the best of these consisted of extra good plants of Source d'Or, Margot, Vivand Morel and Mme. B. Rendatler, all dwarf and profusely flowered plants. Of the incurved var., the best were Lord Wolesley, Mrs. G. Rundle, Mrs. Dixon and George Glenny, all fresh and good. In this latter class Mr. Cherry was second, Queen of England being one of his best, whilst in the former class Mr. Wesker was second; his two best were Florence Piercy and Margot, being in all a good lot of plants. For twelve standards in variety, Mr. W. Carr, The Gardens, Croydon Lodge, Croydon, was placed first, the plants bearing large heads full of flower, the finest being Source d'Or, Elaine and Margot, all first-rate, with Mrs. Dixon and Alberic Lunden also in good form. The second prize was awarded to Mr. G. H. Cooper, Sydenham Road Nursery, Croydon, who pressed very closely upon the first in every way; the best here were Mme. Lacroix, Mlle. J. M. Pigmy, St. Michael and the Rundle family.

The best new variety, to which allusion has already been made, was Mme. Thérèse Rey (Jap.). It is a pure white, with broad petals, beautifully reflexed, the centre having a faint pale yellow or lemon colour. This was shown by Mr. Shea, Foot's Cray, Kent, and was most deservedly awarded a first-class certificate. It is of medium size, and should form a good show flower. From the same source came another new variety named Miss Dorothy Shea (Jap.), with long drooping petals of a dark chestnut colour, the build of the flower somewhat loose, which in the eyes of many would be a charm rather than otherwise. Mr. Godfrey, of Exmouth, exhibited Beauty of Exmouth (Jap.), a beautiful white, with long petals curled and twisted, the flowers large and full, after Avalanche. To this a first-class certificate was also awarded. No other Chrysanthemum received any award save a very promising looking pompon (presumably a sport) named Florence Carr, in colour a deep bronzy red, of large size, fine substance, and a dwarf habit of growth. It stood out distinctly in a competitive class, being there staged by another exhibitor. A large group of cut flowers, consisting chiefly of decorative varieties (singles, Japanese, and reflexed predominating) with a few large blooms, was shown by Mr. Wells, Earlswood, Redhill. This was a good selection, illustrating the decorative value of the Chrysanthemum. Messrs. J. Laing and Sons staged a group of decorative stove and greenhouse plants and a few good Chrysanthemums; of the latter, Lord Brooke (Jap.) was one of the best, and of the former there were Dracena Doucetti, the new Strobilanthes, the best of the Bertolonias (viz., B. van Houttei, Mme. Auguste van Geert, Ed. Pynaert, and alba punctata), with Sonerila Mme. de Warelles (Mme. Wallers of catalogues?). Fuchsia triphylla, a pretty species, and a few good Orchids were included. Mr. Godfrey received a certificate for Carnation Mary (Tree var.), with pure white fragrant flowers; and Messrs. W. Cutbush and Son showed Carnation Mrs. Leopold de Rothschild, a

very free deep rose-pink variety of dwarf growth, excellent for autumn and winter use.

A full prize list will be found in our advertisement columns.

NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 7, 8, 9.

THE finest exhibition of recent years was held on Tuesday and two following days at the Royal Aquarium, Westminster, and those responsible for the management of the society must be congratulated. As a rule the flowers were of exceptional merit, the Japanese varieties in particular, and every class almost we think without exception was well filled, in some cases the competition being remarkably keen. We were pleased to see new departures from the present style of showing, and an exhibit not for competition from Mr. Jones, of Lewisham, consisted of bold bunches of blooms tastefully arranged in vases, showing the Chrysanthemum as a flower for cutting and decoration. The classes for such flowers as the singles and Anemone pompons were better represented than on any previous occasion, and the less ambitious exhibitors, such as in the metropolitan area, were present in force. It was not an exhibition of a few big classes, but a thoroughly good all-round display.

Cut Blooms.

These formed the chief feature, and it was interesting to see how the new kinds came to the front, such as Colonel B. Smith, J. Stanborough Dibbens and others we have mentioned in the report. In fact the whole complexion so to say of this class has changed within the past three or four years, and a more incurved type of bloom risen in the place of the older and, to us, more graceful flowers. They are now altogether more massive and solid. One great class represented a national competition of Chrysanthemum and Horticultural Societies, members of each society contributing blooms. St. Neots Society won the challenge trophy and £10 offered as the first prize, the flowers to consist of forty-eight blooms, twenty-four incurved and twenty-four Japanese, distinct. The blooms were contributed by one grower, Mr. R. Petfield, gardener to Mr. A. J. Thornhill, Didlington, Hunts. As we thought it would interest our readers, we give the names of the blooms, and of the Japanese very fine were, Mr. E. C. Clarke, Avalanche, C. H. Wheeler, Primrose League, Mrs. Briscoe Ironside, Vivand Morel, G. C. Schwabe, Sunflower, W. W. Coles, Mlle. Marie Hoste, Alberic Lunden, Eda Prass, a lovely flower, white, flushed with rose; C. Davis, Waban, rose, the petals curled; E. Molyneux, W. Tricker, J. Dyer, Pelican, W. H. Lincoln, Gloire de Rocher, Mrs. Hubback, Mrs. Ilmaran Payne, Violet Rose, and Lord Brooke. The finest incurved were M. R. Bahuant, Empress of India, C. W. Whitnall, deep crimson-purple; Princess of Wales, Lord Wolesley, J. Lambert, Violet Tomlin, Mrs. Robinson King, Ami Hoste, Queen of England, Alfred Lyne, Novelty, Baron Hirsch, Jeanne d'Arc, Alfred Salter, J. Doughty, Mme. Darrier, Golden Empress, R. Petfield, Mrs. Heal, Prince Alfred, Brookleigh Gem, deep rose, tipped with white; and Miss Haggas. The Havant Chrysanthemum Society was second, the flowers contributed by Mr. J. Agate, Havant, and the Sittingbourne Association third. We may mention that, as a rule, the incurved blooms throughout the show were rather rough. They were scarcely fully expanded. The next two important classes were those in which the first prize in either case consisted of a Holmes Memorial challenge cup and £10. In one case it was for thirty-six incurved blooms, distinct, and the first award was gained by Mr. W. H. Lees, gardener to Mr. F. A. Bevan, Trent Park, New Barnet. His flowers were creditable, especially the Queen family, Mme. Darrier, M. R. Bahuant, Mrs. Robinson King, Chas. Gibson, Lord Eversley, Violet Tomlin, R. Cannell, and Mrs. Norman Davis; whilst the second prize went to Messrs. W. and G. Drover, Farcham, Hants, and the third to Messrs. W. Ray and Co., Mount Pleasant Nursery, Teign-

ham. The other class was for forty-eight Japanese, and a superb collection was staged by Mr. Herbert Fowler, Taunton, the competition being very strong. Especially fine were J. Stanborough Dibbens, Miss Annie Hartshorn, Sunflower, Etoile de Lyon, E. G. Hill, yellow; Miss Dorothy Shea, orange and yellow; Thos. Hewitt, white; Van der Heede, the florets fluted, reddish orange, light buff reverse; Raffello Marshaletta, a Comte de Germiny type of flower, broad florets, deep old gold colour, with inner face crimson; Mlle. Thérèse Rey, and G. C. Schwabe. These were a few of the newer kinds we made note of. A very good second was Mr. Chas. Cox, gardener to Mr. J. Trotter, Brickenden, Hertford. W. Seward, Mrs. J. Fogg, rich yellow, and Beauty of Exmouth were remarkably good. Mr. Chas. Gibson, gardener to Mr. J. Wormald, Morden Park, Surrey, and Messrs. W. and G. Drover were third and fourth respectively.

Four important classes besides those above mentioned were set apart for the incurred blooms. The largest was for twenty-four blooms distinct, and again Mr. W. H. Lees was the most successful. We need not mention names, as the leading kinds were represented. Mr. C. W. Knowles, gardener to Mrs. C. Egerton, Solna, Roehampton, was second, and Messrs. W. Ray and Co. third. A very successful exhibitor was Mr. W. Collins, gardener to Mr. J. W. Carlile, Ponsbourne Park, Hertford, who had the best incurred, especially fine being Mme. Darrier; Mr. A. Felgate, gardener to the Duchess of Wellington, Burhill, second, and Mr. B. Calvert, Bishop's Stortford, third. We greatly like the classes for six flowers of one kind. The best half dozen incurred blooms came from Mr. W. Collins, who had Mrs. Heal; Mr. J. Hewitt, gardener to Mr. H. B. Mackeson, Hillside, Hythe, second with Lord Alcester, and Mr. B. Calvert, third, with Violet Tomlin.

Another very important class was for twenty-four Japanese blooms; the first prize, a silver cup, value five guineas, and £4, the cup being given by Major A. Collis Browne, Broad Oaks, Blyfeet. There were no fewer than sixteen exhibitors, and the winner of the premier award was Mr. W. Higgs, gardener to Mr. J. B. Hankey, Fetcham Park, Leatherhead. The flowers were superb, and we singled out as of remarkable merit Col. B. Smith, G. C. Schwabe, Beauty of Castle Hill, Falconer Jameson, Eda Prass, J. Stanborough Dibbens, and G. W. Childs; a capital second was Mr. W. H. Lees; Mr. H. Shoesmith, gardener to Mr. M. Hodgson, Shirley, Croydon, and Mr. W. Collins, third and fourth respectively. Twelve of the finest Japanese flowers we have seen for a long time were put up by Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich. Again the competition was tremendous; Mr. Felgate was a good second. In both cases the newer and larger-flowered kinds were shown. Several classes were for a smaller number. For six Japanese white, Mr. W. Collins was first, and also in the following class for six of any colour except white. He showed Edwin Molyneux. Mr. H. Shoesmith was second with Col. B. Smith, and Mr. Felgate third with the same variety, showing that it has got popular. Another class was for six Japanese incurred, the first prize going to Mr. W. H. Lees. As there is a little question as to this type we give the varieties, which comprised Col. B. Smith, W. Tricker, Mme. Carrière, E. Molyneux, W. H. Lincoln, and Mrs. Alpheus Hardy. An interesting class was for twelve Japanese blooms, distinct, put into commerce in this country in 1891 or 1892. The first prize was won by Mr. W. J. Godfrey, Exmouth, who showed Miss Dorothy Shea, Charles Blick, Duchess of Devonshire, Lizzie Cartledge, Aureole Virginale, broad white florets; John Farwell, deep crimson, buff reverse; Pearl Beauty, white; Van der Heede, Primrose League, white; Mrs. Harman Payne, Princess May, blush-white; and Lilian Russell, bright rose-purple. Mr. H. Shoesmith was second, showing amongst others Eda Prass, fine broad petals, blush-white, and the beautiful Mlle. Thérèse Rey. Mr. H. Fowler was third, Beauté Toulousaine, crimson, old gold reverse, being conspicuous in his collection.

The next group comprised the reflexed, pompons and other classes. We were pleased to see such a fine display. The large reflexed class was well represented, and the finest blooms were from Mr. F. J. Thorne, gardener to Major Joicey, Sunningdale Park. They included Cloth of Gold, the Christines, Cullingfordi, King of the Crimsons, Phidias and Putney George; Mr. A. Sturt, gardener to Mr. Cohen, Englefield Green, second. It is not often one sees better blooms. The large-flowered Anemone class is one of the most difficult of all to get in perfection, but the flowers on this occasion were splendid. As usual, the first prize went to Mr. Ives, gardener to Mr. E. C. Jukes, Hadley Lodge, Barnet. We give a few of the best kinds, including Jeanne Marty, Mons. Pankoncke, Le Deuil, Mlle. Cabrol, Sabine, James Weston and Fabias de Maderanaz, sometimes labelled Fabian de Mediana. Mr. R. C. Noteutt, Broughton Road Nursery, Ipswich, was second. Besides the Japanese class there was one for the large Anemone, in which Mr. Ives was again the most successful with fine blooms of Delaware, Beauty of Eynsford, rose-purple; Gladys Spaulding, Grand Alvéole, rose; Lady Margaret, Acquisition, Mlle. M. Brun, very high centre; Mrs. Judge Benedict, Gluck and Annie Lowe, rich yellow centre, white outer florets. The delightful little Anemone pompons were well shown by Mr. Jas. Myers, gardener to the Earl of Sandwich, Hinchinbrooke, who was first for twelve, three flowers of each variety. Marquise de Croix, Mme. Montels and Astrea were conspicuous. Mr. Chas. Brown, gardener to Mr. R. Henty, Langley House, Abbott's Langley, was first for twelve pompons. The blooms were to be shown with foliage, and the usual kinds were exhibited. To us one of the most interesting classes in the show was that for twelve singles, the silver-gilt medal going to Mr. W. C. Pagram, gardener to Mr. A. F. Hobhouse, The Whin, Weybridge. The varieties were Jane and Yellow Jane, David Windsor, Admiral Sir T. Symonds, Mlle. Agate, Gus Harris, Lady Churchill, Rev. W. E. Renfrey, crimson; Scarlet Gem, Bessie Conway, white, tipped with rose-purple, and Mary Anderson.

It is impossible in the space at command to deal with every division fully, but we may briefly mention that the amateurs' classes were well filled, and the flowers of great merit. The same fine quality and freshness conspicuous in the other divisions were present here, particularly in the Japanese division. We noted as of great merit the flowers of Japanese varieties of Mr. Alfred Holmes, Gosport, and in the amateurs' division the blooms were exceptionally good. Twelve very fine Japanese flowers in the class for these came from Mr. J. Little, Romford, and six good incurred blooms from Mr. W. S. Pagram. In the division open only to those within the metropolitan area of the London County Council the flowers were excellent. The best twelve incurred were from Mr. F. Bingham, of Stoke Newington, and Mr. J. Bury, gardener to Mr. C. Bayer, Forest Hill, had the finest six, comprising Lord Alcester, Violet Tomlin, and Jeanne d'Arc of special merit. Mr. J. Brooks, Highgate, was first for twelve Japanese, and in the corresponding class for six, Mr. Bingham. The beauty and freshness of the flowers showed what a useful plant the Chrysanthemum is for culture in suburban gardens.

The table decorations were exhibited in the library, and were a feature of much interest. A very beautiful set of three vases most artistically filled with flowers and autumn foliage won Mr. J. R. Chard, of Stoke Newington, the first prize in this class; and the best table of bouquets, wreaths, &c., came from Messrs. Perkins and Sons, Coventry, who had many lovely things.

Several special prizes were of great interest. Mr. E. C. Jukes offered prizes for twelve incurred blooms to encourage the culture of the smaller and beautiful type such as Mrs. Rundle. Many kinds were therefore excluded. The premier award went to Mr. Robert Petfield, who had good flowers of Eve, Mabel Ward, Geo. Glenny, and Mrs. Shipman; Mr. W. H. Lees second. Another special prize class was for Mr. H. J. Jones' prizes for six blooms of seedling Chrysanthemums sent out

in 1893. Mr. W. J. Godfrey was first, he showing well Miss Dorothy Shea, Mrs. Harman Payne, Beauty of Exmouth, Van der Heede, Golden Wedding, red, silvery reverse, pleasing; and Pearl Beauty. Mr. W. H. Fowler was a good second. Mr. Owen, Maidenhead, also offered two prizes, one for twelve blooms of not less than four varieties of the six incurred kinds distributed by him in 1893, these being Baron Hirsch, Brookleigh Gem, George Cockburn, Henry Perkins, Lucy Kendall, and Mrs. Mitchell. Mr. J. Agate had the best flowers. Mr. W. J. Godfrey, Exmouth, Devon, offered prizes for six blooms of Beauty of Exmouth, the finest coming from Mr. C. Ritchings, gardener to Dr. Franklin, The Yews, Reigate Hill.

Plants.

Eight classes were set apart for plants, the majority of the usual trained specimen style. The finest group arranged for effect, and to consist of any varieties, came from Mr. H. J. Jones, Hither Green Nursery, Lewisham, the first prize, a silver-gilt medal and £10; whilst Mr. Norman Davis, Camberwell, was second. The best six trained specimens, large-flowered varieties, including Japanese, were from Mr. D. Donald, gardener to Mr. J. G. Barelay, Leyton. They were very fine, and the varieties Mme. B. Rendatler, White Christine, Margot, Dr. Sharpe, Gloriosum and Stanstead Surprise. Another well-known prize-winner, Mr. John Hughes, gardener to Mr. G. R. Higgins, Eastlands, Dulwich Village, was second. Four excellent trained specimens, any varieties, came from Mr. G. W. Hendon, Tottenham Park Gardens, Tottenham. Mr. W. Davey, gardener to Mr. C. C. Paine, Cedar House, Stamford Hill, was first for six, having amongst others the beautiful reflexed variety Elsie and a fine plant of Mme. B. Rendatler. Mr. J. Hughes had the best six trained pompons. From Mr. D. Donald came a splendid single pyramidal specimen of Margot, which won him the premier award in this class. Special prizes were offered by Mr. G. C. Paine for plants little trained, the abundance of bloom the chief consideration. Mr. F. Gilks, gardener to Mr. W. E. Frier, Walthamstow, was first. We are pleased to see that this class was not unrepresented. Mr. E. Vince, Highgate, was second.

Fruit and Vegetables.

The fruit staged was remarkable for its good even quality. Though there were only about a dozen classes, there was a strong competition. Grapes were remarkably good, those shown consisting chiefly of Alicante and Gros Colman. Vegetables maintained their high standard, there being no less than eight very fine lots for the special prizes awarded. Miscellaneous collections of fruit and vegetables from the leading growers were also staged in quantity. For six dishes of dessert Apples, Mr. T. Turton, Maiden Erlegh, Reading, was first with a very good even lot of highly coloured fruit, having very good dishes of Ribston Pippin, Cox's Orange, Adams' Pearmain, and Cockle Pippin. Mr. C. Ross, Welford Park, Newbury, was a close second with fine examples of Baumann's Reinette and Cox's Orange. For six dishes cooking Apples the same exhibitors took the awards in the order named, Mr. Turton's fruit being noticeable for high colour. Mr. Ross had fine Baldwins and Lane's Prince Albert. There was less competition for Pears, showing the effect of the season, the fruit keeping badly. Mr. W. Allan, Gunton Park, Norwich, was first with General Todtleben, Baurré Diel, Glou Morceau, Doyenné du Comice (very good), Durondeau, and Josephine de Malines. In the white Grape classes, any variety, there were only three competitors, Mr. C. Griffin, Kingston-on-Thames, being first with Muscat of Alexandria, the bunches of medium size and the berries well coloured; second, Mr. J. Bury, Tewkesbury House, Forest Hill, with larger bunches of the same variety, but a little past their best. In the class for three bunches of Alicante there were seven lots staged, and all of high quality; here Mr. Griffin secured the premier award with bunches grandly coloured, the berries large. Mr. Allan was second with larger bunches, but more irregular,

having larger shoulders. For three bunches of Gros Colman there were six lots staged, but some of the bunches were badly coloured. Mr. J. Bury was a good first with long tapering bunches nicely finished. There was no competition for the new Grapes Lady Hutt and Appley Towers; this was unfortunate, as these are really good varieties worth extended cultivation. Chasselas Napoleon was staged in nice condition by Messrs. Cutbush, Highgate.

There were eight competitors for Messrs. Sutton's prizes for a collection of vegetables (nine varieties). Mr. Pope, Highclere Castle Gardens, Newbury, secured the first prize, having very fine Sulham Pink Celery (best in show), Student Parsnip, Supreme Potato, Exhibition Sprouts, Ailsa Craig Onion, Prizetaker Leek (very fine), Intermediate Carrot, and Autumn Mammoth Cauliflower of splendid quality. Mr. Waite, Glenhurst Gardens, Esher, was only a point or two behind the first lot. His Carrots and Turnips were remarkable for their colour and symmetry. Some grand Duchess Peas were in this collection—the only lot staged. There were nine exhibitors in the class for twelve dishes of Potatoes, Mr. J. Simkins, Hitchin, being first with tubers of grand quality. In the class for six dishes, Mr. Simkins was again to the front, having perfect tubers. For Messrs. Fidler's prize for six varieties, Mr. Ridgwell was first. In the above collections such varieties as The Canon, Victory, Lord Tennyson, Snowdrop, Windsor Castle, Reading Giant, Satisfaction, Pink Perfection, Robust, Viceroi and The Dean were mostly staged. Messrs. Sutton, Reading, had some fine tubers in quantity of their new Supreme, a variety of great promise; also Abundance, Windsor Castle, Triumph and Satisfaction. Messrs. Cannell, Swanley, had a very large collection of vegetables, including over 100 dishes of Potatoes of the leading varieties. Messrs. Fidler, Reading, showed their Colossal Potato. Messrs. Cutbush, Highgate, sent a collection of Apples and Pears, including good dishes of Doyenné du Comice, Beurré Diel, Beurré Bachelier, Bergamote d'Espérance, Chaumontel and Catillac Pears; good Warner's King, Royal Jubilee, Gloria Mundi, Ribston, King Pippin and Blenheim Apples and a new seedling Apple. Mr. Bewnck, Sidmouth, had 100 dishes of Apples and a few Pears of well-known kinds. Messrs. Laing, Forest Hill, had a large collection of Apples and Pears. Among the Apples were nice dishes of Sandringham, Lord Derby, Court of Wick, Fearn's Pippin, Royal Russet, Queen, Gloria Mundi, Lane's Prince Albert, Striped Beefing and others.

Miscellaneous.

The groups and collections not for competition were of much interest, but we can, unfortunately, only briefly refer to them. The flowers from Mr. H. J. Jones, so boldly arranged and comprising many of his best and newest kinds, were a leading feature. We hope others will follow this example. A large collection came from Messrs. H. Cannell and Sons, Swanley, comprising a noble series of the best Pelargoniums in bunches, Improved Rampion, a superb double crimson, and New Life, crimson and white, being of note, besides a series of new Chrysanthemums, seedlings and named kinds, which we shall again refer to. Mr. W. Wells, Earlswood, near Redhill, had a fine collection of Chrysanthemums; also Mr. J. Smith, St. Leonard's Road Nursery, Windsor, the Japanese variety Royal Windsor being of note, the flowers creamy white, with yellow centre, a very beautiful decorative variety. Mr. W. E. Boyce, Archway Road, Highgate, had a large selection, many of them most promising seedlings. Messrs. J. Laing and Sons, Forest Hill, also showed Chrysanthemums in variety, and Mr. Godfrey, flowers of Beauty of Exmouth, besides others. An interesting exhibit was that from Mr. R. Owen, comprising a number of fine English seedlings and such incurved sorts as Vice-president Jules Barigny, The Bride, white, and Robert Petfield, purple. Bride of Maidenhead seems likely to prove an acquisition. The flowers are of the Japanese class and pure white. Besides Chrysanthemums, Messrs. Cutbush and Son, of Highgate, and Messrs. E. D. Shuttleworth, Pockhampton, had Crotons, Ericas and similar plants; in

both cases the groups exceptionally good. A bright effect was produced by the group consisting chiefly of Orchids from Messrs. B. S. Williams and Son, Upper Holloway.

The floral committee of this society held a meeting on the 8th inst., being the second day of the Aquarium show, instead of the first, as heretofore. Mr. R. Ballantine presided, and the meeting, which was fully attended, was one of the busiest in the history of the society. The percentage of high-class blooms was rather lower than on former meetings during this season, and the awards were consequently fewer than we expected, which shows the committee exercised a very judicious discrimination. The mid-November meeting is always a busy one, and more certificates are generally awarded then than at any other, and of course it is only right and proper that a tight hand should be exercised when the quality is not forthcoming.

There were some very fair specimens shown which almost succeeded in obtaining a favourable award, and the voting in these cases were very close. The best of the unsuccessful flowers were Miss Sturgis, a large white Japanese with curly and fluted petals; Good Gracious, a curious tubulated petalled Japanese of light mauve colour; Mrs. H. J. Jones, a very long-petalled Japanese flower with rosy outer petals and deep golden ones towards the centre, all of which the committee asked to see again. A commendation was bestowed upon Florence Carr, a pretty compact pompon with deep orange-bronze blooms. Other good flowers submitted were Mrs. James Myers, a big white incurved Japanese; Mrs. Cox, a crimson sport from M. Bernard; Ernest Gaille, a charming soft yellow-buff Anemone, with a capital centre; Sautel (1893), a hairy incurved Japanese, purple inside, with pink reverse; Lady Saunders, a Japanese with long petals, very delicate shade of pale yellow; Bride of Maidenhead, a white Japanese, almost identical with Avalanche, and a few others.

First-class certificates were awarded to the following:—

GOLDEN WEDDING.—A clear golden yellow Japanese with incurving petals. Exhibited by Mr. Godfrey.

ELSIE NEVILL.—A pretty single-flowered Japanese, with long crimson florets. Raised and shown by Mr. W. Seward.

MRS. C. J. SALTER.—A small Anemone, self-coloured, rosy golden buff. Sent by Mr. W. Wells.

G. W. CHILDS.—The well-known bright crimson Japanese from America. Exhibited by Mr. H. J. Jones.

COL. CHASE.—A remarkably fine Japanese, with long, narrow and fluted florets, pale blush outside, centre shaded deep yellow. Raised and exhibited by Mr. E. Beckett.

ROSE WYNNE.—A large pale blush Japanese flower with massive florets. A seedling of Mr. Owen's, who also staged it.

W. W. ASTOR.—A large Japanese Anemone, long flat guard florets, tinted blush, high disc, golden rose. Also one of Mr. Owen's.

JOHN BUNYAN.—A wonderfully distinct yellow Japanese Anemone; the guard florets are very fine, and the build of the flower is perfect. From the same exhibitor as the two preceding.

There were two French exhibitors, M. Charles Ballet, of Troyes, whose blooms were hardly suitable when judged by an English standard, and M. Ernest Calvat, who sent a dozen very interesting novelties, four of which the committee requested to be sent again. Messrs. Cannell and Sons, Mr. Godfrey, Mr. H. J. Jones, and Mr. Owen also contributed some important collections.

A few miscellaneous exhibits, such as Apples, Carnations, &c., were also staged.

At the next meeting of the general committee on the 20th inst. Mr. Charles E. Shea will read a paper entitled "Judging Chrysanthemums."

Royal Horticultural Society.—The next fruit and floral meeting will be held in the Drill Hall, James Street, Victoria Street, West-

minster, on Tuesday, November 10th, when special prizes for Chrysanthemums will be offered. At 3 o'clock Mr. R. Parker, F.R.H.S., will deliver a lecture on "Chrysanthemums."

The Floral Sketch Book.—The council of the Royal Horticultural Society have granted special permission to Mr. John Weathers, assistant secretary, to publish his plant sketches. Mr. Weathers proposes to publish under the above title five large drawings each month of new, rare, or interesting plants. Each plant figured will be fully described, and historical and cultural notes will also be given. The first number will be ready by January 6, 1894, and the price will be 1s.

The weather in West Herts.—The past week proved cold and dry. On Saturday night the exposed thermometer showed 9°, on Sunday night 7°, on Monday night 8°, and on Tuesday night 9° of frost. The temperature of the ground at 2 feet deep has fallen 3°, and at 1 foot deep 7° since Saturday last.—E. M., *Berkhamsted*.

The Manning testimonial.—After a consultation with Mr. Manning, the disposal of the fund subscribed has been resolved on as follows: To present Mr. Manning with a dining-room suite and clock with ornaments to match, also an illuminated address. The final presentation will await Mr. Manning's return to London in the course of a few weeks.

Epilobium latifolium.—I have grown this plant for many years and it seems to do well. The position that suits it is a north border, prepared for Morello Cherries. I shall have much pleasure in supplying "E." with plants. It is, as described by your correspondent, a low-growing creeping plant, producing large flowers in proportion to the size of the plant.—WILLIAM INGRAM, *Belvoir Castle Gardens*.

Anthracite coal.—Will any of your readers who have used anthracite be kind enough to state their experience with it as a substitute for coke for heating hot-water apparatus? Also how it compares in price and heating powers.—G. H. B.

Names of plants.—J. Taylor.—1 and 2, Aster Nova-Engliæ, red and purple forms; 3 and 5, apparently forms of *Novi-Belgii*, which are numerous; 4, *longifolius formosus*; 6, *versicolor* (dwarf var.); other good kinds are *Amellus*, *acris*, *elegans*, *punicens*, *pulcherrimus*, *versicolor* (tall var.), *paniculatus*, *tataricus*, *Novi-Belgii* Robert Parker, N.-B. *Arcturus*, and N.-B. *Purity*, the best white.—Ernest Clark.—*Bous-singaultia baselloides*.—Eustace Clark.—The *Alonsoa* is *A. incisa*; the *Sedum* is *S. Ewersi*; others next week. In sending plants for naming please affix numbers.—W. Herrington.—*Dahlia glabrata*.—G. Thomson.—1, *Cattleya labiata*; 2, *Epidendrum stenopetalum*.—John.—1, apparently one of the New Zealand *Ti Trees* (*Dracana* species); 2, not recognised; 3, *Polygala Dalmaïana*; 4, past recognition; 5, *Kalosanthes coccinea*; 6, next week.

Names of fruit.—Fellones.—Not known, worthless.—H. Todhunter.—Jersey Gratioli.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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All of our readers who are interested in the improvement of cottage homes are invited to help us to make **Cottage Gardening** known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, B.C.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ORCHARD AND FRUIT GARDEN.

TREATMENT OF OVER-LADEN FRUIT TREES.

If the laudable practice of pruning orchard and fruit-garden trees were, even ever so little, followed out every year, they would not be exposed, as they have been this season, to the risk of bearing a burden beyond their strength and of being broken down by the weight of their crop of fruit, which, by the very fact of its superabundance, is rendered less attractive in appearance and inferior in quality. The trees feel the strain for a long time afterwards, and show that they do so by falling off in health and productiveness. However, for every disease there is a remedy, and for every effort a compensation. In the present case it is necessary to make up one's mind and act promptly. The treatment which I recommend comprises three points, viz., pruning, dressing, and feeding.

PRUNING.

In the month of September or October, before the leaves fall, prune severely, but with judgment, all the branches and shoots which have borne an excessive quantity of fruit.

The main branches should be shortened with a saw, the cut being then dressed with a knife and covered with grafting-wax or some similar preparation. The smaller branches, twigs, shoots, &c., can be pruned with the *sécateur*, a few snips of which will remove a tangle of branches here and there, while in other parts of the tree shoots are shortened back to a visible bud. None of these shoots should be cut back entirely unless this is absolutely necessary. It would be a wise precaution to tie up on the branches any shoots of the year's growth that may have been made, pruning the longest of them and leaving entire the shorter ones, which will be the first to start into growth.

The Apricot, the Plum, and the Pear are the fruit trees which most of all have produced the heaviest of these abnormal crops. The Cherry tree is an exception as regards the treatment advised, as, no matter how abundant a crop it may bear, the tree does not suffer severely from it. Two or three months' rest in autumn suffices to recuperate it before winter comes on.

The Apricot freely produces shoots on the old wood; but this is no reason for cutting back large, badly furnished branches too far, as the new shoots would be produced in an irregular manner, and would probably perish in their first season from gumming or scorching. A certain number of the larger branches should be cut back and the shoots on them shortened above a visible bud. There is hardly any district except the south of France where one can safely subject the Apricot, the Almond, and the Peach tree in the open air to any severer mode of pruning. I write especially of the tree in the open air, whether it be a tall standard, half-standard, or dwarf-trained subject.

The Plum tree should retain the greater number of its fruiting shoots, while its main

branches are reduced in length. It should be borne in mind that latent buds are of less frequent occurrence in fruit trees of this class. The Plum tree presents an advantage which we also find in the Pear tree and the Apple tree, namely, that of replacing, by grafting, any of the main branches that may have been broken off or mutilated by accident or otherwise. In the case of the Plum tree the mode of grafting which I recommend is cleft-grafting in autumn before the sap has gone to rest. An opportunity is thus afforded for substituting a new variety on the tree if a better kind of fruit is desired. Should this autumn grafting happen to fail, the operation may be repeated in the following spring, when either cleft-grafting or crown-grafting may be employed. The cutting away of the old branches of the tree should be postponed until the sap has commenced to rise, and it should be done by degrees in proportion as the growth of the scions increases.

Pippin-seeded fruit trees, such as Pear trees and Apple trees, should be pruned more severely and always in autumn, and care should be taken not to cut away any of the fruit-bearing wood. It is advisable to cut a very narrow notch in the bark just above a weak shoot or above an eye or bud lying dormant under a wrinkle in the bark. Instead of the notch above the bud I have succeeded by making a longitudinal incision below the cushion or swollen base of the bud, and this simple longitudinal incision is equally applicable in the case of weak shoots and fruit-spurs that have been exhausted by bearing a heavy crop.

DRESSING.

This consists in brushing and cleaning the over-ground parts of the trees. With a rough brush or a scraper clear away the Moss, Lichens, scales, and old bark which are hurtful to the trees and also serve as hiding-places for insects, and thoroughly clean out all the cavities, crevices, and scars. The stem and branches having been thus refreshed, a washing completes the operation. For this purpose a mixture is prepared consisting of lime-wash with the addition of some copperas (or sulphate of iron) and a small quantity of ochre or putty's clay, and applied to stem and branches with a brush or a soft pad.

In addition to the preceding operations, I recommend that the soil around the neck of the root of the tree should be removed for a distance of from 3 feet to 4½ feet from the tree, and to a greater depth as the distance from the tree increases, uncovering the main roots without cutting or bruising them.

FEEDING.

Fill up the space round the tree from which the soil has been removed with a compost of good soil, rich in vegetable matter, and which has been raked, or collected with a hoe, from the surface of the kitchen garden or the flower garden or under trees. If possible, add to it some fermentable materials, preferably such as are produced by making a heap of night-soil, river sand, dead leaves, rags, cleanings of ponds and of cattle sheds, animal or vegetable refuse broken or chopped up small; in fine, all the elements which may be wanting in the natural soil. Moreover, do not hesitate to water copiously with liquid manure.

This three-fold mode of treatment should be carried out without any great interval between its several divisions and before the end of winter. In the ensuing spring, as soon as the sap commences to flow, it will not be amiss if the soil around the trees is broken up, in order to expose it to the influence of the atmosphere,

and any trifling omissions in the pruning which may have come under notice should also then be rectified.

CHARLES BALTET.

Troyes.

APPLES FOR MARKET.

"W." (p. 317) gives valuable advice on this subject. I should like to add the names of a few other sorts that I have found useful for market. In the southern part of Hants, where there is a brisk demand for good Apples, Devonshire Quarrenden is the first sort ready for sale. In spite of the quantity obtained from old trees in the neighbourhood, the fruit readily fetches 7s. per bushel. It succeeds best as a standard, and where the soil is light it grows and bears uncommonly well. Although Irish Peach is so highly spoken of as an early dessert Apple in private gardens, it is almost useless as a market kind, as it lacks colour, is soft, and not suitable for travelling. Red Astrachan is a deserving kind, and should be planted largely where there is a demand for early fruit. Lady Sudeley cannot fail to sell well, the rich streaks of colour on the yellow base rendering it very attractive. Beauty of Bath can hardly fail to be a success; its taking appearance is sure to be a guarantee of a ready sale. Benoni should be planted largely; it comes into use just at a time when dessert varieties are scarce, the earliest kinds being past, and such as Worcester Pearmain, King of Pippins, and Blenheim Orange not ripe. The last-named finds a ready sale. Everyone seems to understand the quality of this old favourite. For giving a quick return, Blenheim Orange is not to be recommended perhaps, but those that can afford to wait a few years will reap a good reward, as when this sort becomes thoroughly established it seldom fails to give an annual crop. "W." does not mention Cox's Orange Pippin; with me this is the best market Apple, and the highest price is realised. It is a sure cropper on either the Crab stock, as a half-standard or as a free-growing bush worked on the seedling or free stock. Cockle Pippin is highly thought of in this neighbourhood, and no trouble is experienced in effecting a ready sale for all the good fruit of it. Baumann's Red Reinette promises to make a good market Apple; its rich rosy cheek is sure to sell it. Lady Henniker sells well; fruiterers like the firm character of the fruit in November; the tree is, however, rather a shy bearer. All the above belong to the dessert section. Amongst varieties of kitchen Apples Lord Grosvenor is by far the best early kind; in our strong soil it is far superior to Lord Suffield, and high prices can easily be had for good fruit in the early part of August. Warner's King is perhaps the best of all sorts here; not only is it a sure cropper, but the immense fruit that the trees annually produce sells readily. Golden Spire is another belonging to the Codlin type that is worthy of note. The fruit is large, the colour a rich golden yellow when ripe; the tree annually bears freely. New Hawthornden finds a ready sale and bears freely. Stirling Castle has but one fault that I know of: it bears so freely that its growth is impeded, otherwise it is one of the best. I, like "W.," am much in favour of Bramley's Seedling, the trees bear so freely in any form and when young; as a standard it ought to be largely planted where it is intended to crop the ground underneath. The natural habit of growth renders very little pruning necessary. I do not think that anyone need be afraid of planting Apple trees largely if he will select suitable kinds that will succeed in the soil, and attend well to them afterwards. Instead of planting many sorts plant many trees of a few kinds. E. M.

Grape Muscat Hamburgh.—This magnificent Grape appears to be less grown every year, owing to its colouring badly, and its tendency to shank. That these failings may be overcome, I would suggest working the Muscat Hamburgh on the Muscat of Alexandria, which has proved with me by far the best of all stocks for it. What the actual cause may be that makes Muscat of Alexan-

dria so good is somewhat difficult to state, but it influence is very striking, the bunches being very large, berries of extra size and beautifully finished, without any sign of shanking. So satisfactory has it been here, that I grafted another Muscat Hamburgh this spring on the Muscat of Alexandria, and the graft has made a splendid cane about 15 feet long with short-jointed wood and plump buds that promise to produce a few good bunches next year. It is to be regretted that the more showy, but inferior flavoured Grapes are knocking old favourites out of time. I think it more than probable that the public taste will change before long and demand really well flavoured Grapes.—W.

Apple Mannington's Pearmain.—This is an Apple of great merit and one worthy of more extended culture. It is a handsome fruit, of fine flavour, and proves a worthy companion to Cox's Orange Pippin. It succeeds best on warm sandy loam, and then it proves to be an Apple that very few people would find fault with. There is one point that I wish to refer to particularly, and that is to allow the fruits to hang on the tree as long as possible before being gathered. The tree is not a strong grower and forms an excellent espalier.—A. Y.

VINE BORDERS.

I HAVE a viney border of which is only 8 feet wide and 2 feet deep, and above ground level. What treatment will it require with regard to watering and manure to grow Muscat Grapes? Soil not heavy. What heat is required? and for how long should it be continued?—BOSTON.

* * If "Boston" had been rather less brief in his letter of inquiry there would perhaps have been a greater certainty of my remarks being of some service to him. Without fuller information as to the description of material used in the construction of the border it is scarcely possible to state when and how manure should be applied. If the border has for two or more years been fully occupied by Vine roots, then either an autumn or early spring top-dressing should be given, this taking the place of the old soil carefully forked away till the roots are reached. This top-dressing may well consist of equal parts of roughly chopped up turfy loam and nearly or quite fresh horse droppings, to every two barrow-loads or three bushels of this being added one bushel of fine mortar rubbish, preferably that obtained when breaking up old walls, one bushel of "burn-bake," or a mixture of wood ashes, fine charcoal, and charred soil, the residue of a slow garden fire or "smother," and for which Vine roots have a great partiality, 30 lbs. or rather more of bone meal, and one peck of dry soot. This with a light summer mulching of farm-yard manure will support and serve to keep the roots active near the surface, a fair amount of fertility also being washed down into the border. During the summer soot applied occasionally at the rate of an 8-inch potful to every 24 square yards of border, and either washed in by rains or with the aid of a watering-pot will do good service, as also would the same quantity of good guano. There is quite a variety of advertised manures suitable for Vines, foremost among these being Thomson's, this also being well adapted for mixing with the top-dressings. Personally I have good faith in well-diluted drainings from mixed farm-yards, but these are not generally available. There should be no fixed times for watering Vine borders, whether they are inside or outside of the house. If allowed to become dry or, say, to reach a crumbling state when tested, the Vines have already suffered from the effects of this, and the border will not readily be re-moistened. On the other hand, when water is applied to an already moist border, this may result in saturation and souring of the soil—a condition most destructive to Vine roots. Water or liquid manure ought always to be applied whenever the soil is approaching dryness, a moderate amount of water then going a long way. Muscat Grapes are among the first to show the ill effects of either too much or too little moisture in the border. In the former case the foliage changes to a sickly

yellow colour, the berries set badly and fail to attain perfection, shanking being very prevalent, while dryness and poverty generally at the roots are responsible for much early shanking and premature shrivelling of the berries. During the average summer two or three waterings are all that are needed by most outside borders, but the summer of 1893 was exceptionally hot and dry, and very much more water had, of necessity, to be applied. If Muscats are started in February, they will not require very much more heat than Black Hamburgh, Madresfield Court, Foster's Seedling and such like; but if they are started a month later, then the fire-heat may have to be turned on rather freely early during dull weather in August and September in order to have the bunches thoroughly ripe and well coloured by the end of the latter month. Temperatures usually recommended for Muscats are higher at times than they need be, and I prefer to keep to something like under rather than over the following figures: Commencing at 50° by night to 55° to 60°, another 5° being admissible with sun-heat, there should be a rise of 5° all round when the buds are bursting strongly. When in leaf the night temperature may be kept at about 60°, increasing to 65° in the daytime and from 70° to 75° with sun-heat. During the flowering period the heat should be kept at from 65° to 70° by night, 75° or rather less in the daytime and from 80° to 85° with sun-heat. After the berries are well set, lower the temperature about 5° all round, a slight gradual decrease being permissible, though not absolutely necessary up to the stoning period, or say for the next month, when the figures may well be dropped to and kept at 60° to 65° by night, 70° on dull days, and from 75° to 85° with sunshine and air. During the ripening period these figures ought still to be kept up, only much more air must be admitted, while early closing, with a view to "bottling up sunshine," must be discontinued. When fully ripe, Muscats will keep well in lower temperatures, or say from 45° to 50°, but the atmosphere must be perfectly dry.—W. I.

Apple Flanders Pippin.—The above-named excellent old Apple is plentifully distributed throughout old orchards in this district. At an agricultural meeting which I lately visited this variety was largely exhibited. Its very appearance stamps it as an excellent Apple. Its claim to extended culture does not depend upon appearance alone, as it is of fine quality, and the tree bears freely as a standard. In appearance Flanders Pippin is rather flat and angular, having several prominent ridges with a dull bronzy cheek.—A. YOUNG, *Abberley Hall*.

Flavour in Pears.—For the first time in my experience Marie Louise d'Uccle has been as melting and fine-grained as Marie Louise, but the flavour has been watery and insipid. Marie Louise d'Uccle is often referred to as being a hardy variety of Marie Louise. So it may be as far as outward appearance goes, but that is all. As a market Pear it sells well and is a profitable variety to plant, as it is a heavy cropper, the tree is a healthy grower and of very pleasing form either as a standard or bush. I could have sold any quantity of fruit this season at a good price. Flavour, as I have previously noted in *THE GARDEN*, in the case of some varieties depends largely on the time the fruits are gathered. With that hardy growing variety Maréchal de la Cour I had a pleasing experience this season, as it confirmed what I had previously expressed in an article on gathering Pears. I then stated that to bring out the quality of this variety it should be allowed to hang as long as possible before being gathered. To further prove this, I gathered several fruits earlier than I have generally done, and as they ripened up they were positively coarse and of poor flavour. The remainder were allowed to hang as long as possible, with the result that the flavour is very good. This is not by any means a Pear of the first quality, but it is passable. With regard to Doyenné du Comice, I quite agree with "W." (p. 400), that it will keep until the end of November if allowed to hang on the trees as long as possible—a course I have pre-

viously recommended. There is much to be learned yet as to the best time to gather Pears so as to bring out their good qualities. Almost every variety has its peculiarities.—Y. A. H.

Diseases in fruit trees.—Though much has been said and written on canker in Apple trees, and that the disease is caused by insects, nothing can convince me that the mischief originates in this way; on the other hand, I have seen the evil increased by the action of insects, and that the trees succumbed to the ravages of the almost invisible foes. Trees which extend their roots into cold, wet and unhealthy soil, and at the same time have the knife severely used on the gross wood, are not long before they show canker; some are very subject to the deadly disease. Among Apples none which I have seen are more liable to canker than Ribston Pippin, Cellini and Hawthornden. When planting trees (and many are engaged at such work just now) a good bottom of lime and brick rubbish should be placed a yard wide to prevent the roots from penetrating into bad subsoil. The practice is advantageous for large orchard trees as well as for dwarfs. Trees which I have been able to lift from unhealthy quarters and replant in healthy soil, and even old trees which I have cut bottom roots from, have been cured of canker. The wounds from the disease should be cleansed by an insecticide and filled with a mixture of clay and soot well mixed. Coatings of rank manure are precursors of canker.—STIRLING.

Fruit growing.—Though the finest Apples and Pears ever grown in the British Isles have been exhibited and taken to market during the past season, such is not a guarantee that fruit growing has made great progress. About three years ago I travelled over a great part of seven counties in England, and had opportunities of inspecting the condition of orchards, but really as far as I could see it appeared that improvement by the ordinary farmer was more nominal than real; even in Kent and Worcestershire there remains a great deal to be accomplished. Miles of orchards may be seen with trees choked with dead or dying branches, and in the hearts of the trees one might safely hide from a foe. In Wilts and Somerset there is not much change since my boyhood in the growing of fruit, many of the old orchards being almost impenetrable from the dense thickets of Apple and Pear branches. There is, however, a bright side to all this, but such is mostly with proprietors who have seen the folly of remaining in the old rut. In private gardens there is much enthusiasm in the culture of hardy fruit. In Scotland much progress is being made, but in many parts where there were large orchards no trace of them remains now. What we want now is a class of proprietors like Lord Beauchamp (Madresfield), who is doing splendid work in the advancement of fruit culture under the able management of Mr. Crump.—STIRLING.

GRAPES NOT KEEPING WELL.

I WAS very much interested in the remarks of "Vitis" on the above subject (page 408), and I venture to give my experience of the late Grapes here in regard to shrivelling, seeing it is almost in direct opposition to "Vitis's" experience. The late Grapes Mrs. Pince, Alicante, and Muscat of Alexandria were doing so well during the late hot summer, that I turned the heat entirely off them during July and August, and after that date only gave them enough to dispel damp. During the summer the borders never wanted for water either outside or in. About the last week in September I shortened all the laterals (to within two leaves of those that were carrying fruit, and a little closer on those which had no fruit) with the idea of giving more light and plumping up the buds for next season. Up to that time none of the Grapes had shown the least sign of shrivelling. I noticed in the course of a week or little more Mrs. Pince began to shrivel on the side next the sun, and it gradually wore round the bunch. The same thing happened with the Muscats, though in a less de-

gree, while the Alicantes were not affected at all. This shrivelling went on for about three weeks, and now it seems to have stopped. The Vines in question are young canes in vigorous health carrying a fairly heavy crop. The berries and bunches are large. The same thing happened last season, though a great deal worse, and I put it down to the bad season. I had come to the conclusion the primary cause had been the shortening of the laterals, giving such a check as to stop the flow of sap, hence the shrivelling, but since reading "Vitis's" article I am inclined to look elsewhere for the cause, though I have no doubt taking all the laterals off at once did check the Vines to a certain extent. The border the Vines are in both out and in is well drained and receives a thorough soaking every time it needs water. I am under the impression one reason of shrivelling is that the Grapes are not sufficiently ripened when the Vines begin to go to rest. As the days shorten the sap recedes from the bunch before it does from the laterals, though I have no doubt there are other causes, such as want of water, overcropping, &c. I am more inclined to put it down to want of ripeness in my case at all events, seeing my Alicantes are very little affected, and they were certainly riper than Mrs. Pince when I shortened the laterals. In conclusion, I should say, have late Grapes thoroughly ripe before the end of September, and there will be little trouble with shrivelling.

NORTHERN.

UTILISING WALL SPACE.

EVERY available method should be employed to check the immense importations of foreign fruit. As one means to this end, the wall space in gardens, on homesteads and farm buildings might be utilised and made not only more attractive and pleasing to the eye, but profitable also if covered with some of the many varieties of our best fruits, which are enhanced in value by this culture either in earliness, size or quality. There are few suburban villas or country houses which have not some walls, chimneys or low roofs that might be turned to good account in this way. It is true it is not the fashion, or considered the proper thing, to train fruit trees on the front of a house of any pretensions, though there are many varieties which in their different stages of blooming and fruiting might well compete in beauty with some of our ornamental creepers. But the cottager, to whom every shilling is of importance in enabling him to pay his rent, will have no scruples of this sort, and only needs more encouragement in the way of security for his outlay and industry to make many an improvement in this direction. This (the want of security) is the great drawback to enterprise in our country amongst those who live on the land, and this is consequently the chief reason why we pay so much for imported fruit which might just as well be grown at home. When every tree which a cottager or tenant plants in his garden or orchard is as much his own property as the table he places in his kitchen, we shall be more likely to see our land made the most of. Let other countries send us tropical fruits in unlimited quantities if they choose, but let us grow our own Apples, Pears, Plums, &c., so far as the season will permit.

Fruit trees may be purchased now at a reasonable price, and of kinds that soon come into bearing, so that instead of planting one tree to fill up its allotted space in fifteen or twenty years, a wall may be covered in a short time by planting alternately standard trees and dwarf-trained. Some kinds of fruits are sure to prove more profitable than others, and one great advantage in having variety and plenty of trees is that the least profitable can be pruned back and eventually cleared away to make room for

the more paying or superior sorts. One point of great importance is to select trees of the various fruits most suitable to the aspect and situation, and this can only be done by experience, as the soil and climate vary much in different parts of the country. At the same time there are certain rules which will hold good in most districts. On a southern aspect plant Peaches, Apricots, and Pears. The former should be trained, and will bear right down to the ground, and the latter standard-trained trees if the wall is high. The Jargonelle Pear is valuable coming in early under these conditions, while some of our choicest late kinds will not ripen and finish well without the aid of a south wall. Every foot of room on a warm wall is of value. I have cut this season from a Black Hamburgh Vine in the open, and planted six years, about 140 bunches of ripe Grapes. Some of the bunches weigh over 1 lb. each, and all the fruit, having been thinned, is of excellent quality. Although in former seasons the Grapes have not ripened so well, a successful crop would be generally secured by the aid of spare lights fixed over the Vine during the autumn months. Apricots and most kinds of Pears will also do well on a west aspect. An east wall will do also for Pears and May Duke Cherries, while the Morello Cherry and Victoria Plum, Black Currants and late Gooseberries should thrive against a north wall. If a large Pear tree is found to be unprofitable or cannot be brought into bearing, grafting with a more prolific variety may be desirable. But wall trees are frequently barren through injudicious pruning. Young wood should be trained in as much as possible.

Holmer, Hereford.

E. W. BEAVEN.

EARLY STRAWBERRIES.

MUCH difficulty is often experienced in producing satisfactory results from the earliest forced plants. Many reasons may be given for this, but the chief causes are improperly ripened crowns and too high a temperature at the commencement. To have anything approaching a full crop of fruit it is imperative that the plants intended for very early forcing should make their growth in time for them to have a rest before being subjected to artificial heat, as it is useless to attempt to get fruit from plants that have scarcely finished their growth when it is time to start them again. Suppose, for instance, that it is necessary to have ripe Strawberries in January or early in February, in order to have the fruit ripe at the required date the plants must be started early, and if growth has not been well matured previously, it is doubtful if they will bloom satisfactorily. The necessity for securing the earliest runners and getting them well established in their fruiting pots as soon as possible cannot be over-estimated, and as young plants produce the strongest and most forward runners, a piece of ground should be set aside each season for this purpose. There is seldom any difficulty in getting strong stolons that will make plants ready for the fruiting-pots by the middle of July. If these be potted and grown on without a check, the crowns will be thoroughly developed and ready for resting by the end of September, after which time water should be sparingly supplied to them. Sufficient only is needed to keep the crowns plump and the foliage from flagging. By November the plants will be quite at rest, especially if there have been a few degrees of frost to prevent the sap rising. Plants so matured will start more readily into growth when introduced into heat. If, however, there should have been no frost, but, on the contrary, mild weather and wet, it will be necessary to rest the plants artificially. The pots should be laid on their sides with the plants facing northwards, so that growth may be arrested through the soil in the pots becoming rather dry. Unless this is accomplished it

is seldom that the flower-spikes are perfectly formed, and this is one of the most prevalent causes of failure with the earliest batch. A too high temperature to begin with also prevents the full development of the flowers; hence the reason for their not setting. Shelves for Strawberries should be as near the glass as possible, for the greater the amount of light and air the plants receive the better the results. Fruit from the first lot is usually inferior both in quality and flavour on account of insufficient sunshine while ripening. Every effort should be made, therefore, to expose the fruit to all the sunshine possible. Watering, too, has much effect on the flavour of the fruit, as those who have given this subject particular attention are fully aware. Strawberries are moisture-loving plants, and on that account should never be allowed to become dry at the roots even for an hour, for if this happens, the largest fruit will be deficient in flavour. On the other hand, the plants must never become water-logged or the fruit will be insipid and watery. The house in which they are grown must never have a too dry atmosphere, or red spider will soon show itself, and if this once gets the mastery, it is difficult to eradicate. Of late I have used boxes instead of pots for all but the earliest lots, and I find that they answer the purpose much better, as they require less attention, the plants not being so liable to get dry, there being more earth for them to root into. The boxes I prefer are 2 feet long, 6 inches wide and the same in depth. They are made with rough boards about five-eighths of an inch in thickness. Holes are made in the bottom for drainage, and these are covered with broken crocks to the depth of about 1 inch. Four plants are placed in each as soon as they are sufficiently rooted in summer, and they grow away rapidly. Root-action is very quick, so that the plants soon get established. Where water is scarce, as was the case last summer, much labour is saved in watering by employing boxes. There is also another advantage in using boxes, especially where pots are made of a poor quality of clay, as a great number of the latter get split by the first frost in autumn. This necessitates fresh ones being used before the plants are put in to force. During the bright sunshine towards the latter end of March, plants in pots are liable to suffer unless they get constant attention, so that anything that tends to lessen the work of watering is a great boon. Nothing has yet been said of varieties; each cultivator must decide this for himself, for those that are suitable to one place will not prove so in another. Take Black Prince as an example. Where fruit has to be packed to travel a considerable distance this variety is but of little use on account of its size, but for home consumption it comes in very well. Some people, too, are fond of it. President is a good Strawberry for forcing, and being firm in flesh travels well. Its size, too, is all that could be desired. Vicomtesse Héricart de Thury is very prolific, but the fruit is rather small. Auguste Nicaise is a good one for second early lots, the fruit being large and of good colour. Keens' Seedling, though an old variety, is still a very good one for early work. The fruit, however, is soft and does not travel well. La Grosse Sucrée is one of the best all-round varieties for forcing; the fruit is large and well flavoured, and also travels well. Sir Joseph Paxton also forces well, but the fruit travels badly, and for those who have to pack, such things must be considered. H. C. P.

Notes on Pears.—A comparison of notes for the purpose of securing a short list of the best November and December Pears fully bears out the fact already recorded by several correspondents that they are this year not easily found, and that in any case the selection would be difficult to make, only a few late varieties being of such uniform excellence as to be good alike from all or nearly all soils. In common with the experience on page 408, I have Vicar of Winkfield this year fairly good. It is at any rate very acceptable in the absence of better sorts. Beurré Diel, too, is ripening up fairly well this year. What is the general ver-

dict respecting Princess? Conflicting reports are to hand, the one that it is a valuable Pear of good flavour, the other that it is useless except for stewing. Three fairly late varieties, concerning which a generally favourable opinion seems to be given, are Nouvelle Fulvie, Marie Benoist, and Triomphe de Jodoigne. The last does well as a horizontally trained tree, and from the manner of its growth ought to make a satisfactory cordon. Zephirin Grégoire might also, I think, be included in the list; it is free, and by no means a bad quality Pear. Unless one could obtain in his immediate neighbourhood and from a similar soil favourable verdicts respecting Beurré Rance and Easter Beurré it would be risky to plant them; from some soils they are practically worthless. If, therefore, to the four sorts above-named are added Glou Morceau, Thompson's, Beurré Sterckmans, and Winter Nelis, I think one would get eight of the best winter Pears for cordon treatment. Winter Nelis is not quite so satisfactory as a cordon as one would wish if confined to a single stem, but by planting a little wider apart and running up two or three leaders, better growth and a greater average of fruit are undoubtedly obtained.—E. BURRELL, *Claremont*.

NOTES OF THE WEEK.

The Liquidambar has been one of the finest trees for colour this autumn. It is worth planting for its splendid colour in October alone and makes a brilliant picture.

Cattleya Bowringiana.—We have in flower here a plant of this *Cattleya*, the spike carrying fifteen flowers, which seems to be unusual, and may therefore be of interest. It is a plant with two growths, bought some three years ago.—J. W. M., *The Gardens, Morland*.

Pelargonium Double New Life.—This is a double variety now in bloom in the nursery of Mr. Cannell at Swanley. It is a sport from Wonderful, also a sport from Vesuvius. There is a single counterpart of Double New Life. The flowers of the latter are quite double, borne freely in neat, medium trusses, and the colours are bright scarlet and pure white, a novel and not unattractive combination.

Cytisus filipes.—This is a very beautiful autumn-flowering plant. It comes from the Canary Islands, and will succeed well in a greenhouse, giving in spring again another welcome display of its snow-white flowers. It is very distinct, quite different to *C. racemosus*, the growth being tall and the foliage sparse. The pendent branches are, however, wreathed with numerous white flowers, and when in association with dark green-foliaged plants are delightful.

Chrysanthemums in Ravenscourt Park.—We are pleased to see that in this, one of the newer open spaces near London, there is a small display of Chrysanthemums in the conservatory adjoining the free library situated in the park. The structure is filled with excellent plants, and another year, perhaps, a better house will be provided, not a costly and useless affair, but a house in which it is possible to make good groups for effect. The more elaborate structures are not always the best.

Staging Chrysanthemum flowers.—We noticed at the meeting of the R.H.S. on Tuesday that Chrysanthemum flowers were exhibited in a far more pleasing way than is usually the case. They were set off with Fern and other suitable foliage, the blooms, too, being cut with long stalks, so as to get some of the natural leafage as a foil. We want more of this style of showing flowers at the regular Chrysanthemum exhibitions, and there are signs of improvement in this respect.

Angræcum sesquipedale is flowering freely in the nursery of Mr. Morse. Several plants are in full bloom and have a quaint appearance. The flowers

are too well known to need any description, but it is noticeable that they are amongst the first to succumb to fogs, buds and fully expanded blooms suffering. We have seen a splendid display and a fine promise of flowers utterly ruined by one day's fog. Those situated near large smoky towns should not grow it, as it blooms in the months of fogs—November, December and January.

Yucca gloriosa variegata.—The leaves of this are boldly and handsomely marked with glaucous green and pale gold colour. We noticed several specimens in Mr. Morse's Epsom nursery recently, and they stood out well at this season when the foliage of deciduous trees has fallen. A good group of it on the outskirts of the lawn would make a noble feature, and there can be no question as to its hardiness, the plants having been in the open for the past ten years. It is very ornamental also in pots and might be used in many forms of decoration. Many variegated things are objectionable, but not this.

Cattleya luteola.—This is one of the most interesting Orchids in bloom at Epsom at the present time. It is the smallest of the *Cattleyas*, somewhat rare, and not very easy to grow. The plants at Epsom are growing in a shallow pan suspended near the glass in the warmest house and are blooming very freely. The pseudo-bulbs bear a single leaf, and the flowers are produced at the apex of a short peduncle, being individually of neat, pleasing shape. The sepals and petals are of a pale yellowish buff colour, the lip three-lobed, orange-yellow in the centre, and the margin wavy. It comes from Peru, and also the districts of the Upper Amazon.

Cypripediums at Epsom.—An interesting collection of *Cypripediums* is grown in the nursery of Mr. Morse at Epsom. When there a few days ago we made note of several kinds, as *C. Barteti*, a hybrid between *C. insigne* Chantini and *C. barbatum*; *C. politum*, the best of all the *C. venustum* hybrids; *C. Leeannum superbum*, *C. calurum*, *C. Sedeni* and *C. oenanthum superbum*, which last, we think, is the most beautiful of all the Lady's Slippers, the flowers finely coloured and having quite a polished aspect. *C. insigne* was flowering freely, and there are few more useful Orchids than this. We also noticed good masses of the rarer kinds, as *C. Chamberlainianum* and *C. Rothschildianum*.

Campanula muralis (Bavarian variety).—I am hardly disposed to agree with Mr. Wood in considering the greater vigour of this an improvement upon the typical form. Undoubtedly the larger and brighter flowers are desirable, but I have always considered that one of the greatest charms of *muralis* is its dwarf habit. By the way, in how many gardens is *C. muralis* to be found true to name? Very frequently it is catalogued as synonymous with *C. Portenschlagiana*, and although in a few nurseries the true *C. muralis* is procurable, in most cases *C. Portenschlagiana* is sent. Like the latter, *C. muralis* is an admirable wall plant, and this year I saw it growing beautifully in the mortar between the bricks of the outer wall of a greenhouse. Here it is still in flower (Nov. 14).—S. ARNOTT, *Rosedene, Carsethorn, Dumfries, N.B.*

Late Roses.—To-day (Nov. 13) I have cut some really good blooms of Hybrid Perpetuals from the open air. Chief among these were A. K. Williams, Mrs. John Laing and General Jacqueminot. Many Teas are also in flower, Rubens, W. A. Richardson, Kaiserin Friedrich and Safrano being particularly good. This morning we registered 9° of frost in the lowest part of our grounds and 5° on the hill. To cut a good handful of Rose blooms in the middle of November is a pleasure not often experienced, and I quite expect to do so almost daily for some three weeks longer unless exceptionally severe weather sets in. Plants upon the seedling Brier continue to grow late, and if naturally late-growing kinds are placed upon this stock in a sheltered nook, we often get blooms from them when well into winter. A high situation with slight shelter will afford many acceptable surprises both

in early and late Roses. I have recently seen a batch of Gloire de Dijon which was carrying a grand crop of buds, and as the plants are in a sheltered spot, I have no doubt the majority of the buds will open. Stanwell Perpetual and rugosa are still fairly well in bloom in a neighbour's garden.—A. P., *Uckfield*.

A fine hybrid Cypripedium exhibited by Mr. T. Statter on Tuesday at the Drill Hall is worthy of a note. It is named *C. southgatense superbum*, and is a hybrid between *C. bellatulum* and *C. Harrisianum*. The plant is dwarf and the flower-scape sturdy, but the chief point of interest is the splendid markings on sepals and petals. The dorsal sepal is broad, of fine substance, and crimson, with deep chocolate longitudinal stripes, whilst the petals are crimson also, thickly spotted with a chocolate tone, the lip being of a crimson shade, except at the apex, where it is of a whitish colour. One gets in this hybrid a combination of both parents, the massiveness of *C. Harrisianum* and the fine spotting of *C. bellatulum*, with a sturdy dwarf habit.

Greenhouse Rhododendrons in small pots.—Allow me to say a few words as to "G. H.'s" advice to plant Rhododendrons in small pots. Rhododendrons, especially large growing species like *Nuttalli*, should always be planted out during summer in order to encourage growth, as these tree-like plants very rarely flower before they have reached a certain age. What is a plant with one or two trusses compared with a small tree showing forty or fifty trusses? Under "G. H.'s" system of culture it would take a lifetime to produce such a plant, but by planting out and careful management you could possess a small tree covered with flower-buds in about fifteen years. The late Mr. Mangles declared several times his accordance with my system, and my own experience tells me that I am right.—O. FORSTER, *Lehenhof*.

Notes from Harrow Weald.—Two corrections I must make for last week's GARDEN:—

CALCEOLARIA KELLYANA (p. 430).—This should be *C. chelidonioides*, a very pretty Peruvian annual introduced in 1852. I only wish that I had *C. Kellyana*. It is a lovely little gem, but in moving my garden from Eastcote I most unfortunately lost it, and shall be only too glad if you can tell me where to get a fresh stock.

THE FLAME NASTURTIUM (page 437).—The roots should be cut up into 1-inch lengths and planted in boxes in the autumn (about this time), and moved to where they are wanted just after they have begun to grow. If these directions are attended to it will be found a very easy plant to manage. It likes damp and shade for the roots, but sun and full exposure for the top-growth; therefore it should be planted to grow through shrubs or on the shady side of a hedge, when the growth will be soon drawn through to the sun.—A. K.

Dendrobium Mirbelianum.—Although this Dendrobe was discovered and described over sixty years ago, it is only about three years since it was first introduced to Europe. It is a native of New Guinea, and was sent home by one of Messrs. Linden's (*L'Horticulture Internationale*) collectors. A specimen of it is in flower now at Kew which shows the species to be one of distinct character, and although it cannot be said to possess any striking attraction in colour, it possesses a certain quiet beauty; the fact, too, of its being in bloom at this season and of lasting several weeks in perfect condition gives it a value which it would not possess were it to flower in April and May. Its stems are 1½ feet to 2 feet high, with stout elliptical leaves, the erect racemes carrying about a dozen flowers. They are 2 inches across, with narrow, pointed sepals and petals, the latter larger, but both of a greenish yellow colour marked with green lines. The lip is also greenish yellow, almost white in the centre, and streaked with brown lines. Like many of the Australasian *Dendrobiums*, this appears to possess the quality of continuing year after year to produce flowers on the old stems.

KITLEY.

COUNTRY residences with picturesque surroundings are perhaps more frequent in Devonshire than in any other part of England. But even in this favoured county a more charming situation could scarcely be found than that of Kitley, forming the subject of the accompanying engraving. This beautiful mansion is close to the village of Yealmpton, seven miles south-east from Plymouth and five miles from Plympton. The large sheet of water shown in the illustration is a portion of the estuary of the river Yealm, whose banks are flanked by delightful woods broken here and there by hilly pastures or by bold masses of natural rock. The carriage drives, both from Plymouth and from Yealmpton, are of considerable length, winding through

CHRYSANTHEMUMS.

NOTES FROM SYON HOUSE.

ONE of the finest private displays of Chrysanthemums we have seen this year is at Syon House, Brentford, where Mr. Wythes has filled no less than eight large houses, representing nearly 2000 plants. It is a pleasure to walk through this mass of bloom, as the Chrysanthemums here are not all grown in the exhibition style, but some are leafy bushes smothered with flowers, each shoot bearing six or more charming sprays, far more interesting and beautiful than big specimens. All styles of culture are represented, but the bush plants please most for their elegance and freedom. One house is entirely devoted to that fine late

cutting, and one house is filled with examples solely for this purpose, having been lifted from the open and bedded out thickly.

Besides the popular kinds, the collection comprises all the more recent varieties, grown in a way to get the blooms of true character. Everywhere this season we have noticed especially the beauty of that fine Japanese kind Col. W. B. Smith. The colour is a clear golden bronze, a very distinct shade, with broad petals. It was raised by Mr. H. Cannell, of Swanley, and is an acquisition. Grown with little stopping it would be valuable simply for its fine colour. Alberic Lunden, deep crimson-purple, is a beautiful variety, and also worth note were the following: Etoile de Lyon is largely grown and it exhibits the sportive character as seen elsewhere. We think this is against it and only really care for it on late buds,



Kitley, near Plymouth. Engraved for THE GARDEN from a photograph by Mr. Hayman, Launceston.

an extensive park. Among the many handsome trees passed on the way I noticed in particular some very fine specimens of Planes. The mansion is a very fine example of architecture in the Elizabethan style, and is built entirely of limestone. The main entrance is on the north side of the building. On the east side is a square lawn, forming two tennis courts, and divided through the centre by a broad gravel walk. From the dining-room windows, which overlook this part, a fine view is obtained of the undulating landscape beyond. But perhaps the best view of all is from the south side of the house, where the windows command a broad expanse of river scenery. Here also is a fine terrace garden terminated by a wall forming a sunk fence, and beyond that a gently sloping pasture extending to the river's edge.

Exeter.

F. W. MEYER.

white Japanese variety Duchess of Northumberland, the bushes, for we can call them nothing else, being clothed with leafage to the top of the pots, and every shoot bristling with flower-buds. This is one of the last to bloom naturally, and it would be well if one saw less of growing merely for show. One can scarcely, however, call these naturally grown Chrysanthemums, as the growth is stopped early, and sometimes later in the season, but nothing more than this is done. A good article appeared on naturally grown Chrysanthemums in THE GARDEN, October 28, 1893, and the practice there given agrees with that of Mr. Wythes. We made note of a few of the best varieties for this purpose at Syon House—Eynsford White, Maiden's Blush, Elaine, Avalanche, Val d'Andorre, Etoile de Lyon, that splendid incurved Mr. Bunn, Mlle. Lacroix, and Mme. C. Audignier. Maiden's Blush was exquisite, the shoots bearing a profusion of flowers, white, touched with lilac. Such plants as these, of course, give a large quantity of bloom for

when the flowers show their true rich rose-lilac shade. Sunflower is a glorious variety for colour, a deep golden yellow, and Mrs. Harman Payne is a welcome addition. This has broad petals of a rose-pink shade with silvery reverse. One often overlooks the fine old kinds beautiful for their colour for the novelties, merely because they are new. Mme. C. Audignier, for instance, here is charming, its flowers a lovely light lilac, and largely grown also is the well-known Wm. Holmes. A good kind is Mons. Freeman, the flowers white and rose and the habit of the plant dwarf. Amongst the newer Japanese we may also mention Kate Spaulding, which has light rose-purple flowers; Sarah Owen, bronze, touched with rose, the petals tipped gold; Lord Brooke, a lovely bronze colour and very dwarf in habit, and Mr. A. H. Neve, a silvery pale rose shade, the florets drooping. W. W. Coles is a good kind for colour, the flower of a reddish shade with old gold reverse, and a beautiful variety is Mlle. Marie Hoste, the flower of a creamy white

shade with drooping florets. Still one of the best in its line of colour is F. A. Davis, the flowers deep crimson, reminding one of the race typified in such recent acquisitions as William Seward. A useful variety is Puritan, which is of a peach tint and very pleasing. Of course, this is by no means all the Japanese varieties grown here, but sufficient have been mentioned to indicate the richness of the collection.

Other classes are grown in proportion, and in the reflexed class one of the brightest kinds was Chevalier Dommage, which has golden yellow flowers, while a large collection of incurved varieties is represented. Lord Wolseley, Jeanne d'Arc, Alfred Salter, the new M. R. Bahuant, Queen of England and Empress of India were in particular remarkably fine.

Very charming, however, are the bush plants, and, as we have so often mentioned in THE GARDEN, this is the true and only way to see the Chrysanthemum in characteristic beauty.

CHRYSANTHEMUMS AT CHELSEA.

THE display of Chrysanthemums in the nursery of Messrs. J. Veitch and Sons is remarkably fine, better than for many years. Some of the flowers were of especial merit, and every new variety is in perfection. The collection fills a large house, and in the corridor many are in full beauty, creating a gay show of varied colour.

The finest varieties are those mentioned, and one of the more important amongst the Japanese was Beauty of Exmouth, a pure white flower, full, massive, and of high exhibition merit. We were a little inclined to think that it would not prove sufficiently solid for the shows, but that impression was removed by seeing Messrs. Veitch's specimens. G. C. Schwabe was in excellent character, the flowers large, salmon-rose in colour, and distinct. This will become a leading variety. Everywhere that fine kind Col. W. B. Smith is worthy of note, and it is so especially in this collection. The flowers are superb for colour and size, a clear bronze-yellow, full, broad, and in every way satisfactory. It appears to be very free, not too tall, and an exceptionally strong grower. Very different to this is Eugène Gait, a full, rosy purple flower somewhat in the style of Avalanche, and of medium size. President Borrel, deep rose-purple, gold reverse, the pure white Bouquet des Dames, W. H. Lincoln, and Vivand Morel were splendid, flowers of the last-mentioned variety measuring over a foot across. A variety that will be much grown is Mrs. Harman Payne, the flowers of which are rose-purple, with a silvery reverse to the petals. W. B. Woodcock we noticed very good, the flowers of the Japanese reflexed style and brick-red in colour, the florets tipped with gold, and broad. The splendid varieties William Seward and John Shrimpton were conspicuous, but we think these have a strong rival in G. W. Childs, a seedling possibly from Edwin Molyneux. It is a fine crimson-purple colour, very rich, and of bold form. Near by was Mlle. Thérèse Rey, which we have already written of in THE GARDEN. It is creamy white and the florets are broad. We have not seen the variety Hamlet better than here, and it is a very pleasing colour, cerise-salmon with a suffusion of gold. Sunflower, the white Louis Boehmer, and Excelsior, which is a great acquisition, were bearing fine blooms. M. Henry Jacotot, a Japanese reflexed kind, is conspicuous for its beautiful colour, crimson suffused with gold, the florets a little twisted and drooping. A massive flower is Viscountess Hambleton, the florets broad, incurving near the apex, and bluish white, shading to a deeper tone at the base. Lord Brooke, bronzy yellow, and J. Stanborough Dibbens, an English seedling, are varieties of commendable growth. The flower of the latter is bronzy yellow shaded with rose. One of the finest introductions of recent years is unquestionably Miss Anna Hartsborn, which from early buds produces fine white flowers, while those from later kinds are bluish, a very pleasing shade. Robert Owen, one of the good things given us by Mr. Owen, of Maidenhead

has a large deep bloom, the colour of which is light bronze-yellow.

The incurved collection contains all the best kinds, and we noticed amongst them Mrs. Robinson King, a sport from Golden Empress of India, but deeper in colour than that variety. Baron Hirsch, the rose-violet Mme. Frederic Mistral, and M. R. Bahuant are of note, but when we write all the novelties are included, no good purpose is served by making a list of names.

In the collection also the so-called decorative kinds are grown well, and are to us more pleasing than the typical show kinds. For amateurs and others who cannot or do not wish to cultivate the show varieties, this class is of great value. Such kinds as the yellow Mlle. Lacroix or Charles E. Shea are exquisite for colour and very free. O. J. Quintus, a lovely mauve-pink, is a gem, and the plants are smothered with bloom. Comtesse Foucher de Careil, a bright orange-coloured Japanese kind, is one of the most beautiful of this class. The plant is dwarf and very free, and Comet is worthy of note, the flowers chestnut-orange.

It is evidence of the usefulness of the Chrysanthemum in smoky suburbs when such very fine plants are grown at Chelsea. The flowers perhaps do not last so long as those in the purer country air, but they are true and bright in colour.

Chrysanthemum Charles Davis.—This sport from Vivand Morel, which in the spring was at times spoken of as a golden-flowered form, is, at least in most cases, a kind of rosy bronze, though occasionally individual blooms may be met with in which the yellow tint predominates. In any case it is a good and distinct Chrysanthemum, which we shall doubtless see grown for some years, as in habit of growth it is a counterpart of the universally popular Vivand Morel. Among the numerous flowers of this last shown at the Aquarium show its variable character was very noticeable, for I observed several blooms which in the dim light appeared to be pure white (at all events they were almost so), while others were to be seen in which the flowers were of a much deeper tint than usual. There is certainly a greater difference between some forms of Vivand Morel than there is between many varieties that bear distinct names.—T.

Staging pompon Chrysanthemums.—The plan of putting these up in a given number of varieties of three blooms of each is an excellent one; some exhibitors, however, I have noted when competing in such a class seem, as it were, bound down too much to uniformity of height. At a recent show I noted that this was the case in a singular degree. In one exhibit each flower as well as each row scarcely varied in any perceptible degree; this made the entire stand look far too formal. Quite in contrast thereto was another exhibit in the same class; these were slightly varied in each case, thus adding greatly to the general effect. This latter stand of flowers won the first prize, and I must candidly confess I was glad to see it so, irrespective of the quality one with the other. I should not be at all surprised if the judges were not, although unconsciously perhaps, drawn to the more informal exhibit, as each flower was seen to better advantage. Those who exhibit should take note of these matters (trifling perhaps), and use them to their own advantage another time.—G.

Cut blooms with long stems.—At the recent Brixton, Streatham, and Clapham show there was a keen competition for the special prizes offered for twelve Japanese varieties "to be exhibited as grown, stems not less than 15 inches in length, to be staged in glasses or bottles not exceeding 9 inches in height." This proved to be a most attractive class, the winning exhibits more particularly containing some very fine flowers equal to, if not better than those shown in the usual way on boards. In nearly every case the foliage was in the best possible condition, thus adding greatly to the effect. The varieties shown in the first prize exhibit by Mr. Howe, Park Hill Gardens, Streatham, were Mme. Laing, Mlle. Marie Hoste (extra

fine), Vivand Morel, Edwin Molyneux, Col. Smith, Florence Davis, Sunflower, W. Tricker, W. H. Lincoln, Etoile de Lyon, Primrose League, and Lord Brooke. These were all shown in the best possible condition, looking all the better for the greater length of stem with the foliage attached thereto. To make such an exhibit look well there should be, as in this case, gradations in height, 6 inches being none too much for the back row of three. Hyacinth glasses of the old erect shape are well suited for this mode of staging; these as regards colour should be green, whilst if any support be needed, the slender wires, as used for Hyacinths, would be sufficient in any case. This plan of staging is not, I know, a new one, it having been adopted by other societies with good results some few years back, but, nevertheless, it is worthy of greater extension than it has hitherto received.—H. G.

ARRANGING CUT BLOOMS OF CHRYSANTHEMUMS.

AT most Chrysanthemum exhibitions prizes are offered for bouquets, vases furnished with flowers and for table decorations, to be composed principally of Chrysanthemum blooms. A visit to a few of the larger shows reveals the fact that in many cases the great mistake of overcrowding is most noticeable, while another very common fault is that of associating with the blooms of the Chrysanthemums either foliage or other flowers that are totally out of place. Croton leaves seem to be especial favourites for this purpose, and what is often regarded as a bouquet is a dense mass of the bright coloured leaves of these stove plants and Chrysanthemum flowers all wedged tightly together. While examples of this style were to be seen at the recent Aquarium show, there were on the other hand many arranged very differently, but it was left for Mr. Jones, of Lewisham, to show the grand effect produced by the very largest flowers disposed in a simple manner. The blooms in this case were cut with long stems, which were furnished with their own leaves and nothing more. One large and very striking vase was filled with nine grand blooms of Vivand Morel, showing a good deal of variation in tint as that variety does. Nothing, however, could be simpler or finer than the effect produced by these few loosely disposed flowers which could be arranged in a few minutes; whereas some of the crowded masses must have taken a long time. A dozen or so of fine incurved blooms were particularly noticeable in another vase, presenting as they did in their prim and formal shape a marked contrast to the preceding. The peculiar rosy bronze coloured sport from Vivand Morel, known as Charles Davis, associated with the pure white Florence Davis, also formed a pretty combination, while a large vase of the hirsute section, comprising W. A. Manda, yellow, Louis Boehmer, pink, and the White Louis Boehmer, also known as *Enfant des Deux Mondes*, was very interesting. The simple manner in which the flowers were arranged in these vases was infinitely more pleasing than the laboured overcrowding to be seen in another part of the building, where in some cases the object seemed to be to cram as many flowers as possible into a given space. With regard to Chrysanthemum blooms displayed in this manner, one fact that particularly strikes an onlooker is that in making selections of new varieties those with good stiff flower-stalks should be given the preference. T.

TRAINED SPECIMEN PLANTS.

WHEN making a close inspection of an exhibit of these, one cannot but be led to think of the amount of time that has been spent on what are termed trained specimens. True, they do just whilst they are in flower make a show, but the severely formal style adopted by some of the chief growers is really too much of an extreme. It cannot in any sense be termed natural; it is rather a perversion of Nature to an excessive degree. There does not seem to be any tendency to remedy this, the pre-

vailing style of specimen bush plants being that of width rather than height, so as to have a nearly flat surface of bloom. Furthermore, some adopt the plan of tying down each shoot with a bloom upon it close to the foliage; this is a still further perversion. What should be aimed at so as to have a proportionate specimen is that of the height, the width being at least nearly equal, letting the shape be more globular than flat. By following this plan the training or tying would not be so markedly out of all character with the Chrysanthemum in its more natural state. Standards again more often than not represent just half a sphere, a very formal shape; these would be greatly improved by an increase in height with the flowers standing free from, not tied down to the foliage. As far as standards go, I fail to see of what real use they are save just for the purpose of exhibiting. They do not, it is quite certain, adapt themselves to home decorative uses save in the largest of houses, where each one stands out distinctly by itself. Pyramids do not appear to be grown so much as a few years back; these, like standards, are not to be recommended except for exhibition. It is better to let both of these styles die a quiet death, which they would undoubtedly do in nearly every garden if no encouragement were given in prize schedules. If standards, which of the two are the least objectionable, are to be encouraged, let us have them merely supported and tied informally. As it is now, it is equally, if not more, a point of mere skill in tying than of cultivation; the skill in tying may well be diverted to other channels from which more profit can be derived, not to say more pleasure also save in the case of the man of patience who does the tying. There is no comparison, for instance, as far as real effect is concerned, between the twisted and contorted examples seen in shows and early struck cuttings which have been stopped two or three times so as to form a good base for a naturally grown plant. If looked at from the point of the room occupied, there is nothing to be said in favour of large trained plants.

GROWER.

Chrysanthemums, premier blooms.—I should like to see all societies adopt the plan of offering prizes for the best bloom in the two important sections—incurved and Japanese. All exhibitors of my acquaintance prize the award for the best bloom in the show. At one of the Portsmouth exhibitions a few years since this honour was conferred in the incurved section upon a well-developed bloom of Lord Alcester in a stand belonging to an amateur, the Rev. R. Wells, Havant, beating all others, myself amongst the number. The educational value consists in showing to the public what the judges regard as typical blooms in the sections that are mostly favoured—incurved and Japanese. Seldom indeed does the largest example obtain the coveted award in either section, the honour usually falling to one approaching it in size, but possessing qualities which the larger bloom lacks. For instance, in the incurved section mere width is not the acme of perfection. If a bloom measures 5 inches in diameter and 4 inches or even 3½ inches in depth, that bloom possesses much more merit than one wider, but less in depth. The former bloom will have solidity of petal, the latter will not, and will lack the globular shape so desirable in a perfectly incurved bloom. No bloom should be selected for this honour the petals at the base of which are fading, neither should it if the colour is bad; for instance, Queen of England, almost white, would be out of character. The colour of the variety chosen should be good. The petals ought to incurve properly and meet quite close in the centre. Lord Alcester has taken the position of premier bloom as an incurved variety oftener than all other sorts put together, I might safely say. Mme. Darrier has had that distinction accorded it numerously of late at the earlier shows on account of the perfect symmetry which it possesses when in its true form. In the case of the Japanese section the same rule applies in nearly all cases; breadth of petal is important, perhaps more so than in the case of the incurved section, because

blooms with extra broad petals are not, as a rule, so solid in their "build." Depth consistent with diameter is important in the Japanese section; brightness of colour and strict formation of their florets in conformity with the variety are most important in choosing the premier bloom in this section.—E. MOLYNEUX.

Fimbriated Chrysanthemums.—What a pity more attention is not paid to this type of Chrysanthemum, presumably because more encouragement is not given in the shape of prizes offered at the shows. If this were the case we should quickly see an influx of new varieties; as it is their number is limited to about half-a-dozen. For decoration this section is charming, the fimbriated edges rendering the bloom at once novel as well as pleasing. All the varieties belonging to this section are free-flowering, a point desirable in all Chrysanthemums, especially where intended for decoration. The advantage of this section for exhibition is that the blooms can be staged in bunches of three or more with a good length of foliage attached. At but one autumn exhibition I know are prizes offered for these varieties—Portsmouth. No stand of blooms throughout the whole show is more attractive than that composed of fimbriated flowers. The back row of blooms is cut with 15 inches of stem, which enables a good quantity of foliage to be displayed, the front row being about 10 inches high. The blooms are arranged loosely, so that all are displayed and not in any way cramped and muddled together. Scapin, amaranth and maroon, the centre lilac, tipped yellow; Cræsus, golden-yellow, marked with dull red; Chardonnet, bright purple; and Massange, bluish-pink, are the best of the large-flowered varieties in the fimbriated list.—E. MOLYNEUX.

Grafted Chrysanthemums.—Some little interest was excited last season by an experiment which M. Alexis Callier, of Ghent, had undertaken, viz., the grafting of Chrysanthemum sinense on the Anthemis. The Comte de Kerchove states in a Belgian contemporary that that gentleman has now a large number of such grafted plants, one of which has made extraordinary progress. The variety grafted is Val d'Andorre, and it has assumed very large proportions, being about 7 feet in diameter. At the time of writing the plant had 790 buds on it, most of which have no doubt by this time expanded.—C. H. P.

Chrysanthemums at the Crystal Palace.—An immense number of the queen of autumn is grown annually at this favourite place of resort by Mr. W. G. Head. This year Mr. Head has of early, mid-season and late varieties some 8000 plants. This number of course extends the season considerably at both ends. When inspected a few days back on the occasion of the annual Chrysanthemum show the mid-season varieties were in their full beauty. The chief or most prominent group had been arranged at the southern end of the building next to the large Lily tank, over which are grown the noble Tree Ferns, finer than which are rarely ever seen. This group was so arranged as to face towards the centre of the building; thus it made a most brilliant display even from the distance, but when viewed more closely it could be seen that it was composed of the best standard varieties, these bearing very superior blooms. The colours were judiciously blended throughout the entire group. There was an entire absence of overcrowding in every part, each flower showing to good advantage. In form the group partook of about the half of an ellipse or oval; this afforded more scope than if it were the half of a circle, and this advantage had been duly taken advantage of by Mr. Head in carrying out the arrangement. There was also an easy gradation each way from the centre downwards. Taken as a whole it was a beautiful arrangement, which if in competition would be a bad one to beat. The Japanese varieties of course entered largely into its composition; none of the other sections lend themselves so well to artistic grouping. Forming flanks on either side were smaller groups, so arranged as to have backgrounds of fine-foliaged plants, being in a measure

associated with them. Of these there were several each comprising more material than one often sees in competitive groups. The whole formed a beautiful display of this popular autumn flower.

Staging Chrysanthemums in vases.—There have been some advocates for staging Chrysanthemums in vases with long stems in imitation of the American plan. For the big heavy flowers grown by English growers this method seems to be a faulty one, for they seem to require the aid of wire supports. Mr. Jones adopted the plan for some of his flowers at the Aquarium show. This could scarcely be considered a success, as towards the close of the first day many of the blooms had completely collapsed, and the foliage was hanging down in a faded condition. The blooms staged on show boards exhibited no such signs.

SOME NEW CHRYSANTHEMUMS.

THE present season has been so prolific in novelties, and many of them have been staged in such excellent condition, that it seems an opportune moment to indicate the names and brief descriptions of some of the best submitted to the floral committee of the N.C.S., whether certificated or not.

PRESIDENT BORREL (Jap.).—Long petals, rose-purple and gold reverse. First-class certificate.

MRS. C. B. MYERS (Jap.).—White, shaded greenish-white. First-class certificate.

CHARLES DAVIS (Jap.).—A warm rosy-bronze and yellow sport from Vivand Morel. First-class certificate.

Mlle. Thérèse Rey (Jap.).—Pure white, long drooping florets. First-class certificate.

LOUISE (Jap.).—Colour white, incurving petals, shaded pale pink. First-class certificate.

EDA PRASS (Jap.).—Incurved petals, soft salmon-rose. First-class certificate.

MME. EDOUARD (Jap.).—Light purple-amaranth, rosy reverse, incurving petals. First-class certificate.

MRS. P. BLAIR (Jap.).—Pale purple, reverse silvery, incurving petals. First-class certificate.

VIOLETTA (Jap.).—A deep flower, soft rosy violet. First-class certificate.

TRIBUNE (Jap.).—Pale lemon-yellow, centre darker. First-class certificate.

MME. CAMBON (Jap. inc.).—A massive flower, reverse of petal straw-yellow, crimson inside, which is scarcely visible. First-class certificate.

L'ISÈRE (Jap.).—White, long florets of the Dragon type.

SNOW (Jap.).—Long drooping florets, white, centre creamy.

MME. OCTAVIE MIRBEAU (Jap.).—White, streaked purple, something in the style of Belle Paule.

MME. M. RICOUD (Jap.).—Very deep rosy blush, good form.

MISS M. SIMPKINS (Jap.).—Globular incurved flower, creamy white, sharp-pointed petals.

VICE-PRESIDENT BARIGNY (Inc.).—Deep crimson, golden reverse.

FLORENCE CARR (Pom.).—A compact deep orange-bronze. Commended National Chrysanthemum Society.

MRS. COX (Jap.).—A crimson sport from M. Bernard.

PEARL BEAUTY (Jap.).—Broad, grooved, incurved florets, white.

ELSIE NEVILL (Siag. Jap.).—A pretty crimson long-petalled variety.

LADY SAUNDERS (Jap.).—Long drooping florets, colour delicate pale yellow.

COLONEL CHASE (Jap.).—A deep flower, long narrow florets, colour pale blush and yellow. First-class certificate.

ROSE WYNNE (Jap.).—Rosy white, incurving florets.

W. H. FOWLER (Jap.).—Rich golden yellow, a fine effective flower of good form.

E. L. JAMIESON (Jap.).—A charming shade of deep crimson, reverse bronzy gold, petals rather short.

JAMES MYERS (Jap.).—Thin fluted florets, deep rosy salmon.

SIR W. RALEIGH (Jap. Anemone).—Pale blush, guard florets flat.

Mlle. NATHALIE BRUN (Anemone).—Guard florets quilled, colour white, good high disc pale yellow. First-class certificate.

ERNEST CAILLE (Anemone).—A good flower, soft rosy buff, centre yellow.

MRS. C. J. SALTER (Anemone).—A medium-sized flower, rosy golden buff. First-class certificate.

W. W. ASTOR (Jap. Anemone).—Long flat guard petals tinted blush, high disc rosy yellow. First-class certificate.

JOHN BUNYAN (Jap. Anemone).—Thin fluted guard florets, high disc, light yellow self. First-class certificate.

HIBERNIA (Anemone).—Ochre-yellow, rosy buff disc.

CALEDONIA (Jap. Anemone).—White guard florets, disc tipped yellow. C. H. P.

CHRYSANTHEMUMS AT BROADOAKS, BYFLEET.

CHRYSANTHEMUM growers of the present generation have probably never experienced such a trying season as the past one. In this part of Surrey we did not get 1 inch of rain during the time the plants were making their growth, the heat of the sun at times being almost unbearable. Looking, however, at the collection of Chrysanthemums at Broadoaks, the residence of Major Collis-Browne, one would hardly imagine that it had passed through such a fiery ordeal. As many readers of THE GARDEN are aware, Mr. Carpenter, the gardener there, has for some years past been a successful exhibitor, and this season his plants are again in fine condition, carrying blooms of the highest quality. The Japanese are arranged in a small lean-to structure, but every plant is a model of vigour, and every bloom is fit for the show-board. Where only the very finest kinds are grown, and each flower is of high development, it is difficult to select any for special mention. Tastes vary much, but I think that all would be attracted by the fine blooms of Mons. A. Carrière. This variety, I think, realises the *beau idéal* of a Japanese Chrysanthemum. The huge plume-like mass of drooping petals so grandly effective are nevertheless quite free from the coarseness that unusual size frequently brings with it. C. Shrimpton, a glorified Cullingfordi, is in grand form, and is a variety that on account of its colour cannot be left out from the smallest and most select collection. The popular Viviani Morel is in fine condition, showing in one bloom only, and that apparently the oldest, the sportive tendency that characterises this Chrysanthemum. All the other blooms have the beautiful warm rose-purple shade that should distinguish this sort. The rich orange-yellow of Edwin Beckett, intensified by high culture, renders it very striking when in association with other colours. To my mind these four Japanese should find a place wherever Chrysanthemums are grown for decoration. The purest white is the well-known Avalanche, the largest, Mlle. Thérèse Rey, with broad petals, rather coarser, but certainly impressive. Mrs. H. Payne is carrying enormous blooms, and Edwin Molyneux, President Borel, C. W. Smith, W. Seward, and Excelsior, all in the finest form, are certainly of the aristocracy of the family.

Coming from these huge Japanese to the incurved ones, one can realise how it is that the former have become so popular of late. With the exception of some gain in colour, I see but little difference in the incurved section now and twenty years ago; the flowers were as perfect in form then as at the present time. Some of the varieties in favour at that time are still in repute; but where are the Japanese of those days? Completely driven out of culture by the ever-increasing size, brilliancy, purity, and form of those that come to us from France and America. From a decorative point of view they are overshadowed by their more showy relatives. I must confess, however, to an affection born of past days for the incurved varieties, and was glad to see them so well represented at Broad-

oaks. Jeanne d'Arc is very pure and good in bloom; Miss A. Haggas, golden yellow, in fine condition, and one that strikes the eye at once; and Alfred Lyne, of a pleasing lilac shade, are among the best of the more recent additions to the section. Refulgens is very good, with little or none of the defect that many fail to overcome. M. Bahuant, very big and finely formed; Princess of Wales, a handsome and telling variety as grown by Mr. Carpenter; Lord Alcester, the yellow sport from Empress of India, and Florence Davis were very conspicuous. Baron Hirsch and Mr. P. Clarke, both in grand condition, are certainly among the best of the incurved. The Teck family is represented, but I fancy Mr. Carpenter does not attach so much importance to this group as was the case several years ago. The incurved more acutely feel the effects of fierce sun heat and parching winds than the Japanese varieties, but it is surprising to see how green their foliage is. Mr. Carpenter apparently has a high opinion of soot as a manurial and restorative agent, and to its free use may be attributed the rich green of the foliage. Some plants the leaves of which were going yellow in the hot weather were watered daily with soot water, and its value was apparent in their bright green colour. J. C. B.

NOTES ON NEW VARIETIES.

CONTINUING my list on p. 386,

THOMAS HEWITT is deserving of notice. This Japanese variety has broad incurving florets, which give to it a massive appearance. The colour is pleasing—white, flushed and striped with rose, the inside being deeper in tint. Altogether a promising variety.

YELLOW LADY SELBORNE.—Its parent has long been regarded as one of the very best for producing blooms in quantity, the new yellow sport having all the characteristics of its parent in that respect will be welcomed as a great acquisition. The colour is a rich golden yellow, the reverse primrose.

MME. ADOLPHUS CHATIN also belongs to the incurved Japanese section; the florets are broad, pure white. With age they become tinged, which adds a pleasing tint to their appearance.

MIDDLETON CLARKE.—The reflexed florets are rose-crimson in colour. It is a full flower, in every way promising.

DUKE OF YORK.—The florets are of medium width, flat, the points inclined to incurve. The colour—magenta—is very showy, suffused as it is with silver. In habit of growth it is dwarf.

CHARLES CAPITANT.—Flesh-pink in colour, decidedly pleasing; the florets are notched or serrated.

MRS. A. J. PARKER, belonging to the Japanese section, has small flowers. It is very useful for decoration. The florets are long, narrow, and pointed, the colour chamois.

MRS. DREER.—An American raised Japanese, with narrow florets, brick-red, tipped with gold, full, and promising.

MME. ISAAC.—A pure white Japanese variety with flat, sword-like florets, which are numerous, making a full flower, promising.

W. FALCONER.—This belongs to the hirsute section, being a sport from Louis Boehmer, and is quite distinct from any other variety in this section. The colour, light pink or deep blush, is most pleasing.

H. HAMMOND SPENCER is a full-flowered Japanese, large, rose-lilac in colour.

SAUTEL 1893.—This is one of Sautel's favourite flowers; he thinking highly of it added the year to the name. In colour it is lilac, rose inside of the florets, which resemble those of Comte de Germiny in formation.

PEARL BEAUTY is an American seedling Japanese, raised by Pitcher and Manda in 1892. The florets are ivory-white in colour and massive in build. This is a most promising variety belonging to the incurved Japanese section.

SILVER CLOUD.—This American Japanese is unique in point of colouring, which reminds one of the outer covering of a pale-coloured Mushroom.

The florets are broad, late flowers reflex in exactly the same way as late blooms of Mlle. Marie Hoste.

NIVEUM is in growth just what is required—dwarf. The flowers are large, composed of pure white strap-shaped florets.

MRS. HILLIER.—The tips of the florets of this Japanese variety show an inclination to incurve slightly. The colour is primrose-yellow with a deep yellow centre, a massive flower.

MRS. J. HAMMILL.—This, belonging to the incurved Japanese type, has broad massive florets; the colour is pleasing—creamy white, suffused with rose, deeper towards the outer florets.

E. MOLYNEUX.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Dolly Varden.—As a single variety this is remarkably free flowering. In colour the florets are rose-magenta, the disc yellow, and exceptionally high for a single-flowered kind.—E. M.

Chrysanthemum Pattie Penford.—This is a distinct and pleasing addition to the single-flowered section; the florets are of medium length, semi-drooping, pure white. The disc is high, pale green in colour.—E. M.

Anemone Chrysanthemums.—Some excellent additions were made to this class by Mr. Owen at the Aquarium show. W. W. Astor, John Bunyan, Sir Walter Raleigh, Queen Elizabeth, Hibernia, and Caledonia, varieties not yet in commerce, were the chief.

Chrysanthemum Elsie.—Those persons who require a free-flowering variety, pale lemon in colour, should add this to their collection, no matter how small that may be. It is certainly one of the very best, flowering so freely, while the colour is all that can be desired.

Japanese incurved Chrysanthemums.—Many of these so-called Japanese incurved varieties are only properly so in the early stages of development. With age they seem to throw back their petals and assume the appearance of the blooms of the ordinary Japanese type.

Chrysanthemum Mrs. Alpheus Hardy.—This white hairy Japanese Chrysanthemum, which attracted so much attention a few years since, and which it was thought would soon be discarded entirely because of its weak growth, was staged in very good form in several collections at the Aquarium show.

Chrysanthemum Ernest Caille is the only seedling of M. Delaux's we have seen this year. It was staged by Mr. Ives, gardeur to Mr. E. C. Jukes, at the last meeting of the floral committee. It is a very attractive Anemone-flowered variety with a capital centre, and is of a soft rosy yellow-buff colour.

Chrysanthemum Mlle. Martignac.—Any creditable addition to the incurved section is always appreciated, especially when, as in this variety, the colour is a rich yellow. The incurved section lacks this colour, which renders any addition all the more valuable. The petals are rather short, but promise to incurve nicely.

M. Calvat's seedlings.—At the floral meetings and at the trade displays, M. Calvat's new seedlings have been not only interesting, but a leading feature. From a note in the current number of the *Revue Horticole* it would appear that M. Calvat will have still more novelties of a high class to distribute next spring.—C. H. P.

November Roses.—Of course it is all the result of this remarkable year that the Tea Roses, having more than made amends in autumn for their fleeting display in the great heat of summer, are still full of flower. As I write this note on November 5 there is before me a bowl filled with sweet and beautiful blooms. Two of the chief kinds are Mme. Hoste and Anna Ollivier, the buds as fresh and perfect as at any time. Marie d'Orleans too is conspicuous, with full, fine flowers, whilst Bouquet d'Or, Gloire de Dijon, Emile Dupuy, Safrano, Pauline Labonte and Lamarque are also present. Many more might be culled, not forgetting Dr. Grill, whose many-tinted blossoms

vie in richness with the glorious colour that is now everywhere to be seen in wood, copse and hedge-row.—A. H.

STOVE AND GREENHOUSE.

URCEOCHARIS CLIBRANI.

This plant is of special interest botanically as well as horticulturally. To gardeners it is valuable as an addition to easily grown free-flowering stove plants of the character of *Eucharis*, whilst botanists are specially interested in it because of its so-called bigeneric origin. In July, 1892, Messrs. Clibran, of Altrincham, exhibited at one of the meetings of the R.H.S. an inflorescence of a *Eucharis*-like plant, which was labelled *Eucharis amazonica* × *Urceolina aurea*. Shortly afterwards Dr. Masters described it under the name it now bears, and it has since been distributed by Messrs. Clibran. The form and pose of the flowers certainly indicate the relationship with *Urceolina*, whilst the *Eucharis*, which was the seed-

8½-inch pots, and very well do such plants repay for the moderate amount of labour and attention they need. Like most of the *Salvias*, this variety is readily raised from cuttings, and it can be either planted out during the early summer and subsequently lifted for placing under glass, or it can be grown on in pots in a cool position, strict care being exercised to ensure a liberal supply of water. As the flowering period approaches it is necessary to give a top-dressing of old manure, or to supply liquid manure freely. This is especially requisite when the plants have been confined to pots which they have filled with roots.—OBSERVER.

Abutilons.—"T." says "the range of colour amongst *Abutilons* is not great." Scarlet, crimson, rose, pink, lilac, purple, yellow, white, with many intermediate shades are here. Surely this is range enough for the most fastidious. The *Abutilon* is everybody's flower, as easily grown as a Willow, while the shade and markings are as various as the colours. The foliage, too, partakes of the diversity. Under good management they are as graceful as *Fuchsias*. Most of them if left to themselves will push upwards and become bare below. To see them at their best they should be planted out in a conservatory. Two thus treated here are gay six months of the year. The border is 2 feet deep of loam, with a layer of bones (uncrushed) underneath, and their vigorous growth

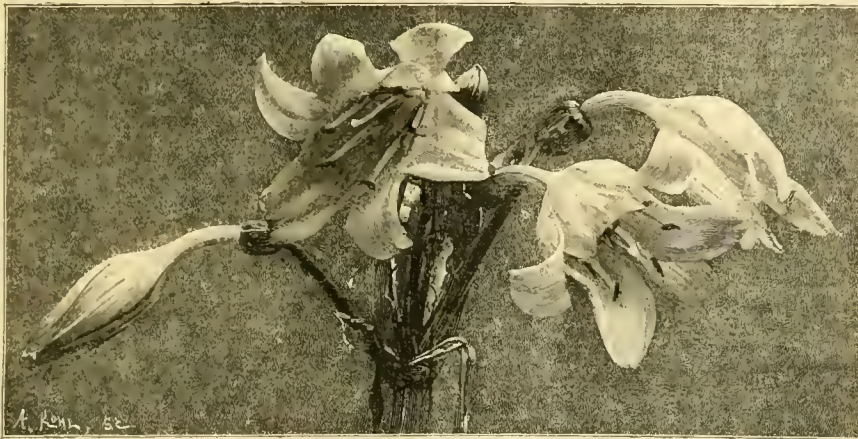
appearance, and suggesting the specific name of *rubro-cœrulea*. Given liberal root room it will soon cover a considerable space, while it can also be flowered freely in pots from 6 inches in diameter upwards. Seeds of this *Ipomœa* can be obtained at a cheap rate, and if sown in the spring will form fine flowering plants by the autumn.—T.

Anthurium crystallinum.—A few years ago, when fine-foliated plants were all the rage, this *Anthurium* was very frequently seen. This *Anthurium* grows freely under much the same conditions as most of the other members of the genus, that is potted in an open compost consisting principally of fibrous peat. As copious supplies of water are essential to its well-doing, the pots used must be thoroughly well drained, and the plant should be kept in a moist part of the stove where it can be shaded from bright sunshine. It is easily increased by offsets, which are sometimes borne freely. While the marking of the foliage depends to a certain extent upon the conditions under which the plants have been grown, some individuals are decidedly superior to others. Neat plants of this *Anthurium*, which are very useful for grouping in many ways, may be grown in pots 6 inches in diameter, and half a dozen or so form a bright and telling feature in the stove at the present time.—H. P.

Erica hyemalis alba.—Though *Erica hyemalis* varies a good deal in colour according to the conditions under which it has been grown, yet there is more than one form, and to the variety *alba* as long ago as 1883 a good deal of attention was directed, but nothing more was seen of it for three or four years. After that time, however, it became better known, and is a really pretty variety, especially valuable where white flowers are in demand. *Erica hyemalis* is one of the most popular Heaths, and great numbers are brought into Covent Garden Market during the autumn and winter months. Two other Heaths just now in full flower are the little white-flowered *Erica cafra* and the equally small-blossomed *Erica gracilis*, which is in some instances very richly coloured. Both of these remain in beauty for a considerable time.—T.

Agathæa cœlestis.—No particular season of the year can be assigned for the blooming of this pretty blue-flowered composite, upon which by some the name of the blue *Marguerite* is bestowed. Planted out of doors at the same time as the various bedding plants it will flower throughout the summer; whereas if struck in the spring or early summer, confined altogether in pots, and grown in the open air in a position fully exposed to the sun, it will if stopped freely during its earlier stages form neat little bushes, which by the end of the summer are bristling with flower-buds, and taken then into the greenhouse they will maintain a succession of bloom for a long time. The pretty blue flowers are very useful for cutting, their straight wiry stems being a great point in their favour.—H. P.

Rhododendron retusum.—Mr. Otto Forster might well ask the question, why is this fine plant so rarely met with? The reason, I think, is that the flowers are too small to please many people, for the tendency now-a-days is towards huge blooms, it matters not in whatever class of plants. Habit and freedom of flowering are in many cases sacrificed to obtain large blooms, and this is especially noticeable in the case of some subjects, such as *Chrysanthemums* and *Fuchsias*. Many of the new *Fuchsias* that are now sent out are long-jointed and produce comparatively few flowers, but they are large ones, and to some this more than compensates for their other faults. With regard to *Chrysanthemums* much the same may be said, the pretty little pompon class being almost ignored. *Rhododendron retusum* is a very neat growing evergreen shrub, whose young leaves are prettily tinged with red. The small tubular-shaped flowers are borne in clusters, and from their shape and drooping character they remind one of a *Fuchsia*, the nearest being *F. triphylla*, for in this the colour of the blossoms is much the same as in the



Flowers of *Urceocharis Clibrani*.

bearing parent, predominates in size and colour. The plants have flowered freely, every period of growth having been followed or accompanied by a flower-spike. The flowers are borne with the young leaves, and the plant is evergreen like the *Eucharis*; whereas *Urceolina* is deciduous. The flowers are pure white when fully open, but there is a tinge of yellow on the buds. The flowers are borne in loose umbels on erect scapes about 18 inches long, strong scapes bearing about six. The leaves are as large as those of the *Eucharis*, and not unlike them in texture and shade of green. Whether it be a true hybrid or a seedling sport from *Eucharis amazonica*, there can be but one opinion as to the merits of this plant.

W. W.

Salvia splendens var. compacta.—The old *Salvia splendens* is well known and valued as a brilliant decorative plant. The variety *compacta* possesses a character, however, that is suitably expressed in the name, namely, its dwarf, compact habit, which renders it particularly useful where space is limited or where small shelves unfitted for large specimens have to be rendered gay. Plants can be grown as fine little bushy specimens 2 feet high and as much in diameter, covered with brilliant scarlet flowers and bracts, in 6-inch or

and profusion of bloom are surprising. I remember a few years ago seeing a collection of standards in 9-inch pots. The stems were about 3 feet high and the size of one's finger; the heads were globular, dense, and full of bloom. I suppose this was effected by repeated pinching back, sacrificing the flowers for a year or two, and well feeding with liquid manure. They were, however, very attractive specimens, and well repaid the trouble bestowed on them.—J. M., Charnmouth, Dorset.

The Pelargonium house.—Among other inmates of the structure devoted at this season more particularly to zonal *Pelargoniums* may be mentioned *Salvia splendens*, *Bruanti*, *coccinea*, and *rutilans*, two varieties of *Eupatorium*, *Libonia penrhosiensis* and *Primula obconica*. With the exception of the last named, all the others are struck, potted on, and grown through the summer under the same conditions as the *Pelargoniums*, and make capital companions for them at this season.—E. B.

Ipomœa rubro-cœrulea.—This tropical Bindweed is well worth attention as a climber for the stove or intermediate house, as it flowers with great freedom in autumn, and like many of its allies, the blossoms are wonderfully pretty, while, though the individual blooms do not last long, a succession is kept up for a considerable time. The flower is when first expanded of a beautiful pale blue, but afterwards it becomes suffused with a peculiar reddish tinge, giving it a very distinct

Rhododendron. This last is a native of Java, but it will succeed in a lower winter temperature than *R. javanicum*, whose massive heads of orange-coloured flowers are so beautiful. The various tube-flowered or Javan hybrids, too, require a warmer structure than *R. retusum*. This last has been but little employed by the hybridist, the only varieties claiming parentage from it as far as I know being Prince of Wales, sent out about thirty years ago and now almost dropped out of cultivation, and *Daviesi*, the result of intercrossing *R. retusum* and *R. javanicum*. In shape the flowers of *Daviesi* are about midway between their parents, and their colour—a glowing orange-red—renders them very showy.—T.

Begonia Gloire de Lorraine.—This beautiful *Begonia*, to which a first-class certificate was awarded at the last meeting of the Royal Horticultural Society, is, as surmised in the notice thereof, a hybrid with some affinity to the tuberous-rooted section. It was raised by that veteran hybridist, M. Lemoine, of Nancy, and announced by him as a hybrid between *B. socotrana* and *B. Dregei*. In his catalogue M. Lemoine gives some very interesting particulars regarding this *Begonia*, from which it appears that the cross was effected in January, 1891, and that the young plants obtained therefrom were already in full flower by November 15 of the same year. In February, 1892, it was awarded a first-class certificate by the National Horticultural Society of France, and now it has received a similar award in this country. Messrs. Lemoine say that the length of its flowering season is shown by the fact that the same plants shown in February were again exhibited in November of the same year.—H. P.

SOME RARE PALMS AND OTHER FINE-FOLIAGED PLANTS.

ALTHOUGH the Victoria house at Kew is for the present year losing its central attraction—the Victoria Regia declining in vigour and ceasing to flower as the days grow shorter—the house still remains extremely interesting by reason of a number of remarkably fine-foliaged plants which it contains. There are, indeed, over a dozen plants stood round the tank whose rarity and striking character make the collection quite unique, and one which no other garden in Europe could produce. Some of them are here and there to be met with in stoves; others, perhaps, may become not uncommon garden plants in course of time, but the majority are only known to horticulturists by having figured in many a traveller's tale. Some, such as the double Cocoa-nut and Palmyra Palms, we can scarcely ever hope to possess in large quantities in this country, owing to the difficulty of raising the plants. It may, therefore, be of interest to those who have tried to grow or raise these plants to know the conditions under which they have been found to so far succeed here and to learn the dimensions to which they have already attained.

LODOICEA SEYCHELLARUM.—This Palm is, as the specific name implies, a native of the Seychelles Islands. This is the only region in which it is found in a wild state, and even here it is confined to three small islets. In its adult state the Palm is 70 feet to 100 feet high, with a perfectly erect, straight stem about a foot in diameter. Ever since the discovery of the Seychelles in 1743 it has been regarded as a Palm of exceptional interest, not only because of its extremely limited distribution, but also from the fact that prior to that date the fruits were frequently found floating on the sea and were picked up by mariners. On the surmise that they were the fruit of some ocean plant, the name of *Coco de Mer* was given them, and their reputed medicinal properties gave them an enormous money value. Many attempts have of late years been made to get the plant under cultivation from seed, and some years ago a young plant was

raised at the Liverpool Botanic Garden, which, however, died shortly after germination. In the summer of 1890 two germinating nuts were sent to Kew from the Seychelles, and after growing successfully in a warm pit for two years, the stronger one was removed to the Victoria house, where it has since made extraordinary progress and is now to all appearance in perfect health. The plant is placed over the warm water of the tank, the bottom of the pot being for a few inches immersed. It now carries four leaves, and the youngest one gives evidence already of the remarkable dimensions they ultimately attain in this Palm. This leaf is undivided, the blade 5 feet long, each side of the midrib measuring 3 feet 6 inches across, but gathered up into numerous half-expanded folds. The seed, which is still attached to the plant and supported on a special stand, is a nut 1 foot long by 1 foot 8 inches across and consists of two immense lobes, hence the common name of double Cocoa-nut. It is the largest seed that exists in the vegetable kingdom.

BORASSUS FLABELLIFORMIS (the Palmyra Palm).—This Palm—a native of Tropical Africa—is of great importance as an economic plant in India, where it has evidently been introduced for a long period. It is especially valuable because it flourishes in dry, arid plains where scarcely anything else will grow. It has hitherto proved very difficult to cultivate in this country; nevertheless, a plant in the Victoria house is succeeding admirably under the same conditions as the double Cocoa-nut, notwithstanding the difference between the conditions here and those which are described as pertaining to the dry regions of India. It is a fan-leaved Palm with foliage of a slightly glaucous hue. It carries ten or twelve leaves, and is about 3 feet high. I believe this is the largest, perhaps the only specimen in Britain.

MAURITIA FLEXUOSA (Ita Palm).—Quite distinct is this Palm from any one generally known in cultivation. The Kew plant has not yet formed a stem above the soil, the leaves being borne on erect petioles 5 feet high. The central part of each leaf is circular, but the rest of the leaf consists of strips an inch wide at the base, narrowing to a long fine point, which hang straight downwards from the centre to a length of 2½ feet. The effect is not only strikingly distinct, but is also very graceful. The Ita Palm is found in British Guiana and other contiguous parts of tropical South America, occupying the margins of rivers and swampy ground. It is interesting to recall that fifty-seven years ago Sir Robert Schomburgk first discovered the remarkable *Orchid Catasatum longifolium*, a species that grows head downwards, on the stems of the Ita Palms.

VERSCAFFELTIA SPLENDIDA.—Like the double Cocoa-nut already referred to, this Palm is a native of the Seychelles Islands. It has huge undivided leaves of somewhat the same character as *Stenersonia grandifolia*. The stem is quite erect, 3 inches in diameter, marked with the ring-like scars of the fallen leaves, and armed with long black spines. This Palm is not only a particularly ornamental one, but is interesting on account of the manner in which it is held aloft on its roots. As the plant grows in height roots are successively developed one above the other from the lower part of the stem. Each one is stronger than the preceding, and the older lower ones finally dying away along with the stem, the plant becomes at length elevated on so many legs. The plant here is only 7 feet high, but its latest roots have already to grow 1 foot before they can take hold of the soil. The growing point of each is guarded by a cap formed of effete scales, which, by retaining some of the water trickling down the root, provide for its being kept moist. The *Iriartea*s are other instances of this peculiar mode of root growth; in large specimens a man may pass upright between the bottom of the stem and the ground.

HYPLERNE THEBAICA (Doom Palm).—The Doom or Gingerbread Palm is a native of Egypt and Abyssinia. It is of great interest botanically, being one of the very few Palms that branch naturally. Under cultivation it has always proved a difficult subject. The plant here is small, but

quite healthy. It has slightly glaucous fan-shaped leaves, the petioles of which are armed with a few stout black spines. It is the husk of the fruit which tastes like gingerbread, and although dry and unpalatable to Europeans is eaten by the poorer natives.

BISMARCKIA NOBILIS is a very rare Palm, and has the reputation of being a difficult one to grow. Whatever it may be under ordinary methods of cultivation it thrives exceedingly well in the Victoria house with its pot partly immersed in the tepid water, and is, in fact, in the rudest health. The plant is 4 feet to 5 feet high, its somewhat glaucous fan-shaped leaves measuring 3 feet across, the margins of the segments being furnished with a few white filaments. The species is a native of Madagascar.

MANICARIA SACCIFERA.—The Troolie or Bussu Palm of British Guiana is an important economic plant in that region. The stem, which is frequently very crooked, grows to a height of 20 feet, and bears channelled, entire leaves that are 30 feet long by 5 feet wide and quite erect. The seed contains a palatable milk, the leaves are used for thatch, and other parts of the Palm are put to various uses. The specimen at Kew is 6 feet high, no stem as yet being formed; the leaves, unlike those of adult plants, are irregularly pinnate. This Palm in its native state occupies tidal swamps, and therefore belongs to a class of plants which has always proved difficult to cultivate, owing no doubt to the lack of salt water natural to them.

STANGERIA SCHIZODON.—Strictly speaking, there is only one species of *Stangeria*—*S. paradoxa*—but it varies considerably in habit and foliage. Although a Cycad, its leaves are more like those of a Fern (*Lomaria chilensis* for instance) than any other Cycad. They are pinnate, quite glabrous, traversed by parallel forked veins, and of a deep green. *S. schizodon* is the finest and most robust form of the species; the plant here is 8 feet through, the leaves 4 feet to 5 feet long; the margins of the broad pinnae are toothed, as the name suggests, and more deeply than in the typical *S. paradoxa*. The variety was originally introduced about twenty years ago, but like the type is very scarce. The plant under notice carries several cones and has altogether a very noble appearance.

VRIESIA GLAZIOVIANA and *V. imperialis* are two imposing Bromeliads among the giants of their tribe. A plant of each is grown in the Victoria house, and being practically alike in foliage make a striking pair. The leaves, each 4 feet long, shaped like a rounded trough, and narrowing gradually to a point, are of a shining glaucous green, bronzy at the base.

MACARANGA PORTEANA.—This is one of the most striking fine-foliaged plants introduced in recent years. It was sent to the Jardin des Plantes at Paris from the Philippine Islands five years ago, and thence reached Kew. The leaves, of a rich olive-green (purplish when young), each measure 2 feet 9 inches in length and 2 feet 6 inches in width, being supported by long petioles which are attached to the centre of the blade. The leaf is supported like a shield, and is of the same outline. It is only in a large house that the noble proportions of the plant can be properly shown. The *Macaranga*s are euphorbiaceous plants, and are allied to the better-known *Acalyphas*.

Amongst other plants the following should be mentioned:—

PRIONUM PALMITA (the South African "Palmito").—A noteworthy plant that belongs to the family of the Rushes. In habit and general appearance, however, it is far removed from them and is more like a smooth-leaved *Pandanus*, destitute of prickles or spines. The tapering, channelled leaves are 3 feet long and of a glaucous colour. The plant is common in South African rivers and is quite easy to grow when treated as an aquatic. The leaves are valued for the fibre they yield, and the heart of the plant is used as a vegetable.

THE MANGOSTEEN (*Garcinia mangostana*) is represented by a healthy young plant. Although

known chiefly for the fruit it produces, it has some pretensions to beauty as a fine-foliaged plant, its large, oblong, deep green leaves being very handsome.

THE TEAK (*Tectona grandis*) also is distinguished by its large rhomboidal leaves.

GYNERIUM SACCHAROIDES (the Brazilian Uva Grass) is a curious and striking plant. Its crowded slender stems are 12 feet high and bear long grey-green leaves. It is a semi-aquatic and is here kept with the pot almost entirely immersed.

Although one might expect such things as the Ita Palm, which is naturally a swamp-loving plant, to thrive under the conditions that here obtain, it is something of an anomaly to find the Doum and Palmyra Palms (both of which grow so frequently in semi-desert country) succeeding equally as well, for not only are the bases of the pots in the water, but there must also be a continuously high state of humidity in the atmosphere. They are, however, simply so many more instances of the uselessness of attempting to reproduce in our glass-houses the conditions under which such plants naturally exist. These natural conditions, too, are often more apparent than real. The Doum Palm, for instance, has often been found to send its long roots deep through the sand and to have tapped underground springs. We must also bear in mind Darwin's dictum, that plants have often to live where they can and not where they would, and their existence on dry, poverty-stricken land is more a matter of necessity than of preference. One might, in fact, mention dozens of instances where plants that have been introduced from dry, torrid regions succeed under cultivation far better when treated like others from regions where absolutely diverse conditions prevail than they do under the most elaborate imitations of their native soil and atmosphere. W. J. B.

Cordyline indivisa.—I noticed your correspondent's note on this plant in your issue for Oct. 21 (p. 381), and can well imagine what a noble example it would be at the unusual dimensions given, and it may be of interest to others as well as myself if "H." would kindly say if he has any idea what age the plants are. I have been acquainted with a pair of plants growing in a greenhouse for twelve years, and although they appear to enjoy fair health, are very little larger now than when first I saw them. I am quite at a loss to make out why this plant should be confounded with the variety *C. australis* sold in London and elsewhere as *C. indivisa*, as there is no comparison between the two.—C. TURNER, *Willowfield, Halifax*.

Manettia bicolor.—There is now in flower in the stove at Kew an extremely pretty specimen of this small climber. It was introduced from the Organ Mountains, of Brazil, by Messrs. Veitch just about fifty years ago, and was, perhaps, better known to a past generation of gardeners than it is to the present. The plant under notice is trained upon a support 1½ feet high, and its slender leafy stems are so numerous as to make a perfect covering, which is thickly studded with the small, brightly coloured, jewel-like flowers. The leaves are small, lanceolate, and of a deep shining green, the flowers being tubular, the narrow tube scarlet at the base, whilst the upper part is yellow. It is easily propagated by cuttings, and is worth noting as a plant that flowers at a season when the stove is not plentifully supplied with bloom. Three or four other species of *Manettia* have been at various times introduced, but none of them is generally grown in gardens.

Clerodendron nutans.—Although there are in commerce other species of more gorgeous colours, this stove shrub of hardly scandent habit is well deserving of more extensive cultivation. It is a native of Sylhet, on the east side of Bengal,

whence it was introduced about 1830, and its inflorescence, as its specific name *nutans* indicates, is of a drooping habit. As is the case in several other species, the flowers show two very distinct colours. They are disposed in loose, pendulous, oblong panicles, long and slender, hanging down gracefully and vibrating with the least breath of air, situated at the extremity of the lateral growths. The flowers of which these panicles are composed are devoid of perfume, slightly ascending, with a calyx of a beautiful reddish purple colour, which forms a most pleasing contrast with the waxy pure white nature of the petals. These are somewhat egg-shaped, blunt, almost equal and flat, and the stamens being longer than the corolla and curved upwards are very ornamental. The leaves in this handsome species are either ternate (arranged in threes) or in pairs. Although not a climber, this species, which requires a minimum temperature of 60° in winter, is well adapted for growing as a pillar plant, as it is of robust habit, and whoever sees it in flower, as it now is in Messrs. J. Veitch and Sons' nursery, cannot fail to appreciate its merits as a decorative plant. *C. nutans* is readily propagated from cuttings struck in heat, and usually flowers from October to December. A very good illustration of it is given in the *Botanical Magazine* for 1831, t. 3019, where it is stated that it flowered for the first time in England in December, 1830, at Bretton Hall, and that the drawing was prepared from materials sent from that place by Dr. Wallich. A coloured plate of it was also given in THE GARDEN, Vol. XXXIII. (p. 412).—S. G.

Macrozamia Frazeri.—Many of the Cycads are so large and unwieldy, that they can only be grown to advantage in large stoves and where a permanent position can be given them. There are a few exceptions, however, most noteworthy of which is *Cycas revoluta*. But other species also might well be included, and amongst them more valuable than any, perhaps, in combining beauty and convenient form of growth is *Macrozamia Frazeri*. Most of the Cycads owe their decorative value to imposing regularity of outline and to the stiff, rigid pose of the fronds. *Macrozamia Frazeri*, on the other hand, owes its great attractiveness to the grace and beauty of its arching or pendent fronds. These in full grown specimens are 6 feet long, the pinnae 1 foot long, narrow linear, tapering to a long fine point and of a peculiar, almost black-green colour. Another recommendation of this species is that it keeps on growing and is continually pushing up young fronds; whereas the Cycases and *Encephalartos* send up their fronds in whorls at long intervals, the old ones sometimes becoming very shabby before the young ones appear, especially after the plants have produced cones. The *Macrozamia*s are all natives of Australia, and some nine or ten species are included in the genus.

Winter-flowering Begonias are commencing to bloom freely, and where grown are quite a relief from the surfeit of Chrysanthemums. When in Messrs. Veitch's, Chelsea, a few days ago, B. John Heal was commencing to bloom freely, and in Messrs. Cannell's nursery at Swanley a large collection is in beauty through the winter months. We think that there is a great future before this interesting class, and the plants are of much value for flowering during a very dull season of the year, when Chrysanthemums are the chief things in bloom. One of the finest of all the Begonias is *Gloire de Sceaux*, which has a pyramidal habit of growth, the leaves large, bronzy-green, and the flowers pink—a fine contrast. An excellent group of it was shown last January by Mr. Jennings, of Ascott Gardens, Leighton Buzzard. Another fine kind is *President Boureuilles*, which is vigorous in growth, the leaves bronzy-crimson, and the flowers bright pink. *B. corallina*, *B. semperflorens gigantea rosea*, *B. Bijou de Gand*, the free-flowering *B. Carrière*, and *B. odoratissima* are all worth cultivation.

Acacia platyptera.—This remarkable species, which may be said to herald in the flowering season of the Australian Acacias, is unusually

fine this year. No doubt the reason of this is to be found in the phenomenal amount of sunshine experienced during the past summer, coming nearer to what it enjoys under its native Australian skies than occurs very often in this country. In any season, however, if given a few weeks' exposure to full sunlight out of doors during late summer, it may always be relied on to produce an abundance of bloom from October to December. It is one of a small group of Acacias which (except in a rudimentary state) possess neither leaves nor the leaf-like phyllodes so common in Australian Acacias, the functions performed by these foliar organs being relegated in this instance to the curious wings attached continuously up each side of the stems and branches. These wings are green and, varying from a quarter of an inch to half an inch in width, are also cut up into forked lobes. The flowers are arranged in balls half an inch across, and are of the brightest yellow. The plant grows to a height of about 4 feet, and should be tied loosely to stakes rather than trained on balloons or other formal shapes.

Salvia azurea.—If we except the Chrysanthemums, there are no more useful flowering plants for the last three months of the year in the greenhouse than the *Salvias*. Amongst the scarlet species, *S. splendens* and its varieties are the best, but equally fine is the blue-flowered *S. azurea*, several groups of which now make a most delightful display in the conservatory at Kew. Unlike the dwarf varieties of *S. splendens*, which when well grown make handsome individual specimens, this species is of tall, somewhat sparse habit, and to obtain the best effect should be arranged in groups when in flower. It grows from 3 feet to 5 feet high, and has narrow, linear leaves 2 inches to 3 inches long, the flowers being borne on spikes 8 inches to 1 foot long. The lower whorls of flowers open first, and as they die away others higher up are developed, and by this means a continuation of bloom is kept up for many weeks. The main feature of the flower is its lower lip, which is half an inch wide and of a clear blue, relieved only by a patch of blue-tinted white in the centre. It is a native of West North America, the best form in cultivation being that known as the variety *grandiflora*.

PALMS UNHEALTHY.

I HAVE a quantity of large Palms, which are much valued by my employer for house decoration. The leaves of these began to turn yellow last year. I reported them when I saw them going wrong, and have taken every care of them since, but they are getting worse; although they are all throwing up plenty of new leaves, these are yellow. They are kept in a cool house, no fire-heat except in frosty weather.—PALMS TURNED YELLOW.

* * The condition into which the Palms have got may be ascribed to quite different causes, but from the information given I am disposed to think that the chief cause of their present unhealthy state is to be traced to using them for house decoration too freely. Palms, at least a number of kinds, are very long-suffering, but they will ultimately rebel against excessive use in unfavourable ways, as in the case of nearly all other decorative plants. Information as to the size of pots or of plants either being supplied only in an indefinite manner, it is not possible to trace the origin exactly of this failing. If the plants were whilst in a healthy state in moderately small pots as compared with the size of the plants themselves, they would become unhealthy or turn yellow if sufficient water was not given them. When Palms are pot-bound they may almost be likened unto semi-aquatics as to the amount of water they will take, and if this be denied them, the effects would soon be as described by the inquirer. Another source of unhealthiness is that of using them too soon after they have been freshly potted; to do this is a great mistake, as can be

shown in a few words. Assuming that an average shift has been given, and the plants taken out of their growing quarters into a less congenial sphere soon afterwards, a check is at once given to fresh root action through the soil becoming cooler. Hence not nearly so much water is needed as it relates to the fresh soil, whilst the old ball may be dry. To water freely means that the young and tender roots in the new soil will suffer a check. This would also cause the plants to turn yellow. No plant should be used for decoration in the house until it is well established and is rather on the side of being pot-bound than otherwise. Such plants are altogether of a hardier constitution, and when well watered are much safer in every way from a decorative point of view.

Another source to which the same failing might be ascribed is that of too great extremes in temperature, but in this particular instance this does not appear to be the cause. A high temperature and atmospheric moisture in abundance will encourage a most luxuriant growth, the plants being for the time in the picture of health, but to transfer such plants to a dwelling-house would be folly in the extreme. Too much sunlight during bright and warm weather would also tend greatly towards a yellow appearance in the foliage. A moderate amount of shading is most essential for Palms under glass unless it be in the case of houses of immense size where there is a large volume of air always in motion. This would not, however, cause the roots to be unhealthy save as a secondary cause, this being accelerated by an insufficient supply of water. Insects would likewise largely aid in turning the leaves yellow, but as these are not mentioned, it is assumed that they are not the cause. It might, however, be added that red spider is a decided enemy to the *Thrinax* family and also at times to the *Latania*s, but not so much so to the *Kentias*. Unsuitable soil and inefficient potting are two important factors that should be carefully considered. To use soil of a close description, with an absence (to a large extent) of fibre, would only be to encourage failure. The soil should be quite fresh and full of fibre, two-thirds of loam to one of peat being a good proportion, with a liberal use of sand. Firm potting must be attended to, as upon this depends to a large extent the future well-being of the plants. Over-potting is, lastly, another cause, and it is one to which more attention should be given by those who grow Palms. It is quite true that many of the Palms are gross feeders, but it does not therefore follow that large pots are essential, for they are decidedly not when a liberal supply of water is given them. I have proved this over and over again both in the case of small, medium-sized, and large plants.

In the case now under consideration no mention is made by the informant as to the actual treatment given when the plants were fresh potted. It is stated that they were potted after they were seen to be turning yellow, but if in doing this they were given larger pots a mistake was made. The roots would no doubt be to some extent unhealthy; such should be looked over and the worst ones removed, as well as any sour soil prior to potting. Then in nearly every case it should be possible to put them back into the same sized pot again. To repot into larger pots in such cases would only end in aggravating the mischief, more particularly if the plants are at the same time being continuously used for house decoration. I have seen plants used thus that have at last had hardly a good leaf on them. When they arrive at this condition they take a deal of bringing round again, and their use should not again be entertained until their health is quite re-established. I note also that in this case the plants are being grown cool. This will to a moderate degree suit *Latania borbonica*, which it is assumed is the species grown. The *Kentias* will also withstand a cool treatment, but not so either of the true species of the *Thrinax* with impunity. This cannot be classed as a reliable plant for either a cool house or for house decoration save in the height of summer. Taking into consideration the state of the plants, the lowest temperature for the coming

winter should not in either case be less than 50°, but 55° would be better, 10° or 15° being added by day.—Cocos.

GARDEN FLORA.

PLATE 936.

TRITONIA AUREA.

(WITH A COLOURED PLATE OF *T. A. IMPERIALIS* AND *T. A. MACULATA*.)

TRITONIA, or *Crocasmia*, *aurea* is one of the most useful of South African bulbous plants. It is an old garden favourite, having been introduced to Kew in 1846, when it was figured in the *Botanical Magazine*. It appears to be common in South Africa and to grow under the most varied conditions. Under cultivation its requirements are of the simplest character, and it grows and flowers most freely and continuously under pretty much the same treatment as a bedding *Geranium*. In the warmer parts of England it may be left in the border all winter if protected with a layer of leaves or if under the shelter of a south wall. It spreads as rapidly as Couch Grass, becoming almost a weed in warm borders. For beds on lawns or as a plant for the flower border it is really valuable, and it is also worth growing in pots for the conservatory. Planted in loose sandy soil in a sunny position in spring, the corms will take care of themselves, and during the summer will develop numbers of stoloniferous corms which will flower the year following. If they have to be lifted for the winter, it should be done in October and the corms dried in the sun. They may be stored in a dry shed from which frost is excluded.

Typical *T. aurea* grows about 2 feet high, and has spikes of flame-yellow flowers 2 inches across. The variety *maculata* was introduced into cultivation by Mr. James O'Brien, of Harrow, in 1888, when it was named by Mr. Baker on account of the dark eye-like blotches at the base of the flower segments. So far as our experience goes, this character has almost disappeared under cultivation, the Kew plants having now only faint indications of the brown marks which were quite conspicuous in the flowers in 1889. But the spots are no loss, the true beauty of this variety being in the rich deep fulvous orange of its flowers and their exceptional width and length of flower-segment. Last year at Kew the spikes were fully 4 feet high (they were not quite so high this year) and the flowers were at least 3 inches across. A clump of the plant when at its best in a south border against one of the houses was greatly admired. In the same position and growing by its side was a clump of the variety *imperialis*, which is quite as tall in spike and broad in flower as *maculata*, but its colour is of a brighter shade of orange and the segments are narrower. This *Tritonia* was imported to Kew amongst some plants of *Lissochilus Krebsi*, which were planted in a border in the succulent house, where the *Tritonia* soon grew and flowered. It was also imported by Herr Max Leichtlin about the same time. Both the varieties as well as the type ripen seeds freely under cultivation.

About ten years ago a hybrid between *T. aurea* and *Montbretia Pottsi* was raised on the Continent, I believe by M. Lemoine, and named *Montbretia crocosmiflora*. It is now fairly well known in English gardens, being easily

grown, free-flowering and the colour of the segments two distinct shades of orange, due, no doubt, to the presence of a tinge of red in the flowers of *M. Pottsi*, the seed-bearing parent. Following this success came a batch of seedlings and crosses raised by M. Lemoine, and which have all the excellent qualities of the *Tritonia*, with, in addition, variety of colour, ranging from pale lemon-yellow to flame-red. M. Lemoine distinguishes about twenty of them with such names as *Drap d'Or*, *Etoile de Feu*, *Gerbe d'Or*, &c. Still another addition to these plants, also of M. Lemoine's raising, is a double-flowered variety of *Montbretia crocosmiflora*. This plant flowered at Kew this year; is in flower now in fact, and unless it improves upon its present appearance, it is not likely to find much favour except on account of its doubleness.

As an instance of how rapidly these plants increase under cultivation, I may mention a case recorded a few years ago from Sydney, where in less than five years six corms of *T. aurea* obtained from England and planted in a bed in one of the parks filled a space 4 feet in diameter and was a thick sheaf of spikes 3 feet high. It increases almost as rapidly here if planted in a good position in light rich soil.—W. W.

—*Tritonias* are amongst the most brilliant of late summer and autumn border subjects, and they are worthily fast coming to the front because of their long duration and desirable colours. I am now speaking, of course, of the large class of hybrids, so distinctly superior to the types whence they sprung, and which have so long had the special and intelligent care of the firm of V. Lemoine et fils and others. As a matter of fact, there is considerable variety, and the variety is widening every year. It may perhaps be useful to point out that whereas these flowers are more properly, or at least better authorised under the generic name *Tritonia*, which now includes *Crocasmia* and *Montbretia*, many of these richly coloured hybrid Irids may be better recognised by the name *Montbretia*. It may be well also on another score to recall these facts of nomenclature because, as I believe, they have most directly to do with the employment of the flowers in the open garden. I believe it is true that the want of hardness of the bulbs has been the chief cause of the slow introduction, at least of the older sorts, but under the more familiar name *Montbretia* we have come to see that they are really harder than we supposed, and it is really the case that the hybrids are harder than, say, the typical *Tritonia aurea* (syn., *Crocasmia aurea*). It is doubtless inconvenient that so many names should surround the same class of flowers. Let me say, however, that these good things should not longer be neglected for open garden purposes, as with very little care indeed they are safe in the coldest winters in my Yorkshire climate. The care implied means that the bulbs should be set in light, but rich soil in March at a depth of 8 inches. I have kept some of the older sorts going for years with no extra trouble, but a further precaution might be advisable, that of a mulching of cocoa-nut fibre as soon as the plants have received their first cut by early frost. The two varieties shown on coloured plate are new and remarkable for their larger-sized flowers, otherwise they are representative of the large number of kinds. To my mind the bright colours of these flowers can never have justice done to them on paper compared with their living richness as seen in the garden with verdant surroundings.—J. WOOD, *Kirkstall*.

Veronica Jardin Fleuriste.—Some years ago I had, on the late Mr. Downie's recommendation, a few plants of a dark rose-coloured *Veronica* named *Jardin Fleuriste*. About that time I was replanting the climbers on the front of the resident agent's house, which is situated on a higher level than the gardens here. One of the *Veronicas*

* Drawn for THE GARDEN by Champion Jones in the Royal Gardens, Kew, August 8, 1892. Lithographed and printed by Guillaume Severeys.



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was planted there at the time, the others were kept in pots. The Veronica planted out has bloomed in the late autumn of each year since planting, and at the present time it is in great beauty, being a mass of dark rose-coloured spikes of flower. Where Veronicas do well this is a valuable acquisition, and well worth a good position. The plants left in pots bloomed well the first year or two, but have got leggy. I will plant them out and increase the stock. I send you a flower or two of it. I do not see the name in any trade lists of Veronicas; probably it may be grown under some other name.—D. M., *Dunrobin*.

* * A richly coloured, fine variety.—ED.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

SOWING PEAS.—Although to a certain extent the sowing of Peas in November for the earliest crop has been abandoned, on account of the ready manner in which they may be forwarded under glass at the turn of the year, yet it is a system which still finds many advocates. Where they succeed generally is where the soil is of a sandy or gravelly description. The site chosen must also be well open to the sun. Before sowing fork the soil well over, adding also burned refuse and well-rotted manure. In the case of those soils where Peas do not succeed very well, the addition of some steamed bone flour will assist the growth considerably. It will also be necessary to sow the seeds rather thickly at this season, but previous to sowing it is advisable either to dress them over with a coating of red lead or even petroleum as a safeguard against the attacks of mice. The drills should be drawn with a flat bottom, and directly the points of the young plants appear, keep a sharp look out so that they do not receive injury, especially from birds. If slugs are troublesome, it is a good method to sprinkle a thin layer of sawdust along the lines, as on this material these marauders do not care to travel. The best varieties for sowing now are William I. and Veitch's Selected Early. The early dwarfs are not so well adapted for sowing at this season, but they will succeed on a warm and well-drained border. The rows of the former varieties should be 4 feet apart, and in the case of dwarfs 30 inches.

BROAD BEANS.—The best variety for sowing at this season of the year is Beck's Dwarf Green Gem. This should be sown in drills 30 inches apart. As long as the site is open and sunny Broad Beans will succeed, so space need not be taken up on a south border. But it is advisable to sow a row or two extra as a safeguard against injury, for as the Broad Bean may be readily transplanted, these extra rows will prove useful for filling up any gaps in the spring.

FORCING ASPARAGUS.—This is very readily forced, as with plenty of strong roots available, there need be but little fear that a supply will not be forthcoming as long as the requisite heat and moisture can be afforded. Asparagus may be forced readily on a hotbed, but it is more convenient to force it in a heated pit with a bottom-heat afforded by a body of fermenting material, this causing a genial heat about the roots. Asparagus may also be forced in any low and heated span-roofed structure as long as there is a bed for placing the roots into. In the case of forcing by the aid of a hotbed, see that the bed is efficiently made so that the heat may be regularly maintained. Tree leaves being abundant at this season should form quite one-half, the whole being well prepared by turning. The bed should be at the least 4 feet in depth and be made 6 inches larger than the frame all round. If good strong roots are not very plentiful, it is not good policy to commence forcing too early, the produce perhaps proving more valuable at the turn of the day. But in any case a layer of soil to the depth of 2 inches should be first placed over the bed, the roots being packed closely together and covered

over with the same depth of soil. A bottom-heat of 80° and a top-heat of 55° or 60° in pits where the temperature can be regulated is sufficiently high. Whether blanched produce should be provided is a matter of individual taste. If this is needed it is easily secured by excluding light. With a plentiful supply of strong roots, a batch put in to force at intervals of three weeks will result in an almost regular supply. Even if not required it will keep for three or four days if the ends are placed in water and kept in a cool place.

FORCING RHUBARB.—After a rest Rhubarb forces readily enough if given a position where a genial heat can be maintained with sufficient moisture about the roots. I have not yet found any better than Hawke's Champagne and the Early Red. Strong two-year-old roots can be forced as easily as roots of older growth, so there need not be any scruples about the roots not being strong enough if of the age stated. Where Rhubarb may be forced is often a matter of convenience. At this early date the temperature of the Mushroom house is not high enough to ensure a quick growth. The crowns will soon start if placed under a stage in a warm plant house, surrounding them so as to exclude light and allowing sufficient head room so that the stalks may rise. The roots should also be well surrounded with soil, as they will give treble the amount of produce than if left exposed or the roots merely stood on the surface. Rhubarb may also be forced quickly by packing the roots in deep pits in which have been placed leaves and litter for bottom heat.

FORCING SEAKALE.—To secure good Seakale early in the season two things are very necessary, viz., strong roots and a thorough rest. Therefore, for this latter reason do not be in too great a hurry to take up more than is requisite for a batch, as the rest is more thorough by the roots being left in the ground, a supply of course being anticipated by taking up sufficient to keep up the supply in case of frost. In this latter case lay the roots in a cool shed, merely covering with an old mat. As in the case of Rhubarb, the temperature of the Mushroom house is not sufficiently high enough to ensure the crowns starting readily into growth, but this can be obviated by forming a pit within this structure or any other shed, the heat being maintained with the aid of fermenting material. This method of forcing I have previously alluded to, so I need not further refer to it. What is wanted is a temperature high enough to force growth, but not so high as to cause a very rapid growth, or the produce will be tough when cooked. Light must also be quite excluded and the soil about the roots kept moist. For a small supply the roots are often packed in conveniently-sized pots, light being excluded by placing another over the top, the holes also being closed, and these placed in warm corners under the stage of plant houses. The only fault I find with this method is that the pot used for covering is apt to cramp the growth. A better system is to pack the pots or even the roots in soil in a kind of cupboard placed beneath the stage.

A. YOUNG.

ORCHIDS.

As I write the wind from the north-east, bitterly cold, is blowing upon our cool Orchid house. As I have previously hinted, I do not mind a little frost if unaccompanied by wind, but these cold east winds when the house is fully exposed to them find out every cranny. After growing cool Orchids in a span-roofed house exposed to all quarters but the east, and also in a lean-to exposed to the north and east, I would now recommend the span-roofed form; exposure to continued east winds certainly does not suit them. I consider the Masdevallias from the high mountains of South America, such as *M. Veitchiana*, *M. Harryana*, *M. Lindenii*, *M. ignea*, and *M. Davisii*, as amongst the most beautiful of the inmates of this house, and yet they have fallen into comparative neglect. When the beautiful varieties of *M. Harryana*, first imported by Messrs. Veitch, of Chelsea, flowered, very high prices indeed were paid for the best

varieties. The Bull's Blood variety, which I believe first flowered in the then famous Meadowbank collection, was sold at a very high price—ten and fifteen guineas for very small plants. This and the variety *M. H. sanguinea* were the best of the dark coloured forms. *M. H. cœrulea* and varieties of that type added a distinct feature to the paler coloured varieties. *M. Veitchiana* is in itself a remarkably fine species and in every respect distinct. There is a well-marked form grown in gardens under the name of *M. Veitchiana grandiflora*. The ordinary forms of *M. ignea* are of no great beauty, but the varieties *M. ignea Massangeana* and *M. ignea superba* are very handsome, and, as a rule, they flower before the others in the spring. *M. Lindenii* is next, closely followed by *M. Harryana* and *M. Veitchii*. I am aware that *M. Harryana* and *M. Lindenii* are now stated to be synonymous with *M. coccinea*, but for garden purposes Dr. Reichenbach's name will always be used. All the above require similar treatment, and should be placed at the warm end of the cool house. Masdevallias in many collections become disfigured by the leaves becoming marked with blackish blotches. This, I find, takes place much more in the houses with a northern aspect than it does in the span-roofed form of house. The plants require considerable supplies of water, even in winter; the Sphagnum Moss should not be allowed to become discoloured by being dried up. I grow the pretty little *M. Wagneriana* in pans and baskets near the glass roof of the cool house. This is easily grown and a plant or two should be in every collection. *M. polysticta* is also one that every amateur should grow a plant or two of. The flowers are whitish, distinctly spotted, and produced on a many-flowered inflorescence. *M. Davisii*, a high mountain species, is distinct and pretty, its flowers being yellow of various shades. I advise growing them in a minimum temperature of 50°. In our cool house, 60 feet long, the temperature ranges between this and 40° at the coolest end, and here I may add that the plants may be arranged with the Masdevallias at the warmest end, the *Odontoglossums* of the *O. triumphans*, *O. crispum*, *O. Pescatorei*, &c., in the middle, and the *Oncidiums* of the *O. macranthum* type at the coolest end. *Maxillaria grandiflora* will also do well in the coolest part of the house.

The plants had been thoroughly rearranged and cleaned a month ago, and this winter I am placing them upon the shell gravel stage instead of on the inverted flower-pots arranged upon it. This may be contrary to the usual practice, and I only advise it when the house is, as ours is, quite exposed to the east and north. In a sheltered house I would recommend a chink of air to be left on all night in fine weather. When the house is exposed it will be better to shut it close up. I do not care to do any potting in the cool house after the middle of November; indeed it may not be desirable to do much now in any of the houses. The potting has been delayed owing to pressure of other work in another direction, but it is yet time to repot the *Cymbidium Lowianum*. I have a few large specimens which it takes two men to move which will be repotted this week. I have generally repotted these plants in November, and they have done very well indeed. The usual Orchid peat and Sphagnum mixture is too light for them, but a little may be used with yellow loam, sand, and decayed manure.

Even now with our greatly increased knowledge many growers cannot believe that all Orchids must not be treated alike. Some very choice and beautiful Orchids are terrestrial and grow in loam, sometimes in very moist loam. Most of the *Cymbidiums* will do best with a liberal proportion of loam in the soil, amongst them the beautiful variety referred to above; also *C. eburneum*, which does best in quite moist loam. This beautiful species, once so rare, is now quite plentiful, but it is not yet, and probably never will be, a cheap plant when grown into good specimens, for it takes a long time to grow large. I have seen a moderate specimen sold at Stevens' sale rooms for seventy guineas. This, of course, was before the modern importations. The spotted variety *Dayi*

and the more freely spotted and exceedingly rare *Parishi* are of greater value. We have also now in flower *C. Mastersi*, or *Cyperorchis Mastersi* of Hooker's "Flora of British India." The drooping racemes of ivory-white flowers are very pretty, and, blooming as it usually does in November, the flowers are doubly welcome. I generally repot this plant when it passes out of bloom, using a compost of loam. All these *Cymbidiums* seem to do best on the shady side of the Cattleya house. When repotting them great care must be taken not to injure the thick fleshy roots. Generally they soon take to the fresh compost, and the roots may be seen running freely near the surface, and if that is covered with fresh *Sphagnum* the roots will push up out of the loam. The temperatures should be now at their lowest winter mean. Over-heating may do much harm.

J. DOUGLAS.

PLANT HOUSES.

STOVES.—In all probability the stove will now be fully occupied with plants which in some instances have been out of it for a time during the summer. It requires some amount of scheming and management to make the most of the room at disposal, for if the plants be crowded together indiscriminately, they will in nearly every case suffer before many weeks are past.

Under the supposition that some few specimens at least are being grown, it will be advisable to look these through and see what can be done in their case to make more room. If these happen to be *Crotons* which it is needful to retain, now is a good and suitable time to prune them, having first allowed them to become dry at the roots. The shoots taken off can be struck for a young stock, selecting only the best and cleanest growths, weakly or stunted wood not being in any sense desirable. After the pruning, the plants can be tied so as to regulate the growth; it is better to do this at once than to leave it until young shoots again appear. Any fresh potting, however, may advantageously be left until the spring unless the soil be absolutely in a bad state. Should a pit be at liberty where these cut-back plants can be placed for a time (provided, of course, that the temperature can be maintained as high as that of the stove), it would be all the better as far as appearance goes. In any case they should be kept close up to the glass. The first few leaves that are made may be of a greenish colour, but soon the proper tints will be assumed by the rest. Cutting back *Crotons* at this season is a good way of obtaining well-coloured specimens for exhibition another year. It also saves labour in cleaning to a large extent where insect pests are troublesome. Of other plants, the *Allamandas*, *Clerodendrons*, *Vincas* and *Bougainvilleas* will now all be capable of considerable reduction in their dimensions. Semi-pruning will not in either case do any harm, provided the plants be dry at the roots. After this has been attended to, such as the *Allamandas* can be twisted around stakes so as to take but little more space than the pots occupy. If the plants happen to be trained on the roof, then it will be advisable to thin out the wood, taking away the weakest so as to admit more light. Take particular care, however, that no plants are crowded out of the stove into cooler houses or pits. This has been the ruin of many a *Clerodendron* or *Allamanda* in the winter; a temperature of 55° should be considered the minimum, and this had better not be touched too frequently.

In dealing with plants of evergreen character, as *Ixoras*, the use of the knife at this season should be avoided except to thin out weakly wood. The *Stephanotis* should not be touched save for the same purpose in a moderate way. Some of the fine-leaved plants will possibly bear some reduction. These frequently take up a lot of room that cannot well be afforded all the winter through. Where *Palms* show signs of casting a leaf or two these can be removed without any trouble. *Marantas* often take too much room; so do *Anthuriums* and *Alocasias*. These should be treated in the same way as far as is consistent; then the

remaining leaves can often be drawn more together as a further assistance. *Dracenas* are more difficult to treat in this way, but if any of the larger sorts are growing too tall, the present is a suitable time to make a start in rooting the tops off. This process has been described, but it will bear repetition. Some growers depend merely on Moss as a rooting medium around where the incision of the stem has been made, but personally I much prefer soil and Moss combined, this being packed firmly into a small pot which has previously been sawn asunder and then bound together again, with the stem in the centre, the hole in the pot having been made larger to fit it. In such a case the incision should be just below the pot for further convenience in gradual separation. This process takes a little longer to do, but the rooting will be facilitated afterwards and the safety of the top made all the more certain. Large plants of *Pandanus Veitchi* are oftentimes an encumbrance than otherwise. If any such be not needed and the stock is short, let them go for propagation only; in that case all the strong leaves may be cut off and the crown of the plant stopped from making further growth by thrusting a red hot iron into its centre; this is done by those who propagate largely.

A caution against letting *Caladiums* become checked, or, for that, killed outright, is at this season opportune. Now that they have lost their foliage they must not in any sense be trifled with; nothing less than the temperature of a stove will be safe for them during their resting period, and there, even a warm corner is the most secure. Guard against excessive drought by an occasional watering, otherwise dry rot may be induced. *Gloxinias*, *Gesneras* and *Achimenes* will, on the other hand, be safe enough where the temperature does not often drop below 50°. Where *Gloriosa superba* is grown see to it that a label is in the pot, otherwise by mere accident the tubers may be lost. In the arrangement of the stove contrive to find the most suitable place for each class of plant. There are those which will do best in a dry, hot corner, as the variegated *Pine-apple*, the *Pandanads*, the *Vriesias*, and other bromeliaceous plants, whilst others, as *Crotons*, &c., will be more at home at the moister end. In this way each may be accommodated to its peculiar liking. Another good plan is to frequently re-arrange the plants; it is all the better for them, whilst it also affords a change at a season when every additional attraction is of essential service. In lean-to houses this is even more desirable than in span-roofed ones in order to keep the plants from becoming too much one-sided.

JAMES HUDSON.

FRUIT HOUSES.

PREPARING FIGS FOR FORCING.—Trees in pots will start all the more strongly and quickly if first exposed to moderately severe frosts, and there need not, therefore, be any hurry in getting these housed. Those permanently planted, and which are also to be forced somewhat early, ought now to be thinned out, foreshortening being freely resorted to in all cases where they are becoming too large for the space allotted them. Any infested with scale, mealy bug, and such like should be given a scrubbing with hot soapy water and be further dressed with Gishurst compound or other insecticide used as advised by the vendors. The petroleum remedy recommended for Peach trees is not suitable for Figs, the wood of the latter being softer, more porous, and therefore more susceptible of injury from strong penetrating insecticides. Trained trees should be taken down to admit of the glass and woodwork being thoroughly cleaned and the walls dressed with hot lime water, after which they can be re-tied. It should be remembered that the first crop next season will be borne at the points of all well-ripened young shoots, and good care should, therefore, be taken of these throughout. Trees trained against back walls are not, as a rule, very fruitful, a few of the leading branches trained 3 feet or so down the roof producing more fruit than the whole of the wood against the wall. Old trees

rooting in borders not recently renewed after the manner Vine borders are frequently treated ought to have the surface roots hared and then be given a rich top-dressing, a mixture of fresh loam, mortar rubbish, and fresh horse manure being given when the borders are not badly exhausted. Trees that are disposed to grow too strongly, this meaning light crops of fruit, should be partially lifted and freely root-pruned, fresh loam with mortar rubbish or chalk being substituted for the old soil and rammed down rather firmly. From the middle to the end of November is a good time to start Figs in pots that are to produce ripe fruit in April and May, the first week in January being quite soon enough to start trees permanently planted. In the meantime give the latter a thorough rest, not troubling to exclude a moderately severe frost.

PROTECTING VINE BORDERS.—Where the Vines carrying the latest bunches are rooting principally in outside borders, these latter ought to be covered with either shutters, strips of galvanised iron, spare lights, or other material that will ward off heavy rains. Grapes not keeping well when the borders are badly saturated. Vines that are to be started rather early ought to have their roots solely or principally inside the house, but if the front walls are arched or the roots have access to an outside border, that is where they will mostly be found. Till such time, therefore, as mild hot-beds are formed on these outside borders, they ought to be rather heavily covered with fresh leaves kept in position by either a straw thatching, boards, or shutters, this being done to prevent an undue lowering of the temperature. In the case of Vines that will not be started much before the end of February there is no necessity for covering these with either manure, leaves, or other material, as they would be all the better exposed to the sweetening influences of frosts, winds, sunshine, and rain. If a thin summer mulch of manure has been left on the borders, surface this over with newly-slaked lime and lightly fork it up. What few roots are damaged by this or are injured by frosts will be more than compensated for by the improved fertility of the border. All exposed stems, whether or not forcing is to be resorted to, should be carefully protected with hay bands, or else be enclosed in boxes large enough to hold a good packing of dry sawdust. Frosts do not injure the stems while the Vines are completely at rest, but would quickly rupture the sap vessels directly the sap commences to liquefy. If done now there will then be no risks run. It ought, perhaps, to be added that quite new borders or newly-added widths being liable to become badly saturated should be covered with a view to warding off heavy rainfall as much as possible.

STRAWBERRIES IN POTS.—It need hardly be pointed out that both the roots and plants are perfectly hardy, and the protection of glazed lights, pits or frames is quite uncalled for. Moreover, if Strawberry plants are so protected, they are very liable to become infested with green-fly and red spider and not unfrequently are kept too much on the dry side at the roots. Instead of being injured by frosts, the plants usually flower more quickly and strongly after being well frosted, this being especially apparent in the case of those started extra early. Nor do heavy rains have any marked prejudicial effect upon the plants, always provided worms are kept out of the pots and the drainage is good. At the same time if glazed lights can be spared, these may well be placed over the plants when heavy rains are imminent. But if the plants are hardy, the pots are not, or at any rate they crack badly if the soil they contain expands considerably by the action of frosts, and all ought, therefore, to be plunged up to the top of the rims in either ashes or fresh Oak leaves, packing them as closely together as possible, all being enclosed by rough frames. Vicomtesse Héricart de Thury is the best for extra early forcing, but it is not advisable to start a batch before December, the first week in January being quite early enough to commence forcing in most establishments. Any that have been lifted from the open ground well furnished with fruit in various sizes ought now to have the benefit of gentle heat, the shelves at the

back of well-ventilated forcing houses suiting them well. The fruit presents a more attractive appearance and ripens the more surely when the clusters are raised well clear of the rim of the pots by the aid of Birch or Hazel crutches, or they may be lightly staked up.

FRUIT TREES IN POTS.—These, in addition to being in the way if housed, are also all the better for the more thorough rest brought about by keeping them outside till the time arrives for starting them. Stand them on a good bed of fresh ashes and heavily bank over the pots with either fresh straw litter, Bracken or leaves faced over with straw litter. In the neighbourhood of towns sparrows are apt to help themselves to fruit-buds, but will not touch them if they are kept well coated with soot and lime-water applied through a garden syringe.

PRACTICAL.

ORCHIDS.

ONCIDIUM VARICOSUM ROGERSI.

I AM asked by Joseph Holmes to say a few words about this variety, so that he may form some idea of what it is like, as so many people find that what they send is nothing but the species. This fact I do not doubt. If "J.H." has a good plant of the species now in flower, I should say that he has reason to be proud of it, for it is a very gay and showy kind, producing a strong spike bearing many flowers of a fair size and of a rich golden yellow colour. The flowers last a very long time in full perfection, but in size the individual blooms cannot be compared with those of the variety *Rogersi*. Messrs. Rolleston, of Tooting, imported a great number of this species from San Paulo, and there were many fine forms amongst the plants, but none of the variety *Rogersi*. The plant was known to Lindley nearly fifty years ago, but not in a living state. It first flowered some long time after its discovery in the Horticultural Society's garden at Chiswick, and it was long after this occurred that I first saw the plant blooming. The variety originated amongst some imported plants in the garden of Dr. Rogers, then living at East Grinstead, in Sussex, in 1868, but I did not see it until two years later, when Dr. Rogers' plant was in the possession of the Messrs. Veitch, of Chelsea, where I saw it flowering in a hanging basket. The plant carried a large branching spike, which bore 170 flowers. This magnificent spike made quite an impression upon my mind, and I have only seen the true plant once since, and that was in the possession of Mr. Woodall, of Scarborough, who had a very fine form of it which he told me was brought from the garden of the Emperor of Brazil. I hope the plant is still in his keeping. It is a stout, robust-growing Orchid, with intense deep green pseudo-bulbs, which are deeply furrowed towards the top, where they are stained with flakes of black. The leaves, in pairs from the apex and about 1 foot in length, are strap-shaped, of a deep green colour on the upper side, paler beneath. The spike springs from the side of the pseudo-bulb at its base and becomes much branched. Each flower measures nearly 2½ in. across, the sepals and petals being small, the lip large and flat, having three deep clefts or notches in front. The colour is bright clear yellow, with, at the base, a few cross bars of reddish brown, which in this variety are very small. The plant enjoys a tolerably warm temperature and should be grown in the *Cattleya* house, which in the winter months will fall to about 55° at night, rising to 60° and 65° in the daytime. In the summer season it may be re-

moved to the warm end of the cool house. At this time it enjoys plenty of moisture in the atmosphere, but even when at rest, in spite of its stout bulbs, which might lead one to infer that it would withstand drought unharmed, it likes to be kept fairly moist. After flowering, if the growths have not made a start, I would advise its removal to the cool house. If, however, the shoots have begun to push, allow it to remain in the *Cattleya* house. Drain well and pot in a mixture of good brown peat fibre and Sphagnum Moss, pressing it down firmly so as to make a good hold for the roots, for I think many Orchids are lost through bad potting.

WM. HUGH GOWER.

Dendrobium Phalaenopsis Broomeanum.

—Flowers of this beautiful variety come to hand from Mr. Broome, of Llandudno. They are of large size, measuring some 4 inches across, with broad sepals and petals. The ground colour is white, the petals tipped with crimson-lake; lip large. The front lobe has a ground colour of rosy carmine, streaked with crimson-lake. It is a superb flower. Another form marked B appears to me to be only the typical form of the species. W. G.

Orchids at autumn shows.—Although *Chrysanthemums* are the chief features at this season, a few good Orchids afford a charming variety. I have been struck with this just recently both at a suburban and a country exhibition. At both of these gatherings there were some excellent examples of Orchids in season. These were in the one case shown as individual specimens, whilst in the other they were arranged in groups. The latter was certainly the most commendable method, but of course it took a few more plants, whilst small ones could be used to good advantage. In the other the various competing exhibits were rather too uneven in size, although in each case excellent. The groups also possessed a finish that the others did not by reason of the addition of small Ferns and other suitable decorative material. Another fact which should be borne in mind, and one which is favourable to the grouping, is that small plants can be carried securely in boxes, which is far better than letting them be exposed during transit in a covered van. Not only as plants were Orchids shown in these instances, but they also entered into floral arrangements, as for bouquets, stands for the table, &c., and with good effect. Fortunately for those who reside within the fog radius, there has not yet been a visitation this autumn of any material consequence. Orchid growers can congratulate themselves on this fact.—H.

Cattleya labiata.—Mr. Broome sends me three excellent forms of this from recently imported plants. The flowers are of good size and excellent colour, especially those marked 1 and 2. I think No. 1 is the best in colour, but it is not the best shaped flower, having somewhat small petals. The front lobe of the lip is remarkably rich in colour.—H. G.

— I have a great number of blooms of this fine old species for an opinion, and I am not surprised that everyone is proud of having such beautiful flowers so near the end of the year. Even poor forms are valuable at this season. Those who prefer pale forms having much similarity to the *Gaskelliana* type would be well satisfied with the flowers sent by Thos. Malcomb. The Hon. Miss Winn, however, sends the second bloom of a beautiful dark coloured variety, the front lobe being very rich and heavily coloured, which is the part that J. Barclay's flowers appear most deficient in. In the flower received from J. Meston the sepals and petals have a rather deep shading of rosy lilac, and the lip is poorly marked. It is a somewhat poor form, certainly very inferior to the variety *Sandere*, and not at all like it. J. Cheesman sends three flowers, of which one only, marked No. 2, is worthy of notice. This has large and broad sepals and petals of a dark rosy purple,

and a very deep coloured lip, but not so rich as in the flower sent by the Hon. Miss Winn.—W. H. G.

Cattleya aurea Statteriana.—From Mr. Wheatly, of Ringmore, Devon, comes a flower of this chaste and lovely variety, which is figured in the "Orchid Album," t. 468. It has pure white sepals and petals, and the large lip intense deep crimson-magenta, having a velvety appearance. Mr. Rolfe says in the "Orchid Review" that this plant is figured in the "Lindenia" as *C. Hardyana Statteriana*, and suggests that it is a natural cross between that plant and *C. aurea*. From this opinion I differ, as the plant now under consideration does not appear to have any of the characters of *C. Hardyana*, which again is a supposed natural hybrid. The flowers are very fragrant, and it is one of the most beautiful of the autumn-blooming *Cattleyas*. Mr. Wheatly bought it for *C. Dowiana*.—G.

Cattleya aurea and others.—A flower of this kind comes from Mr. Wheatly; it was past its best upon arrival. Some people complain that it is a shy bloomer, but Mr. Wheatly says his plant made four bulbs from its two leading growths, and all produced flowers within a month, so that no one can say that it is shy flowering. The same person also sends me a flower of *C. maxima*, which appears to have been a very good variety, but it was too far gone for me to form an opinion. A very nice flower of *C. labiata* was also sent. The colour of this was very good, but it is the form which I recognise as *C. labiata Warocqueana*. A very fine form of *C. gigas* was also sent.—W.

SHORT NOTES.—ORCHIDS.

Laelias from Down House.—Mr. Denny sends me two varieties of a *Laelia* which he says were bought for *L. majalis*, but which do not resemble that species in the least. They appear to be quite new, but I should much like to see them again.—H.

Dendrobium Phalaenopsis Schroederianum.—The more one sees of this variety the more one must admire it. A very nice lot of blooms came to hand the other day from Mr. Harris, Bowden House, Calne. They were principally light coloured forms with richly coloured lips. There was also included a fine broad-petalled form of *Cattleya Bowringiana*, which is about the brightest and darkest variety that I have ever noted.—C.

Saccolabium Blumei majus.—J. Harding sends me a fine spike of this plant under the name of *S. guttatum*. The spike sent measures 18 inches in length, the flowers waxy and thickly set, sepals and petals creamy white, faintly dotted with pale rose, the recurved lip being rosy magenta. It forms a beautiful pendent spike.—G.

FLOWER GARDEN.

THE ANDROSACES.

THE genus *Androsace* (of Linnaeus), which belongs to the family of the *Primulaceae*, is the most alpine and the most characteristic of the genera of plants that are found growing on mountains. It comprises a number of plants which may be considered as typical of the alpine flora, properly so called, and represents the character of the vegetation of the lofty summits, at least so far as the perennial species, the only ones to which I am now referring, are concerned. It is the true "Flowering Moss"—the quintessence of everything brilliant and beautiful that is found in the flora of the high mountain ranges. It is, indeed, essentially a mountain genus, and more especially a European one, notwithstanding the fact that the mountains of Central Asia are the native home of a much larger number of species of

Androsace than that which is found on our Alps; but as the number of those Asiatic species which have been introduced into cultivation is very limited, it is true to say, from a horticultural point of view (from which I am now writing), that this genus is chiefly a European one. The chain of the Alps and that of the Jura present to us twenty endemic species, that is, species which are peculiar to the soil which produces them, and are the true daughters of these mountains. The Pyrenees afford four species which are exclusively confined to that chain. In the Caucasus also four species are found and the same number in Siberia. Lastly, nearly thirty species have their habitat in the Himalayas, the province of Yun-nan and the mountains of other parts of China.

From a cultural point of view, the genus may be divided into two classes, viz. (1) the open-soil kinds, which grow naturally in the pastures or on turf or rocky declivities, and (2) the rock species, which are found only in clefts of rocks. Of the first-named of these two classes, the following species are in cultivation:—

ANDROSACE CARNEA, L. (*A. Halleri*, Gmel.; *Aretia Halleri*, L.).—A native of the alpine region of the granitic Alps, the Vosges, the mountains of Auvergne and the Pyrenees at an altitude of 2000 mètres to 2500 mètres. A dwarf and caespitose plant, composed of a greater or less number of loosely-formed rosettes of linear-acute leaves, which are slightly glaucous and fringed with very short hairs; stems erect, from 2 inches to over 3 inches in height, each bearing at its extremity a small umbel of flesh-pink flowers in the months of April and May. It likes a siliceous soil and should be planted in heath-soil or peat, to which has been added a little sand that has no lime in it, on rockwork in a position half exposed to the sun. Multiplied by sowing the seed.

A. CHAMÆJASME (Willd.).—A native of the pastures of the calcareous Alps at an altitude between 1500 mètres and 2500 mètres, and also of the Atlas range, Siberia, the Caucasus, and the arctic regions of the northern hemisphere. In Eastern Thibet it has been found on lofty mountain summits at an altitude of 4000 mètres to 4500 mètres. A small plant with a branching root-stock and ciliated leaves disposed in spreading rosettes. The flowers are white with a light yellow disc at the throat, which changes to a bright pink colour and increases in width after the fertilisation of the flower has taken place. They are borne in a small umbel of three to six flowers on stems from 2 inches to over 3 inches high in the months of April and May. This plant does well under the same culture as the preceding one, except that it requires some lime in the soil in which it is planted. Multiplied by offsets or by sowing the seed.

A. FOLIOSA (Duby.).—A native of the rocky pastures of the Western Himalayas at an altitude of 3000 mètres to 4000 mètres. Leaves large, ciliated at the margin, and somewhat resembling the leaves of Daisies; in autumn they turn red, like the leaves of the wild Vine. Flowers large, of a light pink or lilac colour, and borne in an umbel on stems from 4 inches to 8 inches high in May and August. Rockwork, in deep soil, composed of leaf-soil, loam, and sand, in a position half shaded from the sun. Multiplied by division of the tufts, or from cuttings, or seed, when any is produced, which rarely occurs with us.

A. LACTEA, L. (*A. pauciflora*, Vill.).—A native of the calcareous Alps, the Cevennes, Jura, and the Carpathian Mountains at an altitude of 1000 mètres to 1500 mètres. Leaves deep green, glistering, disposed in pleasing rosettes. Flowers large, pure white, with a yellow disc at the throat, and borne in a broad, loose umbel of five or six flowers in April and May. This is one of the species that are easily grown. Rockwork, in light calcareous soil, and either fully or half exposed to the sun. Multiplied by sowing the seed.

A. LAGGERI (Huet.).—A native of the Pyrenees, at an altitude of 1800 mètres to 2400 mètres. The

prettiest of early spring plants, this is of a tufted caespitose habit of growth, with very narrow (almost aciculate) lanceolate leaves, arranged very closely together, and forming a very fine turf-like clump of a cheerful green colour. Flowers of a bright pink colour, borne in a small umbel of three to five flowers, which are sessile before fertilisation takes place, after which the flower-stalks commence to grow and increase in length as the flowers advance in age. In the months of February, March, and April the tuft is literally covered with flowers. Rockwork, in the full sun. Soil, the same as for *A. carnea*. Multiplied by sowing the seed.

A. LANUGINOSA (Wall.).—A native of the Western Himalayas, at an altitude of 2000 mètres to 3000 mètres, where it covers large areas of rocks. A trailing plant with branching, creeping stems, prostrate on the ground, and furnished with alternate sessile leaves disposed in rosettes at every branch of the stem. The whole plant is covered with long silky hairs, which impart to it a very singular satiny aspect. Flowers of a violet colour with a bright pink disc in the centre, disposed in closely-set umbels of twelve to twenty flowers in each umbel, and borne on a stalk 4 inches to 4½ inches high. The plant flowers from May to November, and forms broad silvery tufts which have a very fine effect. Rockwork or in the open ground, and fully exposed to the sun. Multiplied from cuttings struck in a cool frame in August. *A. oculata* (Hort.) is a variety of this species, with a more slender habit and pale lilac, almost white flowers. Same treatment.

A. OBTUSIFOLIA, All. (*A. brevifolia*, Vill.).—A native of dry, rocky pastures on the Alps and the Carpathian Mountains, at an altitude of 1700 mètres to 2500 mètres. Leaves lanceolate-oblong, fringed with very short hairs. Flowers white, with a light pink disc in the centre, disposed in a small corymb of four to six flowers, and borne on a slender stem 2 inches to 4 inches high in the months of May and June. Rockwork, in heath-soil, and fully exposed to the sun. Multiplied by sowing the seed.

A. ROTUNDIFOLIA, Hardw. (*A. incisa*, Wall.).—A native of the alpine regions of Nepal, and a curious species, forming a dwarf caespitose tuft with orbicular, incised leaves resembling those of *Saxifraga rotundifolia*, but of smaller size. Flowers small, of a lilac-pink colour, and disposed in a dense umbel of no great size. This species is grown at Kew and by some amateurs in England. I have never succeeded in growing it here, and I have never seen it grown anywhere else on the Continent.

A. SARMENTOSA (Wall.).—A native of the sub-alpine districts of Cashmere, Sikkim, and Nepal. A stoloniferous, creeping plant, distinguishable from *A. lanuginosa* by its very slender, bare stems and its velvety-tomentose leaves, which are disposed in broad rosettes at the divisional parts of the stems. Flowers lilac, in handsome umbels, and blooming from May to August. Rockwork, fully exposed to the sun. Multiplied by offsets. We cultivate in our alpine garden here, under the name of *Androsace Chumbyi*, a superb variety of this species, which might well be considered a distinct type. This is not a creeping plant, or, more correctly speaking, it is very slightly so. Its foliage is much more velvety, and its flowers are of larger size and of a fine carmine colour. Rockwork, fully exposed to the sun. It flowers in May and June.

A. SEMPERVIVOIDES (Jacquemont).—A native of Western Thibet at an altitude of 2000 mètres to 3000 mètres. This is a remarkable species, coming very close to *A. sarmentosa*, but distinguished from it by the resemblance to dry cones which is presented by its rosettes, the leaves of which curl up, much like those of *Sempervivum arachnoideum*. The flowers are of a bright purple colour, and bloom in May and June. Culture and propagation the same as for *A. sarmentosa*.

A. STRIGILLOSA (Franchet).—A native of Yun-nan. A singular-looking plant recently introduced into cultivation, with narrow, rigid, spinescent leaves, forming a closely-set rosette, from which is

produced a fine umbel of pink flowers in the month of May. It is not a stoloniferous species and is multiplied by offsets (when it affords any) or by sowing the seed. Rockwork, fully exposed to the sun. The soil should be rich in humus, but well drained.

A. VILLOSA, L. (*A. capitata*, Willd.).—A native of the rocky and calcareous declivities of the Western and Eastern Alps at an altitude of 1000 mètres to 2000 mètres; also found on the Jura, Pyrenees, Apennines, Carpathian Mountains, the Caucasus and in the East and Siberia. A plant with a branching root-stock, bearing almost globular rosettes formed of velvety silky leaves, from which spring the flower-stalks, 2 inches or less in height, each bearing three to five flowers, which are of a soft pink colour on the outside and pure white within, with a pink disc at the throat. Blooms in April and May. Rockwork, fully exposed to the sun. Requires lime in the soil, like *A. Chamæjasme*. Multiplied by sowing the seed. *A. arachnoidea* (Della Torre) is a variety that is still more velvety than *A. villosa*.

Of the second class (that of the rock species), the following are in cultivation:—

A. CHARPENTIERI, Heer (*Aretia brevis*, Hegeh.).—A native of the bare and arid summits of the granitic Alps which tower above Lake Como. It appears to be peculiar to the flora of Italy, as it has never been found in any other part of the world. It presents a well-marked type, being of caespitose and thick-set habit of growth, with small, imbricated, obtuse, pubescent leaves, forming small, closely-set rosettes. Flowers almost sessile, of a very bright carmine pink colour and borne on short, slender, dark brown stalks. Blooms in April. In the clefts of a rockwork (not limestone), half exposed to the sun and in a perpendicular position. Multiplied by sowing the seed.

A. CILIATA, D.C.—A native of the Upper Pyrenees, of caespitose habit, forming small dense tufts. Leaves of a dull deep green colour, fringed at the margin and disposed in rosettes. Flowers large, white, absolutely sessile. Blooms in April and May. Culture, the same as for *A. Charpentieri*.

A. CYLINDRICA, D.C. (*A. frutescens*, Lap.).—A native of calcareous rocks in Oule de Marboré, Upper Pyrenees. A caespitose plant, forming a small, closely-set tuft, with small leaves, which are covered densely with hairs and are imbricated and pressed closely together, so as to form small cylinders, from the top of which are produced in April and May the white and sessile flowers. It should be planted, fully exposed to the sun, in the clefts of calcareous rockwork. Multiplied by sowing the seed.

A. GLACIALIS, Hoppe (*A. pennina*, Gand.).—A native of the high granitic Alps at an altitude of 2000 mètres to 3000 mètres. This is one of the handsomest alpine flowers, and no one who has seen it in bloom in the sunshine on the heights, where it glows with an unequalled lustre, can ever forget it. The plant forms a loose, flat, spreading tuft, with branches short or elongated, bearing small, ciliated, pubescent leaves. In spring the tuft is so completely covered with flowers of the brightest pink (changing afterwards to pure white), that nothing can be seen of the foliage. Rockwork, fully exposed to the sun, in a porous cleft where some small fragments of granite can be introduced into the soil and which will be thoroughly drained. Blooms in March and April. Multiplied by sowing the seed.

A. HAUSMANNI (Leyb.).—A native of the Dolomites and the Alps of the Tyrol, at an altitude of 2000 mètres to 2500 mètres. This species is distinguished from *A. helvetica* by its soft pink-coloured flowers, and by its habit of growth being not so thick-set. Same culture.

A. HEERI (Hegehch.).—A native of the Martin-stosh, at an altitude of 2300 mètres to 2600 mètres. This should be set down as a hybrid between *A. helvetica* and *A. glacialis*. The flowers are of a bright red colour, and the habit of the plant is intermediate between that of *A. helvetica* and that of *A. glacialis*.

A. HELVETICA, Gaud. (*A. bryoides*, D.C.).—A native of the calcareous districts of the Alps, at an

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altitude of 2000 mètres to 3000 mètres. It is also found on the Carpathian Mountains. A plant with a very branching root-stock, forming a dense compact tuft like a hemispherical pincushion or pad, 2 inches or less in height. Leaves small, white, downy, imbricated, and pressed closely together. In April and May the tuft is entirely covered with the white sessile flowers, which are often set so closely together that the foliage is quite hidden from view. Rockwork, fully or half exposed to the sun, in clefts of calcareous rocks. Multiplied by sowing the seed.

A. IMBRICATA, Lam. (*A. argentea*, Gaertn.).—A native of the Western Alps, at an altitude of 2000 mètres to 3000 mètres; also found on the Pyrenees and the Spanish Sierras. This differs from the preceding species in having narrower leaves, which are covered with starry silvery-white hairs, in having a bright pink centre in its white flowers, and in forming denser or more closely-set tufts of foliage. Rockwork, fully exposed to the sun, in clefts of granitic rocks. Multiplied by sowing the seed.

A. PUBESCENS, D.C. (*A. alpina*, Lam.).—A native of the calcareous Alps, at an altitude of 2000 mètres to 3000 mètres; it is also found on the Pyrenees. Forms a small dense tuft of pubescent leaves, which are larger than those of *A. helvetica*, but are similarly arranged in closely-set rosettes, and turn brown or red in autumn. Flowers pure white, sessile. Blooms in April and May. Rockwork, in clefts of calcareous rocks. Multiplied by sowing the seed.

A. PYRENAICA, Lam. (*Aretia pyrenaica*, Leyé).—A charming species found on the Central Pyrenees, and in its white flowers and pubescent, glaucous foliage resembling *A. imbricata*, from which, however, it is very distinct. Same culture.

A. VITALIANA, Wild. (*Primula vitaliana*, L.; *Gregoria vitaliana*, Duby.).—A native of the Upper Alps, Pyrenees, and Spanish Sierras. A handsome, caespitose, stoloniferous plant with silvery-grey foliage composed of narrow-acute leaves, which are covered with a whitish meal or powder. Flowers solitary, sessile, tubular, and of a bright yellow colour. Blooms in March and April. Rockwork, fully exposed to the sun, in soil composed of heath-soil mixed with small pieces of broken flints. Multiplied by sowing the seed or by dividing the tufts.

A. WULFENIANA, Sieb. (*Primula Pacheri*, Leyb.).—A rare species, found on the granitic Alps of the Tyrol and of Carinthia, at an altitude of 2300 mètres to 2600 mètres. The tuft which it forms is not so dense as that of either *A. helvetica* or *A. pubescens* (both of which, however, it resembles), but is loosely set. The flowers are of a bright pink colour, have very short stalks, but are not sessile, and the leaves are covered with divided hairs. It blooms in April and May. Rockwork, half exposed to the sun. Multiplied by sowing the seed.

All the *Androsaces* of this second section, the prevailing characteristics of which are the closely-set and constricted habit of growth of their tufts and their sessile or almost stemless flowers, belong to the flora of the Upper Alps or that of the Pyrenees, and are found nowhere else except on the Spanish and Carpathian Mountains. Nearly all of them should be planted in a vertical or perpendicular position on a rockwork and should be carefully protected from an excess of moisture. In the wild state they are never found on declivities which have a northern aspect nor in open grassy ground, but invariably in the clefts of rocks (often very hard ones) or in rocky debris. This must be remembered when any attempt is made to acclimatise them. In our alpine garden here we raise them from seed, but we have never succeeded in propagating them by dividing the tufts, so that we are of necessity obliged to confine ourselves to Nature's one and only mode of increasing the number of these plants.—HENRI CORREYON, in *Revue Horticole*.

If any alterations are contemplated in the flower garden necessitating a certain amount of ground-work, it is well to put this in hand at once, so that not much remains to be done after the new year. Taking an average of the seasons for some years past, it will be found that most of the hard weather is experienced after the new year, and given four or five weeks' hard frost from that date, it is easy to realise that ground work left entirely until the break up of the severe weather has a great chance of being still in hand, when, owing to the pressure of ordinary work, it becomes a decided nuisance. If there is on any lawns either large or small too great a number of beds, that is, in proportion to the breadth of Grass, a great improvement can be made by the turving up of and the enlargement of others, an improvement which will be the more noticeable when the beds are planted, as so much better an effect can be produced from a limited number of beds on a fairly large scale than from a multitude of tiny ones. Again, the character of a flower garden can often be wonderfully improved by the judicious weeding out of ornamental conifers where these were planted somewhat thickly and are now assuming rather large proportions, blocking out views that would greatly add to the beauty of the garden and giving a heavy tone to the surroundings. This style was greatly in vogue some quarter of a century ago, and although the majority of trees planted may have been of fairly graceful habit and immeasurably superior to the formal hedges and clipped monstrosities dating much further back, yet their density of foliage where they were used to excess has imparted a sameness and a heaviness that are the reverse of pleasing. Thin them out by all means, leaving just one here and there in a suitable position, and give variety and brightness by the substitution of the best of the flowering shrubs.

STARWORTS.—On heavy holding land where they had a firm grip of the soil and the growth was well sustained, these favourite autumn flowers are perhaps still in their beauty, but in the majority of places they have had a short life. Several late flowering varieties have on more than one occasion furnished us with a nice lot of cut blooms at the end of the present month, but I am very doubtful if a single sort will be left this year at that date. The early decay will at least afford opportunity for a correspondingly early lifting, division and replanting where necessary—another piece of flower garden work that may be seen to as soon as possible. The stalks of the tallest Starworts and hardy *Fuchsias* make excellent little sticks not only for the summer laying in of Peach, Nectarine, and Morello Cherry shoots, but also for staking a number of small things requiring a minimum of support, such as Roman Hyacinths, Tulips, *Freelias*, *Anemones*, some of the more weakly *Achimenes* and *Gloxinias*, and may be saved for that purpose. Stored away in a dry place they afford work for wet weather in trimming and tying them up into different lengths and sizes. Dahlias came abruptly to an end. They were hardly better at any time through the season than on Sunday, Oct. 29, but the following morning found them blackened and destroyed. Care should be taken in lifting to see that the labels are securely fastened to stem or tuber, so that there should be no mistake another season if a special effect is required at a given spot with any particular colour.

WALL PLANTS.—Mention made in a recent note of *Ceanothus Gloire de Versailles* reminds me that it was included in a short list of wall plants recommended the other day, the others being *Cydonia japonica* var. *rosea* and var. *alba*, *Spiræa prunifolia* fl.-pl., *Chimonanthus fragrans* and the silver variegated Buckthorn (*Rhamnus Alaternus*). With the strong demand for flowers at all times and seasons, I think we might with advantage utilise every available bit of wall for some of our best plants. They are in their respective seasons a most beautiful and attractive feature of the garden. The double-flowering *Deutzia scabra* or *cretica*, as it is sometimes called, accommodates itself very well to a wall, and is as good for button-

hole purposes as the above-named double *Spiræa* is for sprays. This *Spiræa*, too, is very beautiful in wreaths and crosses introduced thinly among bright-coloured foliage. In buying *Chimonanthus fragrans* an endeavour should be made to secure the large-flowered variety. The variegated form of *Rhamnus Alaternus* is seldom met with except in old gardens, and yet it is about the best wall plant of its kind we have. Very bright and with the variegation well defined on every leaf, especially when growing in a warm light soil, it makes a nice break in the many different shades of green furnished by other wall plants, and is also available for cutting at all seasons if foliage of that kind is required.

Where one of the objects in the acquisition of more herbaceous plants is a largely increased and continued supply of cut flowers, it may be well to advise those who have to cater for special times and purposes that now is the time to plant for that purpose. If white flowers are in great request, one cannot well have too many; *Aimée Vibert*, *Anna Maria de Montravel* and *Paquerette* Roses, white *Pyrethrums Aphrodite* and *Mont Blanc* are especially good, the white *Everlasting Pea*, the lovely new variety of *Achillea ptarmica*, the old white *Clove Carnations* and the gem of the *Spiræas*—*palmata alba*. Again, if there is a great demand for Easter (and that festival falls somewhat early in the year), the gardener is often at a loss which way to turn for flowers unless he has anticipated the demand by filling nooks and corners of lawns and many likely places in the pleasure ground with *Daffodils*. Given a fair variety in the trumpet and star sections, one is never at a loss to find a basket of outdoor flowers from early in February onwards through March and April. So far as the herbaceous borders are concerned, the aim in planting should be to always have something to look at and, if necessary, to cut, and with judicious planting there is, fortunately, but a very brief season when these borders are quite destitute of flower. Those who were early with their *Viola* cuttings and shifted them so soon as struck into required sites are now getting quite a nice display of flower, and very fine autumnal blooms these early cuttings will give, far better than were obtainable through the hot summer months. A group consisting of *Connex* of *Hopetoun*, *Crimson King* and *William Niel* is just now quite a bright feature of the garden.

Claremont.

E. BURRELL.

Dahlia Glare of the Garden.—This is sometimes called *Fire King*, but whatever its name, it is a very brilliant variety for massing in the garden. It is quite dwarf, exceptionally free, and the small, neat flowers are brilliant scarlet in colour.

Gypsophila muralis.—This is a very graceful annual for rockwork, edgings, or any place where slender growth is desired. It grows about 9 inches high, has a spreading habit, and bears in quantity flowers of a soft pink colour. The flowers might be found very useful for cutting to arrange with other things in the same way as those of the perennial kind *G. paniculata*. It is quite as elegant, but has much larger flowers.

Martynia fragrans and M. lutea.—These Brazilian annuals are so much like *Gloxinias*, that anyone seeing them for the first time is apt to think they look rather out of place in the open ground. They are fine things, however, for sunny borders with warm soil, large in leaf, showy and striking in blossom, and the flowers are followed by curious horned fruits or seed-pods. *M. fragrans* has been blooming lately upon plants the seed of which was sown in the open ground. The flowers are large and showy, of a deep crimson-purple colour and possessed of a slight scent. It grows about 18 inches high. *M. lutea* is very similar, but has yellow flowers.—A. H.

Salvia splendens outdoors.—This is generally seen grown in pots or planted out and potted up in autumn and placed in the greenhouse. It is a most useful autumn plant for the open garden when it can be given a sheltered position, or in gardens near the sea where frosts do not come

early in autumn. I planted this season this *Salvia* with other plants in a narrow border facing south under the abbey. Here it has bloomed splendidly during October, and the last few days in the month I was able to obtain enough of its brilliant sprays to furnish a good-sized dinner-table. If the weather continues open the plants will go on blooming a long time yet.—J. CROOK.

Callistemma crachiatum.—Is this an annual, biennial, or perennial? A group of plants from seed sown in the open ground has been flowering throughout the autumn, and even now the recent sharp frosts have not hurt the plants. The habit of growth is bushy, but spreading, the leaves rather ovate and downy, whilst the flowers, borne on long slender stalks, exactly resemble those of *Scabiosa caucasica*, but are about half the size and of a pretty pale mauve colour, with a brown centre before the disc florets expand. Probably it is only an annual, but, at any rate, it is an interesting plant.—A. H.

WAYS OF USING HARDY BULBS.

The charming illustration and article in *THE GARDEN*, October 28 (p. 387), reminded me that the hardy bulbs are used in too formal a way in gardens, and many beautiful things only dotted on the rockery or border may be planted in bold clumps and masses in positions usually left bare. A well planted garden of spring bulbous flowers is as pretty as anything one can get in the summer and autumn, and the illustration shows the beauty of the Poet's Narcissus in a field. It is only in large gardens that hundreds of thousands of bulbs can be planted, but we want to get away from the set pattern style, not confining the selection merely to a few Hyacinths or Tulips, each variety repeated until one tires of the colour. In the parks we notice that the finest kinds for colour are boldly massed, and this is necessary to get an effect in a large place, but even here the arrangement could be more varied by planting the bulbs in beds with other things, as Forget-me-nots or rising from a carpet of mossy Saxifrage. Trumpet, Poet's, or other forms of Narcissus make delightful pictures used in this way, or in small beds filled with distinct kinds. In my visits to gardens I have made note of effects that if carried out more largely would alter the place for the better. It is a good thing to plant, for instance, at the foot of standard Rhododendrons and other shrubs, the blue *Scilla bifolia*, *S. sibirica*, *Muscari* in variety, getting the more richly coloured kinds, *Chionodoxa*, the Star-flower, *Triteleia uniflora*, and *Bulbocodium vernum*. A charming association of colour I saw last year was the *Bulbocodium* planted thickly in a bed filled with a deciduous shrub the name of which I unfortunately forget, the flowers covering every bare portion of soil in the bed. Such a bed as this early in the year is welcome, and good association of colour is got by making freer use of the little Winter Aconite. It is strange that this common bulb is so little planted in gardens, although few things are prettier on a bright winter or early spring day than a colony of the yellow flowers in their quaint collar of green leaves. If *Eranthis cilicica* proves later in blooming, as it appears to be so far, one can get a succession to prolong the display.

In every suitable spot, bare corners, surfaces of beds, and wherever bulbs are likely to succeed they should be planted, and it is this phase of spring gardening that is delightful to all; neither is it beyond the reach of those who have unfortunately no broad acres in which to plant the Daffodil. The little Tenby Daffodil, the most exquisite in shape of the family, looks charming planted amongst the shrubby *Poten-*

tilla fruticosa, and some may easily extend this form of spring gardening by planting the margins of beds filled with *Kalmias*, *Rhododendrons*, hardy *Azaleas* and similar shrubs, and the yellow colour of the flowers would be in fine contrast. It is really in a way extending the idea of boldly massing Lilies amongst shrubs, and by treating the humbler bulbs in the same style, the year is fairly encircled with bloom. In the wilder spots naturalise Daffodils, Crocuses, Snowdrops, *Leucojums*, *Anemones*, and both the article already referred to and some interesting notes by "Jay-Aye" in *THE GARDEN* April 8, 1893 (p. 278), will help greatly.

The bedding-out system of treating bulbs is well enough under certain conditions, but it may be carried too far, even if the various kinds are selected carefully as to colour. Nothing is prettier than some old-fashioned border of bulbs, and notes have appeared from time to time recording fine examples of such features. Many an English garden might be beautified cheaply if the broad border that skirts many a high red-bricked wall were taken advantage of. Almost every old English garden possesses such a border, wherein the Daffodil in particular is at home. It is in perfect agreement with the surroundings, and one may get a good collection of varieties without displaying any trace of botanical arrangement by planting a bold clump or clumps of each kind, keeping the sections distinct. This reminds me of the border at Kew, which is backed with a high red-bricked wall, and in the spring this is gay with colour for many weeks with the succession of Daffodils, the sulphur-yellow *N. pallidus* precox being amongst the first to expand. This border is sown with annuals in a free, bold way in spring, and these make broad masses of colour during the summer, the growth spreading on to the Grass. This year annuals have failed, but many kinds, however, succeeded well here, the bulbs receiving no injury whatever from such plants. If fewer Daffodils were planted, hardy perennials could be cautiously interposed to prevent disturbing the bulbs.

A very pleasing edging of bulbs I saw last spring made an appropriate finish to a broad bed, and the edging was made up of the dwarfed Narcissi, *N. minimus* and *N. nanus* mixed with *Chionodoxa Lucilæ* and Snowdrops, as *N. nanus* blooms a little later than the other and provides a succession. Taken separately, these miniature Narcissi, so to speak, are not of much account for effect, but massed together with other bulbs for contrast they are bright and effective. When in the garden of Mr. Kingsmill at Harrow Weald recently, note was made of bulbs planted against the frames, a few inches broad of soil being reserved for them. In such sunny spots they succeed well, the bulbs comprising *Ixias*, the smaller-flowered Irises and Narcissi, whilst the carpet plant, so to say, was the little *Arenaria balearica*. Even now it is pleasing from the rich felt-like mass of green, intensified greatly by the flowers of spring. The *Scilla bifolia* looks well mixed with the spring Snowflake, and many other happy ways of associating bulbs could be named. One soon learns how to get pretty effects either by seeking suggestions in other gardens, or trying experiments. By doing this many very suitable spots for bulb growing may be made use of, such as the base of frames or plant houses, as indicated. One of the finest masses of colour I saw early in the autumn was the *Belladonna Lily* in a narrow, sunny, light border skirting a hot house. But in the majority of gardens such a position would have been either left bare or filled with unsuitable things. One can extend this kind of planting

to almost any degree, filling small beds on the turf with various bulbs. In one can be planted, for instance, the Snake's-head Fritillary (*F. Meleagris*), a delightful flower, and very elegant. There is quite a series of colours in the drooping flowers, ranging from creamy white to purple, with finely tessellated and mottled forms, quaint and interesting. It can be planted on the Grass if this is mown late, but it is as a flower for use in the garden proper I recommend it, just as the showy *Tulipa Greigi* may be treated.

Writing of Tulips reminds me also of the beauty of the species, which it is a pleasure to see are getting more popular in gardens. They are more expensive than the ordinary Dutch kinds, but it is worth the extra outlay to get the finer kinds for colour. *T. macrospeila* is a glorious form, the flowers crimson or deep carmine in colour, bold, large, and borne on sturdy scapes. *T. elegans* is superb, either planted in a small bed or massed together in larger quantities. The flowers are intense crimson, the segments tapering gradually to a point, where they reflex in a characteristic way. Rather later than this is *T. fulgens*, the flowers rich crimson, especially in the sun, when they seem to glow with colour. *T. retroflexa*, yellow, has reflexed segments. *T. spathulata*, *T. acuminata*, *T. Golden Eagle*, yellow margined with crimson, and *T. Picotee* are all fine kinds. The last-mentioned is exquisite, the flowers white, with a margin of carmine-rose to the segments.

One class of bulbous plants not made enough of in gardens is the *Erythronium*, the Dog's-tooth Violet. It is delightful planted thickly at the base of standard Roses or *Rhododendrons* and by the margins of beds filled with shrubs. Here it is quite at home, and colonies may be established on the rockery. The soil should be moist and peaty, hence in the case of the American shrubs suitable conditions are already provided. There are many beautiful varieties, the petals broader than in the type, and the colours range from pure white to deep purple, the names as a rule indicating the distinctive shades. The *Erythronium* is not difficult to grow if exposed to the sun and in the soil mentioned, but, judging by its comparative scarcity, one would suppose it a delicate exotic. C.

HARDY GLADIOLI.

I AM not at all surprised that "Delta" finds reason to complain of the want of hardiness in the varieties of *Gladiolus Lemoinei*. Some months ago I ventured to predict that the newer kinds at least would be found wanting in the very characteristic that should distinguish them from the fine *gandavensis* varieties. The original cross gave what one might reasonably expect to be thoroughly hardy varieties, and seedlings from them would be equally hardy. But if, as I suppose was the case, the *gandavensis* hybrids were again and again used, in the progeny there would be a slow, but sure deterioration in hardiness, culminating in the almost entire obliteration of the quite hardy ancestor. Probably in the first instance there was no thought of infusing more of the *gandavensis* blood into these hardy hybrids, but the temptation to gain in size, form and colour by so doing was too great to be resisted. If this sort of work is continued, it will not be long ere the term hardy as applied to the race of *Gladiolus* will be a misnomer. "Delta" does not say whether his experience has been confined to the varieties that have been raised in recent years. Has he grown the original hybrids and their immediate descendants? Some years ago I had a quantity of bulbs raised from seeds kindly sent me by Mr. Gumbleton. They passed several very hard winters quite unprotected and increased. These gave me the impression of their being perfectly reliable for the open ground.

I lost them in the course of time, but entirely through my own fault. Now I am sorry, because had I raised seedlings from them I believe that I should have possessed some thoroughly hardy varieties. I would do so now could I get some of the second or third generation from the original hybrids.

It would be well if someone having the time would take in hand these hardy Gladioli, only employing the varieties that were distributed some years ago, and resisting all temptation to make use of the tenderer kinds. Improvement would as surely come as it has done with the gandavensis section, and we should then have a race of really hardy Gladioli. This section of a fine family is valuable as preceding the gandavensis hybrids, thus filling up a blank between them and the early-blooming kinds, and giving us a succession of lovely flowers unapproachable in their particular style of growth by any other open-air flower. Putting the question of ability to resist hard winters on one side, it must be borne in mind that these so-called hardy Gladioli are not so capricious in their behaviour as their more handsome relatives. I have never heard that they are attacked by the dread disease, or dwindle away in the mysterious manner which is a characteristic of the gandavensis family. They appear to be, so far as regards the amount of cultural care required, as suitable for the cottager's garden as for that of the rich man. The past three winters have been very trying for any bulbous flower not quite as hardy as a Daffodil, and the last one of them was, I think, the most destructive. Four years ago I crossed some of the hardy varieties with brenchleyensis; some of the seedlings were very handsome, and they stood in the open ground quite unprotected and unharmed until last winter, which, I am sorry to say, was too much for them. They were probably killed just when a very severe frost came as the snow melted, the combination of cold and wet rotting the corms. A couple of inches of some protecting material would doubtless have saved them.

Byfleet.

SHADING HARDY PLANTS.

THERE are some kinds of hardy perennials, such as Primroses, especially the double-flowered kinds, Polyanthes, Christmas Roses, &c., that dislike hot sunshine. Young seedlings, too, certainly grow more freely if screened from the burning sun in July and August. The difficulty I have experienced is in finding a way of giving the required shelter in an easy and inexpensive manner. If mats or canvas are used, a framework of some sort is indispensable, and the construction of this involves more labour than one can in a general way afford. The best thing I have found for this purpose is sprays of Birch. In the spring I lay in a store of Birch faggots and select the twiggy parts of them. Should a period of very hot, dry weather set in, it is an easy matter to lay some of this material on anything that may need a little shade, and on the return of moist, dull weather there is no need to remove it, as sufficient light will be admitted to keep the foliage from becoming weakly. It is surprising how well many hardy things do with this slight shelter. In the case of Hellebores and the hardy Primulas it seems to be just what they need. In a very hot, dry summer one cannot give everything that needs it a constant supply of moisture at the roots, and many hardy things do not require a great amount of it if they do not get the very hot sun on them. They thrive just as well in partial shade with the soil in a semi-dry condition as when in full exposure and constantly watered in a parching time. Violet culture in some places is troublesome and often unsatisfactory by reason of red spider attacking the plants, but a little shade will do more to keep it off than a great amount of attention with the watering-pot. It is curious how this troublesome insect abandons plants when the conditions under which they have existed are changed. A bed of Strawberries was badly infested, much of the foliage having turned quite yellow. I laid some

boughs rather thickly over them early in August, and although we had two months' hot, dry weather afterwards, by the end of September the leaves had again become quite green with hardly a trace of spider left on them. Young seedlings raised early in summer make much more rapid growth if the great heat of the sun is warded off.

J. C. B.

Sternbergia lutea.—Recently I noticed some notes on this fine yellow-blooming autumn bulb. In this garden it has bloomed freely this year. This is the first time it has bloomed during the last five years, but this may arise from the bulbs having been small when first planted. I have it growing in a south border in a somewhat open soil. I do not think it is necessary to have it in a very open site. In a garden near Dorchester some five years ago I saw it growing under some pyramid Pear trees, where it had but little sun and none too much moisture.—J. CROOK, *Forde Abbey*.

Verbena venosa.—Some twenty or more years ago this was far more grown than now. I have used it in the mixed border during the last two or three years in large masses with the best results. It goes on blooming far into the autumn and is most useful for cutting from. Some plants of it have stood out safely where the roots had run under some stones. I find it best to take up a portion of the old plants, wintering them in boxes in a cold pit.

—J. C. F.

Planting Narcissi.—I transplanted the greater portion of my stock of Daffodils about the middle of September, and I was only just in time. Many of the bulbs, had already formed roots and some were beginning to shoot. Some that I could not deal with then I have lately moved, and they had made roots 2 inches long. This shows how wrong it must be to defer the planting of this class of hardy flowers until the present time. With many, November is the bulb-planting month, and in some instances I will admit it is not very practicable to get the bulbs into the soil at a much earlier date. Where tender plants or annuals are set out among hardy bulbous flowers to fill up the spaces later on, or in the case of mixed borders it is not, of course, possible to plant in early autumn; but where the ground is unoccupied, the latest date for planting should be the second week in September. Every day that a bulb remains out of the ground after that date must affect its blooming powers. There will be little if any difference in the flowering time of bulbs planted in September and two months later, but the difference in the amount of roots that they will have when the flower-spikes appear will be so great as to have a marked effect on the quality of the blooms. The necessity for transplanting Narcissi at certain intervals depends on the kinds grown and the adaptability of soil and climate for this flower. With me even such kinds as cernuus in the course of three or four years need replanting. The bulbs increase to such an extent that they get too thick to allow of their blooming satisfactorily. In some soils and where the rainfall is heavy, the only way to succeed with the more delicate kinds is to lift them as soon as the foliage dies off and replant in August.—J. C. B.

Frost and flowers in Scotland.—After the longest and most congenial season within my recollection, frost has come and ruthlessly cleared off many tender flowers. Dahlias never were finer. Up to October 27 Roses also were blooming almost as freely as they did in July. Gloire de Dijon where it can extend itself well was as fine as one could desire. This grand old favourite, which also is one of the first to flower, should be planted largely; we have it on arches, on pillars, and on walls, and on all it does well, but it requires good soil and room to extend its roots in proportion to its branches. Pentstemons should be propagated largely or sown from good stock. They are fine at present, and have been so for months. The dwarf white Antirrhinum still flowers profusely, and has been gay since June. East Lothian Stocks are fine and have flowered freely this season. The white Wallflower-leaved is very useful where white

flowers are much in request. Tufted Pansies are yet blooming freely. Now is a good time to sow show and fancy Pansies on ground well trenched and manured. When plants are well prepared during growth there is little fear of drought destroying them. While transplanting shrubs I notice that the soil at a depth of 2 feet is as dry as dust and hard, almost like rock. Most trees and shrubs do well with mulching when planted. I find that where Rhododendrons have been planted in poor gravel soil and liberally mulched, they are doing well and are loaded with buds. It is pleasing to see in gardens everywhere that the cultivation of hardy plants is increasing, and that carpeting has decreased proportionately.—STIRLINGSHIRE.

White Clove Carnations.—In reply to Mr. Engleheart's challenge, I would say that I wrote respecting the double white Clove Carnation only what has long been regarded as correct in the locality referred to. All the same, the old white Clove may be other than Gloire de Nancy, or it may be identical. I assert neither, but the similarity is great. It would be interesting to learn how long Gloire de Nancy has been grown here under that name, and how long the old white Clove, which has also been long regarded as a sport. It may be that this latter assumption is based on the great similarity that exists between it and the old crimson Clove in habit, character of flowering, and leafage. That the flowers of the white variety seem to have better form is, I think, the case. As to whether Carnations do really sport, except in flaking or to self, that may be matter for inquiry. Looking over the report of the Carnation conference held at Chiswick a few years since, I anticipated that some information would on such an occasion have been afforded not only in relation to these matters, but also in respect to the origin or time of introduction here of the old crimson Clove, but none is furnished. Who gave to us Gloire de Nancy, and when was it first introduced?—A. D.

BEDDING BEGONIAS.

In a general way I can follow E. Barrall in his notes on flower gardening, but I cannot agree with him in his remarks anent bedding Begonias, at least as far as my experience and observation go. I have been a grower of these for bedding more or less for the last twelve or fifteen years, and I never had them so good as they have been this year. Nor do I think my case is a singular one, as a neighbour of mine remarked to me this autumn when I was looking over his garden, how well Begonias had done with him. Again I have had an opportunity of seeing these used somewhat extensively in a garden in North Hants, and here they were making a splendid show. The same holds good, too, in a garden I recently saw in Norfolk. According to my experience, Begonias need the soil to be rich with plenty of moisture. I find they are greatly benefited by a good soaking of manure water when in full growth; after this I mulch them with spent Mushroom manure and keep them moist. Treated in this way the plants this season have made very sturdy growth, and at the end of October they are still blooming freely, so much so that I am loth to remove them with other things. During this season I have found the same treatment answer perfectly with the shrubby type of the semperflorens section.

One of the evils in Begonia culture is that of growing the bulbs in pots in spring, and allowing them to get into a starved condition before planting them into their summer quarters. I never pot mine, simply planting them out from the frames where the bulbs are placed to start into growth.

With me Begonias are far superior to Pelargoniums, that is in the average of seasons. This may well have been called a Geranium season, but Begonias have surpassed the Geraniums in this garden.

J. CROOK.

Forde Abbey.

TREES AND SHRUBS.

MAGNOLIA CANDOLLEI.

THIS *Magnolia* I received some years back from the late Louis van Houtte, Ghent. It has evidently been raised from *M. conspicua*; the flowers are larger, with broader petals, more cupped, of the purest white, in every case a larger and superior flower to that of the parent. It does not come into a flowering state so early, its time of blooming in spring being a week or ten days later.

JOHN SAUL.

OSMANTHUS.

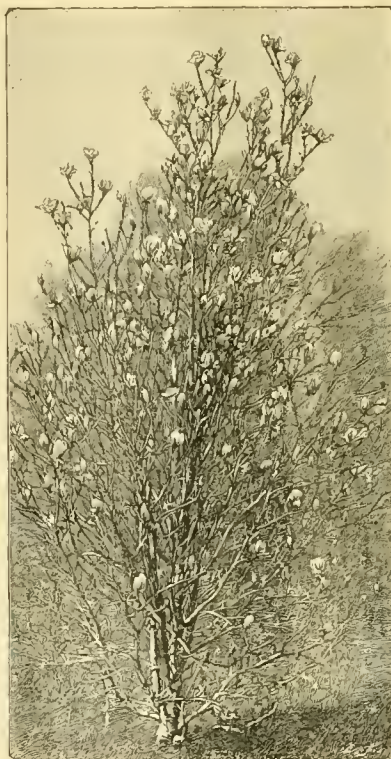
As indicated by the note on p. 426, the different forms of *Osmanthus* are in many cases flowering with unusual freedom, in all probability owing to the exceptional summer through which we have passed. There are several distinct forms in cultivation, and the nomenclature of some of them is in a rather confused state. By far the best as an evergreen shrub is what I regard as *O. aquilifolius*, which is a free-growing bush, and forms, if placed under favourable conditions, a well-proportioned specimen, clothed with dark, almost olive-green foliage, deeply cleft, and with the bark of the young shoots almost black. The second form, known usually as *O. ilicifolius*, is far more commonly met with than the other, but it is not so ornamental a plant. In this the leaves are of a much paler tint and not so deeply cut, while the young bark is altogether wanting in the deep hue of the preceding. The plant is of slower growth and it is decidedly less ornamental than the first named. There are at least three variegated varieties of *Osmanthus*, one in which the Holly-like leaves are edged more or less irregularly with white, and another in which they are yellowish. Besides these, a third form—*latifolius marginatus*—is in cultivation. This is altogether a larger and bolder growing bush than the others. Two green-leaved varieties, sports from the commoner kinds, are to be met with, and are certainly ornamental little shrubs. The best of the two is *myrtifolius*. The second, *rotundifolius*, has small roundish leaves, and is not unlike that form of *Ilex crenata* usually known as *Fortunei*. Though some forms of *Osmanthus* are so much like a Holly, there is really no relationship between them—in fact, they are more nearly related to the Olives. It may be pointed out that the plant alluded to on p. 426 as *Osmanthus fragrans* is really the same thing as that occasionally met with in old-fashioned gardens under the name of *Olea fragrans*. This is not thoroughly hardy, though it is admired by many as a cool greenhouse shrub on account of the delicious fragrance of its inconspicuous blossoms. A well-timed caution is given in the above-mentioned article to avoid plants that are grafted on the Privet, and there is really no necessity to increase them in this way, as they strike root readily from cuttings put into a cold frame. Still, for all this, among the most flourishing examples of the greenhouse *O. fragrans* that I have seen were some grafted on the Privet, but for increasing the outdoor kinds it is a great nuisance.

T.

A pretty permanent bed.—In working out some arrangements recently it was necessary to place some object or feature at a point where the walks diverged. I made a circular bed about 14 feet in diameter, in the centre of which I planted a nice specimen of the small-leaved Weeping Ash (*Fraxinus lentiscifolia pendula*); around this I put seven or eight plants of the common white Broom, around this again a belt of *Cassinia fulvida* (*Diplopappus chrysophyllus*?), then a bold margin of *Megasea crassifolia* resting on the Grass; the effect is very good.—T. SMITH, *Newry*.

Phyllocladus rhomboidalis.—Only one representative of this genus was exhibited at the conifer conference two years ago—*P. asplenifolius*.

It was sent from Kew where, along with two other species—*P. trichomanoides* and *P. rhomboidalis*—it is grown in the large temperate house. No statistics in respect to any of these species were given in the conference report, and I do not think it can be generally known that one species at any rate will thrive out of doors in such localities as South Cornwall; probably all three would grow there if tried. Last month, when visiting the delightful garden of Colonel Tremayne at Carclew, near Falmouth, I was much surprised to find a specimen of *P. rhomboidalis* growing on one of the lawns. This was not only because of its great rarity, but also on account of the size of this particular specimen, which is about 15 feet high, well furnished with branches, the stem about 2 inches in diameter at the base. I think it is probable no larger example of this *Taxad* exists in Britain. The three species above-mentioned are natives of Tasmania and New Zealand. The genus is remarkable on account of the branches being flattened out into the form and performing the functions of leaves. In *P. rhomboidalis* these branchlets are



Magnolia Candollei in flower in Mr. John Saul's nursery at Washington, D.C.

1 inch to 2 inches long, rhomboidal or cuneate in outline, with the margin cut into blunt lobes or teeth.—W. J. B.

Autumn tints.—*Pourthia villosa* will have to take a front place in the autumn gardens of the future as a brilliantly beautiful small tree. Just now it has no rival; the tints of orange and scarlet are difficult to describe. *Pyrus arbutifolia* is also very bright, the habit, however, very different. It forms stolons and grows into a spreading clump; as a front row plant it is excellent. *Pyrus erythrocarpa* grows into a small tree of 10 feet or so high. The foliage is glossy and handsome in the summer, deep olive-green, crimson and scarlet now; the fruit is black. *Audromeda Mariana* as a front row plant is excellent, the colour rich and beautiful. *A. arborea* for some reason (perhaps want of moisture) is not so rich this season as it usually is here; still it is very good. This is a vigorous-growing and distinct small tree of 10 feet or so. *Vaccinium pennsylvanicum* is just now very beautiful, the colour ranging from

pale green to yellow, orange and rich carmine. Where autumnal colouring is required this could not well be left out. *Itea virginica* is a tall-growing shrub, ultimately perhaps reaching 5 feet or 6 feet; it is now very striking.—T. SMITH, *Newry*.

HARDY CEANOTHUSES.

ON last September 14, MM. Simon-Louis, nurserymen, of Plantières, near Metz (Alsace-Lorraine), exhibited at a meeting of the National Horticultural Society of France a collection of cut flowers of *Ceanothuses*, which appeared to us sufficiently interesting to form the subject of the following article. In a general way it may be said that the *Ceanothuses* are in autumn what the *Forsythias* are in spring; but while the charming yellow bells of the latter always herald the approach of summer weather, the former, on the other hand, display their delicate flowers from the end of June until they are cut off by frost, thus ranking amongst the summer and autumn-flowering shrubs, the species of which are comparatively few in number.

The *Ceanothuses* belong to the family of the *Rhamnaceae*, and are small shrubs whose native home is in N. America, and especially in that part of it which comprises the United States and Mexico. In our climate they are commonly considered to be not very hardy, and are, consequently, very rarely seen in our landscapes and pleasure-grounds. This estimate of their hardiness, which is correctly applicable to the varieties of *C. azureus*, does not hold good in the case of the varieties which have been raised from *C. americanus*, and these hardy varieties are the subjects to which MM. Simon-Louis have given their attention and devoted their efforts. We can now state that these efforts have been crowned with success, as the fine series of flowers exhibited on last Sept. 14 belongs to this interesting group. Without being actual novelties, some of these *Ceanothuses* are as yet not very widely known; others of them have never been put into commerce and are still under observation and study. In addition to their hardiness, they are valuable for their free-flowering character, their handsome appearance, and especially for the delicate colouring of their flower-clusters, which are generally light and graceful in form, and range in colour from pure white to rosy-white and bright carmine-pink, and from sky blue to dark blue. The flowers, disposed in compound clusters, are borne on branches which are mostly of a reddish hue and are furnished at their axils with caducous, lanceolate-oval, regularly toothed and shortly-stalked leaves. These leaves, which are of a shining deep green colour on the upper surface and paler underneath, are very slightly pubescent, and diminish in size as they are placed nearer to the flowers. They are also characterised by having two lateral veins or ribs, which are almost as prominent as the midrib, and, like it, they traverse the blade of the leaf from the base to the point. The flowers of these small shrubs are very small; the sepals are elongated and coloured, while the petals are bunched together so as to form a sort of small hood. The stamens are slight, projecting, and showing the trifid style in the centre. The flowers are borne on rather long flower-stalks, which in some instances are coloured more deeply than the sepals, and thus impart a two-coloured appearance to the flower-clusters. The fruit, which is about the size of a pea, is a slightly-winged, triangular capsule, somewhat resembling a clerical cap in shape. As the fruit-clusters ripen, they become blackish-brown in colour, and are in some degree ornamental.

The species and varieties, the flowers of which were exhibited at the meeting of the National Horticultural Society, are as follows:—

I.—PALE BLUE, RANGING TO DARK BLUE.

CEANOTHUS DELILIANUS.—Regarded as a distinct species, this form, already well known, has thinly furnished clusters of pale blue flowers, borne on reddish branches. It is also distinguished by its largish leaves, which are slightly downy on the under surface.

C. AMERICANUS VAR. BLEU CELESTE (Simon-Louis frères).—This variety is characterised by its compact, corymb-like, broad rather than elongated flower-clusters, which assume a fine azure-blue colour, and by its large leaves, which are downy underneath.

C. A. VAR. BIJOU (Simon-Louis frères).—This variety is chiefly remarkable for its light flower-clusters, blooming in fine succession on the branches. The flowers are of a pale blue colour and are borne on purplish-red stalks. Leaves much smaller than those of the two preceding varieties.

C. A. VAR. LEON SIMON (Simon-Louis frères).—A superb variety, with very long flower-clusters of a fine light blue colour, and leaves which are very downy underneath.

C. A. VAR. THEODORE FREIBEL.—A very distinct form, with light flower-clusters of a blue colour, with reddish reflections. Leaves large.

C. A. VAR. GLOIRE DE PLANTIERES (Simon-Louis frères).—An unequalled variety, with long well-furnished flower-clusters of a rich dark blue colour. Leaves roundish rather than lanceolate in shape.

II.—LIGHT PINK, RANGING TO BRIGHT CARMINE-PINK.

CEANOTHUS AMERICANUS VAR. LE GEANT (Simon-Louis frères).—Flower-clusters extremely long, of a handsome double colour produced by the white flowers and the carmine flower-stalks. Quite a remarkable variety, with very large leaves.

C. A. VAR. PRESIDENT REVEIL.—A superb variety with long, well-furnished flower-clusters of a fine, very soft pink colour. Leaves very large.

C. A. VAR. MARIE SIMON (Simon-Louis frères).—Flower-clusters of no great length, borne on long branches, and forming small roundish bouquets of a splendid bright carmine colour. Leaves very large. This variety has a slight and very elegant habit of growth.

C. A. VAR. ROSE - CARMIN.—Flower-clusters branching, in the form of corymbs, and of a very bright and handsome carmine colour, which is mainly produced by the flower-stalks. Leaves rather large.

C. A. VAR., not yet named; a very hardy variety (Simon-Louis frères).—A magnificent novelty with long, branching, light, graduated flower-clusters of a beautiful pink colour with bluish reflections. Leaves very large.

III.—WHITE OR WHITISH.

CEANOTHUS AMERICANUS VAR. CORYMBOSUS (Simon-Louis frères).—Flower-clusters borne on long branches and at the same level, of a whitish colour with bluish reflections produced chiefly by the sepals. Leaves large and handsome.

C. A. VAR. ALBIDUS (Simon-Louis frères).—A distinct variety, with branching flower-clusters, which are more compact than elongated, and of a white colour with a faint tinge of bluish. Leaves very large.

C. A. VAR. FLORE-ALBO-PLENO (Simon-Louis frères).—A splendid and absolutely unparalleled variety with somewhat compact flower-clusters, well graduated and of an entrancing, remarkably soft pink colour, which is chiefly produced by the sepals and flower-stalks, the interior of the flowers being white. Leaves rather large.

The foregoing are the floral varieties of *Ceanothus* which we had the opportunity of estimating last September 14, and which, in our opinion, are worthy of being recorded. Although in France these small shrubs thrive best of all

when planted close to the sea-shore, and especially in the neighbourhood of Nantes, Brest, and Cherbourg, they might, if the above-named varieties were employed, be advantageously grown in more rigorous climates, since it has been proved that they are quite hardy at Metz. In planting them it is especially important that the soil should be a sandy loam and somewhat moist rather than of the opposite character. In northern districts they should be protected in winter with a simple covering of fallen leaves, or the branches might be frost-bitten. If cut down to the ground, they will produce shoots which will flower in the following autumn with a copiousness proportionate to the vigorous growth of the shoots. In the neighbourhood of Paris good results are obtained by treating these small shrubs in this way. The *Ceanothuses* are readily multiplied by means of cuttings of the soft wood, struck under a cloche or bell-glass in a cool house, in July and August. They may also be layered at the same season. Raising them from seed need not be resorted to unless for the purpose of obtaining new varieties. They will always produce a fine effect when planted here and there on the margins of shrubberies or groups of trees along with *Chenomeles* (*Cydonia*) *japonica*, *Deutzia gracilis*, and *Diervilla japonica rosea*, which display their handsome flowers throughout the entire period of spring. Lastly, I may add that, for supplying cut flowers for vases in dwelling-houses, these *Ceanothuses* are very serviceable, as the cut flower branches will remain in excellent condition for nearly a week. —CH. GROSDÉMANGE, in *Revue Horticole*.

Magnolia stellata.—Such a specimen as that illustrated in THE GARDEN (page 426) must be a very beautiful object, as even the small plants usually met with in this country are charming in early spring before the expansion of the foliage. Very sharp spring frosts are sometimes apt to injure the expanded blossoms, but, as a rule, they are not much damaged in this way; indeed, heavy rains during the blooming period are generally worse than frosts, as from the low stature of the plant and the consequent proximity of the pure unspotted blossoms to the ground, they are especially liable to be splashed during wet weather. As the rate of growth is slow, this *Magnolia* is more often grouped than planted singly, and if in a small bed, the surface of the soil may be carpeted with some low-growing subject to obviate as far as possible the splashing of the flowers. For this purpose the pretty little Wintergreen (*Gaultheria procumbens*) is well suited, being bright and cheerful at all seasons. On March 28 last Messrs. Veitch showed at a meeting of the Royal Horticultural Society a variety of this *Magnolia* in which the flowers, instead of being white, as in the type, were of a decided pink tint. An award of merit was bestowed upon it, and when distributed, this pink variety will no doubt be much sought after. —T.

Magnolias at Melbourne.—We have had a most magnificent display of *Magnolias*, both evergreen and deciduous, this month (September), which is about the beginning of our spring. The photographs I send represent a large bed of the deciduous kinds in bloom on a lawn in front of our Museum of Economic Botany, which was opened to the public in the beginning of this year by our worthy governor, his Excellency the Earl of Hopetoun. Some of these *Magnolias* are very fine specimens, notably *M. conspicua* (the Yulan) and a variety of it, *M. Soulangeana*, with whitish flowers. These, together with *M. purpurea*, *M. superba* and many hybrids from them, vary in height from 6 feet to 18 feet or more, and the flowers are so profuse that the masses of fallen petals, which literally carpet the ground for a considerable distance beneath the trees, might be likened to snow splashed with purple. One variety

called *spectabilis*, a sport from *M. conspicua*, is a noble object in the foreground, and the flowers of this are almost pure white. The species *glauca*, *stellata* and *Campbelli* are comparatively new introductions here and are only a few feet high, but, judging from their rapid growth during the past two years, they give promise of attaining a great size. *M. Campbelli* has never bloomed in this country. The evergreen species *grandiflora*, *annæfolia* and *fusca* are dotted about in the grass close by, as also other representatives of the order including *Liriodendron tulipifera*, *Drimys*, *Illicium*, and *Michelia Champaca*. —WILLIAM R. GUILFOYLE, *Director Botanic Gardens, Melbourne*.

* * The photos show some charming groups of these *Magnolias*. —ED.

Pinus leucodermis (Antoine).—In the year 1864 this Pine was introduced from Dalmatia by Maly, at that time head gardener of the Imperial Gardens, Belvedere, and described by Antoine, director of the Imperial Gardens, Vienna. For a long time only a few specimens of this Pine were to be seen in gardens. In the Imperial Gardens, Belvedere, Vienna, there are at present several beds with seedlings of it. M. Vesely, the head gardener, collected seeds of it about three years ago in the mountains of Herzegovina. He says that at elevations of about 1500 metres it is to be found amongst Beeches; at 1600 metres, where the Beeches cease to grow, it is more abundant; at 1700 metres the trees are small and very slow in growth. Old trees with stems 20 metres to 30 metres in height, with a diameter of about 1 metre, have the form of a topped pyramid on account of the upright-growing side branches. The bark is of a white-grey colour. Dr. Günther Ritter Beck von Managetta writes in the *Vienna Gartenzeitung* that it never has the flat-topped head like the Austrian Pine when this grows on rocks. It is very hardy and thrives in places where the common Spruce and Austrian Pine will not pay to be planted. —LOUIS KROPATSCH.

Ampelopsis Hoggi.—I recently saw this mentioned in THE GARDEN and I have also seen various examples of it during the past summer, but have failed to detect any relationship to an *Ampelopsis*; in fact, it is without doubt a *Rhus*, and if not identically the same as the North American Poison Ivy (*Rhus toxicodendron*), it is at all events very nearly related thereto. This fact should be borne in mind, for whereas the *Ampelopsis* is (as might be expected from its near relationship to the Grape family) quite harmless, the *Rhus*, on the other hand, is very poisonous, and with the transposing of names an accident might easily happen. —T.

Populus Van Geerti.—With a dull damp summer and autumn this scarcely merits the title of a golden-leaved Poplar, for the foliage has only a slight yellowish tinge; but this season, and especially for the last month, it has been very bright and stands out conspicuous from most of our trees and shrubs. Various as are the different tints assumed by our trees and shrubs before the leaves drop, the soft yellow of the Poplar in question is quite distinct from that of any others. At no time and under any conditions is this Poplar so rich in colour as the Golden Elder and some other subjects, but still when at its best the soft tints are very pleasing. A small group of young thrifty trees is especially noticeable against a background of sombre-hued conifers. This Poplar strikes readily from cuttings of good stout, well-ripened wood put into the open ground where the soil is of a somewhat sandy nature and not liable to be parched up during the summer. —T.

Weeds.—It is certain that if one wishes to keep weeds down the hoe must be constantly used. A very free use of it through the spring months will bring its own reward in lessened labour during the remainder of the growing season. I make it a practice to set out Strawberries for giving a supply of young plants in September or early in October. Last year I happened to put them out rather earlier than usual, and the weather being moist afterwards and the ground between not

being stirred before winter set in, the weeds had time to come up. In spring several hoeings were necessary to clean them, as the ground got so wet in February, and as soon as the dry weather set in I had the surface well stirred several times in the course of a month, so as to get the surface right for the runners to root into. Weeds gave but little trouble this summer, but the late rains have brought them up in quantity. I never remember to have seen them grow so fast at this time of year. Several hoeings have been necessary except among the above-mentioned Strawberries, where very few weeds have come up. Hoeing among them has not been necessary, scarcely a weed having come up. This seemed strange until I remembered how frequently the soil was stirred there in spring. Apparently nearly all the seeds in the top inch of ground sprouted and were killed, and until the soil is again worked there will not be another crop of weeds there. The easiest way to keep ground clean is never to wait until weeds appear, but to make a practice of running the hoe through all growing crops at regular intervals whether there are signs of weeds coming through or not. In many gardens I know this is the rule, but in too many instances there is disinclination to use the hoe until a crop of weeds appears.—J. C. B.

KITCHEN GARDEN.

PREPARATION OF SEED POTATOES.

How often do we see the prospects of the Potato crop ruined by badly-prepared seed tubers, and I cannot too strongly urge the importance of attending well to the tubers, so that they should be in a perfectly satisfactory state by the time the planting season comes round, be this early or late. Although to a certain extent cultivation is mainly responsible for the future state of the crop, yet with two plots planted side by side, one with the seed tubers well prepared and the other with weakened sets, through the primary sprouts being lost and the tubers otherwise weakened by being allowed to lie huddled up together in a heap in a close and darkened structure, there would be a vast difference in the condition of the crops as they are dug. Not only is this the case in both the number and size of the tubers, but it affects earliness as well, and this to no small extent. With the early crops this is a matter of great importance. It is astonishing the difference this apparently small matter makes. With the sets well prepared, each having the primary sprout about an inch in length and also stout in proportion, the planting may be delayed until a safe period, the grower in the meantime knowing that, although planting is being delayed for a week or two, these well-prepared sets when they are planted soon make up any supposed lost time; in fact, with these well-prepared sets it is positively dangerous to be in too great a hurry in planting, as with a short spell of fine and bright weather directly afterwards, the growths are not long in making an appearance. Having set forth the advantages that will accrue to the grower upon having well-prepared sets, it now remains to explain the best methods of retarding so that the primary sprout shall be stout and intact at planting time.

This season more than ordinary care is needed to prevent the sprouts growing too much. Very often it is owing to insufficient space that the preparation has to be delayed, and makeshift methods have to be resorted to to meet the desired end as much as possible. The two evils that have to be guarded against are darkness and allowing the tubers to lie huddled up together in a heap, both of which quickly cause a forced growth. Frost has also to be guarded against, but beyond this the cooler the sets are kept the better. The best sets are secured where the tubers can be laid out thinly, be well exposed to the light, and receive a free circulation of air. Much may be done to economise space by placing the tubers in cutting boxes, arranging them on end, the thick end uppermost,

I have packed these boxes one above the other, with pieces of wood between to let in light, and then as space can be spared laid the boxes out thinly. The convenience of this method is, that in case of frost the boxes can be packed up together in a small space and be covered up effectually to prevent the tubers receiving injury. Light, it must be remembered, is indispensable, and likely positions will suggest themselves according to the convenience at command. The best sets are those which can be wintered in a structure where the temperature ranges at about 40°, this ensuring a thorough rest. Cellars are the worst possible places for seed tubers, as these besides being dark are also unduly warm, conditions which will quickly cause a blanched and attenuated growth. Sets for forcing may be quickly advanced by laying the tubers on leaf soil in boxes and keeping this moist in a warm structure. A. Y. A.

Potting Cauliflower plants.—This is an old method and one often thought out of date. If seed of Cauliflowers had been sown in August, there are good plants now for potting. The sturdiest should be selected for the work. I prefer to use $\frac{1}{2}$ -inch pots, as these allow of more root space, as if the plants are too much cramped at the root or suffer from want of moisture, they button in the early spring and are useless. Firm potting tends to sturdy growth, and it is a mistake to use rich soil; a compost of loam with some mortar rubble suits well, as this allows of free, but firm growth. The plants never require heat, and the cooler they are kept now, the more likely are they to winter well. It is necessary to pot in October so as to get sufficient roots to support the plants in severe weather. There is no better system than plunging the pots in ashes up to the rim, taking care to fill in the cavity round the pots, as the ashes preserve the roots. I winter in cold frames near the glass, and in severe weather bank up the sides of the frames with ashes and cover the glass with litter, not exposing after severe frost till the soil is thawed. Very little water is required through the winter months, and an occasional sprinkling of dry wood ashes will keep mildew off. The great advantage with these plants is that they so soon go ahead when planted out in March or early in April, as being in cold frames they can be freely exposed; whereas plants raised in heat require pricking off, carefully protecting, and even then are at times caught by frost. It often happens we have a succession of east winds in the spring that soon wither up tender plants raised in heat, but the sturdy winter plants pass through safely, there is no flagging at planting, and only a very slight check, as the plants come direct out of the plunging material and are a mass of roots. On the whole, I consider the old plan the best and safest.—G. WYTHES.

Shantung Cabbage.—Being specially fond of vegetables, I tried a few years since some seed of Shantung Cabbage, for which I was indebted to Kew. For two years I thought it worthless, its open heartless heads running up to seed very quickly. But this year I sowed the remains of my seed, and yesterday a dish of what appeared to be beautifully white Cos Lettuce was brought to me. Boiled, at dinner, I found it most insipid and worthless, simply so much tender green vegetable between the tongue and teeth, with absolutely no flavour to the palate. To-day I have tried it as a salad, and I find it excellent, white, crisp and sharp as the best summer Cos Lettuce. Worthless as a vegetable, but of great value as supplying an excellent late autumn salad.—R. MILNE-REDHEAD, *Holden Clough*.

State of the vegetable crops.—As far as this district is concerned, green vegetables never were more plentiful than at the present time. Unfortunately, the majority of the winter crops, notably Savoy, Cabbage generally, Brussels Sprouts, Chou de Burghley, and early Broccoli are far too forward, and there is every likelihood of many of them being spoilt. Owing to the absence of frosts and comparatively warm state of the ground, the growth of these vegetables, and also Broccoli,

Cauliflowers, Spinach, and Turnips, has been both rapid and strong up to November 1, though it is to be hoped the late severe frosts will have checked further rapid progress. Not only are the vegetables far too tender and succulent to stand much frost, but the bulk is much too coarse to be generally satisfactory. Autumn Giant Cauliflowers could hardly be got into a bushel basket, Veitch's Autumn Protecting Broccoli being nearly as large. In some instances, where the ground is rather rich, these two kinds have been so large that a single plant could scarcely be got through a door, the hearts being of very little value indeed. Savoy have arrived at a stage when they are very easily spoilt by frosts, not a few having already split open. Those who grow for the markets have a great difficulty in getting rid of their produce at any price, and for some time to come low prices must prevail. Most probably it will be a case of a great glut this side of Christmas and a scarcity afterwards. The latter will of a certainty be brought about if we experience a severe frost at all similar to what took place last January, very few winter vegetables being in a fit condition to withstand much cold.—I., *Somerset*.

All-the-Year-Round Cabbage Lettuce.—No Lettuce has during this past phenomenally hot and excessively dry season given us greater satisfaction than this old, but thoroughly well-proven variety. Others have been introduced since the advent of All-the-Year-Round, but not one of them will surpass it now. When other kinds of Cabbage Lettuce, as New York, a form of the well-known Neapolitan, gave out during the long period of drought and was of inferior quality at the best, this fine kind was excellent, the hearts large and firm, standing well after they were fit for use. Such Cos Lettuce as Hicks' Hardy White even did not behave well during the hottest weather; it was most fortunate, therefore, in our case that we had our old friend to fall back upon, with which a constant supply has been maintained up to the present time with a good stock still in hand. All-the-Year-Round is during its earlier stages of growth somewhat spreading in its habit, the outer and spreading leaves are also large, the ground being fairly well covered where the plants had been put out a foot apart each away. Thus with water frequently given, the ground retained the moisture. After making a few of the large leaves the hearts quickly turn in, there being but few varieties which come into use earlier from the time of sowing the seed. As regards the colour no fault can, I think, be found with it; the pale green colour is in my opinion preferable to a dark green, at least in the Cabbage Lettuces. If sown early in the spring it will prove a first-rate succession to Veitch's Golden Queen, which as an early kind either for framework or the open ground is not to be excelled. In this locality large quantities of Lettuce are grown for the market mainly of the Cos section, but these succumbed to the hot and dry weather even where the ground was heavily manured. For private use the Cabbage varieties find considerably more favour than in the market where mere size counts for a good deal.—J. H.

A RUNNING KIDNEY BEAN.

ONE of the reasons why kidney or dwarf French Beans are not so much grown as the Scarlet Runners, or runner Beans as now most generally termed, is the fact of their not being sufficiently continuous bearing. They bear a quick heavy crop of pods, but these soon become too old and stringy to be used, and in order to have a long succession of tender young pods, several successional sowings have to be made. Several forms of running kidney Beans have been raised or selected. One that I once had, but lost owing to not being able to ripen seed, grew to a great height and also produced a long succession of small, delicately-flavoured pods. At Longford Castle I once saw a long row of kidney Beans that had been supported by stakes about 3 feet high. The plants had attained fully that height and were producing an extra heavy crop of long straight pods that could not be

distinguished from the Canadian Wonder. From Mr. Ward I learnt that this running kidney Bean was actually a selection from Canadian Wonder, the seeds being of the same colour. This was five or six years ago, but I was forcibly reminded of it by seeing a form very much resembling Mr. Ward's shown by Messrs. R. Veitch and Son, Exeter, at several of the leading west of England shows. For the purpose of transit the plants were placed in 10-inch pots and coiled round stakes. All were bearing extra heavy crops of fine straight pods of the Canadian Wonder type, and which were said to fully equal that old favourite in quality. Messrs. Veitch's variety, it is to be hoped, will have been sufficiently well fixed and the stock fit for distribution soon, as it is very certain it is a novelty that will be in great demand among gardeners generally, and those in particular who cannot devote time and space to grow more than a few early kidney Beans. It should be welcome also to those exhibitors of vegetables who may desire several late dishes of extra fine straight pods, those planted and supported by stakes producing these more surely than dwarfs. There is also the likelihood of this running form of kidney Bean being grown in borders or boxes under glass and forced. It ought to be possible to take a much longer succession of young pods from these running plants than from the older forms, a considerable amount of labour being saved accordingly.

W. IGGULDEN.

PUBLIC GARDENS.

CHRYSANTHEMUMS IN THE PARKS.

EACH year an exhibition of Chrysanthemums takes place in the majority of the London parks. This season the displays are of the usual high standard, and this form of attraction, so to speak, has increased greatly of recent years, in a few instances very fine houses being built especially for their accommodation. We made notes of the fine displays, and may mention that every district almost in or near the metropolis is well provided for in this respect, the Inner Temple Gardens, Finsbury, Waterlow, Battersea, Victoria, and Southwark Parks in particular. Finsbury Park was until recently ill-provided for as regards accommodation, but a splendid house has been built for the plants and the best varieties are represented, including the more recent additions. The position of the parks varies so much, that it is unfair to criticise. Plants can be grown easily to far greater perfection in Finsbury Park than in smoky Southwark, surrounded with evil-smelling chemical works, but even under such conditions the plants are excellent. From time to time through the present season we shall make notes of the finer varieties in the parks, as one display in the matter of effect is much like another. We refer to two of the more important exhibitions, and the varieties mentioned are also worthy of note in the collections in other parks.

One of the recent additions to the open spaces of the metropolis is

WATERLOW PARK,

and the Chrysanthemums here are remarkably fine. This open space was formerly, it will be remembered, a private garden, and the original vineries and plant houses remain. In these the Chrysanthemums are grouped, and the plants are well grown, attracting thousands of visitors every day from the populous surrounding district. A well-built conservatory is filled with plants in full bloom, and the more recent kinds are grown as well as old favourites. In every display we have seen this season Vivian Morel is superb. It is so here, and the

of various shades colour in the flowers from different buds are interesting. That fine Japanese variety Mons. Tarin is quite a feature, and even against the many newer kinds its flowers are in a way unrivalled; they are large, and the drooping petals silvery rose in colour. Edwin Molyneux is another kind grown largely, and amongst novelties or comparatively so were several that deserve mention. John Shrimpton and William Seward were two of the more important. Both bear large flowers of superb colour—deep purple-crimson—and the plants are evidently very free, whilst easy to manage. Alberic Lunden is a fine Japanese variety for colour, the flowers crimson-amaranth. That beautiful early-flowering variety Avalanche is the backbone, so to say, of the displays in late October, and many specimens were in perfection here at the time of our visit. This is one of the most exquisite kinds of recent years, and as yet unrivalled for purity and grace. It is a set-off to Sunflower, another good early variety, the flowers not stiff and of an intense yellow shade, making a rich effect. A rather scarce kind is Mrs. F. A. Spaulding, well grown at Waterlow Park. It is one of the finest Chrysanthemums ever raised in America, the flowers nankeen-yellow in colour and the petals broad. Beauty of Exmouth is worth a note, but we do not think it is a variety that will hold its own long as an exhibition flower. It is an English-raised seedling, the flowers when in perfection measuring about 8 inches across and ivory white in colour. Miss Anna Hartshorn is now well known, and many good blooms may be seen here, whilst also of note are Florence Davis and J. Stanborough Dibbens. We are not writing of Waterlow Park in particular as regards the names of the plants, as they are correct as far as possible, but in other places the nomenclature is faulty. This is scarcely pardonable, as in all good nurserymen's lists the names are fairly correct, and in public parks care should certainly be taken in this matter. Some French names undergo amusing alteration.

Besides the foregoing Japanese varieties, such kinds as Condor, Mons. Astorg, Gorgeous, Mlle. Lacroix, Elaine, Margot and Peter the Great fill the spacious houses with colour. In comparing the older varieties with the more modern kinds, it is interesting to note the great advance in size, but some of the smaller Chrysanthemums are the more beautiful. The rich bronzy orange Source d'Or, more grown for market than perhaps any other, is very charming. Incurved kinds as a rule are not made much of in the parks, but here one sees several well-known varieties in true character. The fact is the Japanese are better for effect than the prim incurved. M. R. Bahuant of the latter section is conspicuous. It is an early-blooming kind, the flowers not very bright in colour, a somewhat dull carmine-rose, the petals smooth and well incurved—a fine seedling unquestionably of the Queen family, similar in growth, and with the same bold style of flower. Robert Cannell is in full bloom. On its first appearance we thought this fine variety of Mr. Cannell's raising would be too rough, but it has proved otherwise, the flowers large, rich bronzy red, and the reverse of the florets old gold colour. Amongst what are called decorative kinds, the variety Mr. C. E. Shea was conspicuous. This is a sport from Mlle. Lacroix, and a charming flower, rich in colour, a soft golden yellow, and useful for cutting. The Chrysanthemums in

FINSBURY PARK

are well arranged, and the new house affords scope for effect. It is almost too elaborate,

but fortunately is not obtrusive, like the big refreshment place that disfigures what should be the finest position in this park. The plants here are later than at other places, the position being cold and breezy. The Japanese varieties are grown largely, and Vivian Morel is one of the chief kinds. On one plant the flowers are of two distinct colours, the purple-lilac of the later buds and pure white. A very fine kind we made note of is Col. W. B. Smith, which is a splendid exhibition flower. Fully-developed blooms measure 8 inches across and quite 5 inches in depth, the colour golden bronze, shaded with a terra-cotta tint. Although so large, they are not coarse. We lay stress upon this, as size, as a rule, means coarseness. A well-grown plant of W. A. Manda is in bloom, and this variety belongs to the hirsute or Alpheus Hardy section. We care little for the "hairy" character if the colour is good, which it is in this case—a pure golden yellow. Eynsford White was superb, and it is a lovely flower, pure white, distinct and free; whilst we noted also Beauty of Exmouth, Louis Boehmer and those mentioned above. Amongst Anemone-flowered kinds, two were of note, one, Delaware, the other M. Charles Lebocqz. The former is very pleasing, the centre yellow, very full and the guard florets pure white; whilst the latter is citron-yellow, with a shade of carmine, the centre full.

It would serve no good purpose to individualise each park more than we have done. It is sufficient to know that the growers in every case deserve praise for their year's work to provide during November a gay mass of flowers for inspection. In many places attention might be given also to the outdoor varieties more so than is at present the case; but in Southwark and very smoky, low-lying districts they should, perhaps, be left alone, except two or three varieties that resist such unpleasant surroundings. The object to provide a large house of indoor plants is distinctly praiseworthy, encouraging the dwellers in surrounding populous districts to also grow and love flowers, but the majority of people have no accommodation for a greenhouse. A few beds of the best outdoor kinds, arranged in distinct colours or several shades of one colour, would provide a fine picture in late October and November. One of the gayest masses of flower we remember seeing in the open in November was a wall of Chrysanthemums in Hammer Smith. The garden was small, quite of the suburban type and surrounded with houses, but the plants were a sheet of bloom, this, too, in quite full exposure.

Martinmas term.—The 11th of November is a time which is often fraught with great anxiety to young gardeners (foremen and journeyman) who have to leave their situations and go at such an untoward season of the year to find new appointments, or get into nurseries, if they are even so fortunate as to find employment there. Why the system of frequent migration in the north is so common it is difficult to conceive. In some districts the practice seems to be contagious. If the young men were leaving to better their condition or to gain superior knowledge every sympathy with their action would be given, but often by this migratory system they leave gardening and seek employment at anything which comes first to supply them with means of subsistence. Nurserymen are sadly taxed with the eager applicants' appeals for situations when there are not openings for a third of them. If those who are well placed and have no direct prospect for the future could remain in their situations two or three years instead of changing every six or twelve months, they would learn much more of their business and

be better off financially, as well as be more eligible for an opening when such occurred. The most of the young men who have been employed under me have pursued the course I advise, and all have done well when they have left, which is generally between terms, as is so general in England. The worst evil in the north is the continual raising of apprentices in many places, often where they can learn little gardening, and at the end of three or four years they are thrust out into the cold world to fight for themselves.—KENT.

Epilobium latifolium.—I think "E." would be almost certain to obtain *Epilobium latifolium*, the equally fine, perhaps finer, dwarf species *E. obcordatum*, and other choice kinds of *Epilobium* from Messrs. Backhouse and Son, Holgate Nurseries, York. They had a nice collection of these plants, including the above-named species, some time ago.—W. M.

—In reply to "E." (p. 428), I think this plant is likely to remain in cultivation, because it is both a pretty and useful species, and also a plant with a free habit of self-propagation; anyhow it has been here for many years and is much appreciated, and even were it intended to root it out, it could be done only with some difficulty. It is but a few inches high, the foliage is almost blue-green, and for the size of the plant the flowers are large and effective. It is a capital plant for the rockery, where it should have plenty of room, and in the same ground early spring or autumn-flowering bulbs might be set without injury to the plant or themselves, so as to relieve the deadness of the space at those periods. It is a native of the colder regions of North America, and hardy beyond all question.—J. WOOD, *Woodville, Kirkstall*.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 14.

COMPARED with the last meeting, which was a most exceptional one, this was not so extensive, nor could it be reasonably expected that it would be, considering the foggy day. We do not, however, remember to have seen a better display at any time in the middle of November. There were several good groups, prominent amongst which were some fine forms of *Cattleya labiata* and several of *Cypripediums*. Amongst the latter the most noteworthy were the best varieties of *Cypripedium Leeanum* that have been seen. This hybrid is certainly one of the best, whilst it has a still further recommendation in its favour, that of flowering at a season when there is a comparative scarcity of really good and distinct species or other hybrids. Of the old *C. insigne* there were also several fine varieties, notably *Sanderæ* and *Ernesti*, two lovely pale forms. Other good hybrids of *Cypripediums* and *Cattleyas* were also shown.

Orchid Committee.

First class certificates were awarded to—

LÆLIO-CATTELEYA STATTERIANA (*Cattleya labiata* × *Lælia Perrini*).—A decided acquisition with fine, large and bold flowers, the sepals and petals of a soft mauve-pink, the latter much the broader, both being of extra substance, and in no way reflexed or twisted, the lip being of a bright velvety crimson, with a light bar across it at the throat, almost white; the growth is very free and compact. From Messrs. J. Veitch and Sons.

CYPRIPEDIUM SOUTHGATENSE SUPERBUM (*C. bellatulum* × *C. Harrisianum*).—A remarkably fine hybrid with the characteristics of the first named parent, into which have been infused the deeper colour and increased vigour of the latter; the markings of the flowers are of a deep vinous purple as profuse as in *C. bellatulum*, the ground colour a soft suffused shade of pale purple; a very distinct addition to an already numerous class. From Mr. Thos. Statter, Stand Hall, Manchester.

Awards of merit were given to—

CYPRIPEDIUM LEEANUM VAR. JAMES HAMILTON.—An excellent variety, with the fine dorsal sepal of the parent increased in size, pure white in colour, with the characteristic stripe through the centre and green base, but no spots; the petals are broad, and the labellum of a deep bronzy shade. From Messrs. Sander and Co.

STANHOPEA LOWI.—A new species, which comes near to *S. Amesiana* in form, but instead of being pure white the colour in this instance of the sepals and petals is of a creamy yellow, the central portion of an ivory-white. The usual perfume pervades the flowers, reminding one of *Stanhopea tigrina*. From Messrs. H. Low and Co.

CYPRIPEDIUM SWINBURNEI (Stand Hall var.), which has extra large and bold flowers supported on tall footstalks, the petals distinctly spotted, the dorsal sepal white, with greenish stripes and small dark markings—a good plant. From Mr. Thos. Statter.

PLEIONE MACULATA ALBA.—A white form, with delicately beautiful flowers rather smaller than those of the type, the lip having a faint trace of pale yellow; the plant bore several good blooms. From Mr. G. W. L. Schofield, Manchester.

CYPRIPEDIUM ASHWORTHÆ (*C. Leeanum superbum* × *C. selligerum majus*) has the prominent dorsal sepal of the former, but of finer proportions, pure white in colour, with minute chocolate spots radiating in lines from the greenish base, the labellum being of a dark bronzy brown.

Medals were awarded as follows: A silver Flora medal to Mr. Measures, Cambridge Lodge, Camberwell, for a choice collection containing some unique kinds. Amongst these was a plant of *Cypripedium insigne Sanderæ*, a gem in its way with its soft pale (almost self-coloured) greenish yellow flowers, the upper portion of the dorsal sepal being pure white. *C. insigne Ernesti* may be termed a fitting companion to the foregoing, with nearly self-coloured flowers, but of a pale yellow without the green shading, having a faint, almost indistinct spotting on the dorsal sepal, in both cases the blooms were very lustrous as if burnished. *C. Celeus* (*insigne Chantini* × *villosum*), a light spotted hybrid, very pretty; *C. Exul* and the Cambridge Lodge var.; *C. T. B. Haywood*, a grand hybrid; *C. Mrs. C. Canham*, with extra fine flowers; *C. Argus*, with its distinct spotting; *C. Leeanum*, a good form; *C. Arthurianum*, a distinct hybrid; and *C. Spicerianum* were also included. Other good things consisted of *Cattleya labiata vera*, with the usual fine labellum of an intense dark crimson shade, and a good piece of *Oncidium tigrinum*.

Messrs. B. S. Williams and Son, Upper Holloway, contributed an interesting group of choice things, the plants well grown and healthy, comprising several *Cypripediums*, the best of which were *C. Pitcherianum* (Williams' var.), with dark lustrous flowers of large size; *C. tonsum*, *C. Harrisianum superbum* in good form; *C. Dauthieri superbum*, *C. insigne Mrs. Wilson*, after *Chantini*, but darker; *C. selligerum rubrum*, *C. enfieldense*, *C. Arthurianum*, *C. Huybrechtianum*, *C. insigne punctatum violaceum*, one of the best; and *C. Ashburtonæ expansum*. *Cattleya Bowringiana lilacina* is quite a distinct form, its colour denoted by its name. *Cattleya labiata* and *Compactia macroplectron*, a singular, but pretty species, with a curious motion of the flowers when shaken, were also shown. A silver Flora medal was awarded.

Messrs. Sander and Co., St. Albans, had a variety of good things, prominent amongst which were fine forms of *Cypripedium Leeanum*, one of the best being a very good form called *virginale*, which has the dorsal sepal void of spots or stripes, being large, pure white in colour, with green base, the other parts of the flower pale in colour. *C. Leeanum excellens*, a large and fine form of *C. Leeanum superbum*, one of the best; *C. Chamberlainianum* with two flowers and *C. Burberryanum* were also shown. Of other Orchids there were *Calanthe rosea*, with pale bluish flowers, *C. Cooksoni*, *C. Sandhurstiana*, with deep rose-coloured flowers, after *C. Veitchi*, but with a darker labellum, and *Odontoglossum sceptrum*, with flowers of a dull brick-red colour. *Barkeria Lind-*

leyana, seldom seen, *Lycaste Skinneri alba* and *Odontoglossum Humeanum*, as well as the curious *Restrepia antennifera* and *Masdevallia polysticha* were also shown here, with one example of *Oncidium sceptrum*. A silver Flora medal was awarded. Messrs. H. Low and Co., Upper Clapton, had a very pleasing group, amongst which there were several nice plants, freely flowered, of *Miltonia Roeziana* and the white variety; these were very good for the season. Several good forms of *Cattleya labiata* were shown here, and an excellent example of *C. Massaiana* with mottled sepals and petals, the lip of a deep velvety crimson shade, with two distinct pale yellow blotches on the side lobes. *Lælia Russelliana*, very distinct and beautiful; *Cypripedium Stoelei*, seldom seen now; and *C. bellatulum*, usually shown by this firm, were also included. Awarded silver Banksian medal. Messrs. Lewis and Co. also had a pretty group, in which were staged three capital specimens of *Cypripedium insigne*, freely flowered. *Cattleya labiata*, in the best form; *C. maxima Lewis's* var., with a distinctly marked lip; *Cynorchis grandiflora*, *Trichosma suavis*, and *Cypripedium insigne punctatum violaceum* (too long a name), were also sent, the award being a silver Banksian medal. Minor exhibits included *Cypripedium rubescens* (*ananthum superbum* × *Boxalli*), a dark-coloured hybrid, and *C. Ariadne* (*Spicerianum* × *selligerum majus*), the resemblance to the former parent being very marked. Mr. Foster Alcock, North Church, Berkhampstead, sent a pretty variety of *Odontoglossum Wilckeanum*, and Mr. Holmes, Pickering Lodge, Timperley, Cheshire, sent cut examples of fine varieties of *Cattleya labiata vera* and a distinct variety of *C. Bowringiana* with the labellum of a deep crimson.

Messrs. J. Veitch and Sons staged a grand hybrid, *Lælio-Cattleya Pallas* (*C. Dowiana* × *L. crispata*), with the sepals and petals of a pale blush and prettily undulated, the lip beautifully fringed, of extra depth and of a deep purplish crimson shade, both of the parents being harmoniously blended in the offspring. *Cypripedium Enone*, *C. T. B. Haywood*, *C. Euryades*, and the singular-looking hybrid *C. microchilum*, with quite a minute lip, were also included.

Floral Committee.

The exhibits before this committee consisted chiefly of *Chrysanthemums*. First-class certificates were awarded as follows:—

DRACENA JAMESI.—This is a very pleasing *Dracena*, distinct and with richly coloured leafage, deep chocolate-green, margined with crimson. It would be very handsome as a specimen, and when young for table decoration. Exhibited by Messrs. J. Veitch and Sons, Chelsea.

PRIMULA FORBESII.—A beautiful mass of this interesting Chinese species was shown by Sir Trevor Lawrence, Bart. It reminds one at once of *P. obconica*, but the flowers individually are smaller and produced in profusion on slender stems about 12 inches or so in height. It is also very free-flowering, the flower-stems rising from a thick mat, so to say, of deep green slightly lobed leaves. It is certainly a most interesting species, and the clear rosy colour of the flowers set off with a small deep orange eye is delightful. We presume it is a greenhouse species, thriving under the same treatment as *P. obconica*, and is likely to prove a valuable plant, especially if it can be easily grown. It appears unusually vigorous, and is far more graceful than *P. obconica*.

CROTON RUSSELLI.—This is a fine form of the Queen Victoria type. It has bold foliage of distinct and rich colouring, deep green, barred with crimson, the mid-rib of a very bright shade. It is quite an acquisition to the long list of good *Crotons*. From Messrs. H. Low and Co., Upper Clapton.

Awards of merit were given to the following *Chrysanthemums*:—

CHRYSANTHEMUM Mlle. THERESE REY.—This is unquestionably the most beautiful new variety exhibited anywhere this year. The flower is very large, massive, and with fine, broad, pure white florets. It is a splendid exhibition variety, and

not in the least coarse, which is more than can be said of some recent novelties. Shown by Mr. C. E. Shea, The Elms, Foot's Cray, Kent, and Messrs. J. Veitch and Sons.

CHRYSANTHEMUM JOHN BUNYAN.—This is a lovely Japanese Anemone-flowered variety. It is beautiful both in form and colour, the disc centre full and bright yellow, with the neat guard florets of a paler shade. It is an English-raised seedling. From Mr. Owen.

CHRYSANTHEMUM LORD ROSEBURY.—An English-raised incurved kind, very distinct and of exhibition character. The flowers are of fine form, the petals neat and bright purple-rose in colour. A most welcome addition to this class. Exhibited by Mr. Owen.

CHRYSANTHEMUM ROBERT PETFIELD.—This is another valuable incurved variety, English raised, and with well-shaped, full massive flowers of a rosy-purple shade of colour. Shown by Mr. Owen.

CHRYSANTHEMUM WILFRED MARSHALL.—An incurved Japanese kind, the flowers of striking aspect and intense golden-yellow colour. A highly promising and effective exhibition kind. From Mr. Owen.

CHRYSANTHEMUM NIVEUM.—This is a Japanese variety of American origin, and a delightful flower. It is full, massive, and the broad petals are bluish-white in colour, which seemed almost pure white in the murky atmosphere of the Drill Hall. Exhibited by Mr. Owen.

CHRYSANTHEMUM GOLDEN WEDDING.—One of the best novelties of the present year. The colour is clear golden and the petals incurve. It is what we should class as an incurved Japanese kind. This was shown by no less than four exhibitors—Messrs. J. Veitch and Sons, R. Owen, G. Stevens, Patney, and H. Cannell, Swanley.

CHRYSANTHEMUM ROSE WYNNE.—A fine Japanese variety, the petals broad and delicate bluish in colour. From Mr. Owen.

CHRYSANTHEMUM CHARLES DAVIS.—This is now well known, as it has been fully described in recent numbers. Shown by Messrs. J. Veitch and Sons and G. Stevens.

CHRYSANTHEMUM MRS. C. J. SALTER.—This is a charming Anemone variety, the flowers neat and pleasing. It is interesting to know it was raised from Scarlet Gem, a single scarlet variety crossed with Nelson, a crimson-purple Japanese Anemone kind. The result is a neat bloom, the centre reddish-bronze tipped with yellow, and the guard florets reddish-buff. From Mr. W. Wells, Earlswood, near Redhill.

CHRYSANTHEMUM DUKE OF YORK.—A Japanese incurved variety, the flowers broad, large and massive, of full exhibition standard. The florets are deep crimson with silvery reverse. Shown by Messrs. H. Cannell and Sons.

The largest group of Chrysanthemums came from Messrs. H. Cannell and Sons. A splendid collection of zonal Pelargoniums was also shown by Messrs. Cannell, comprising such beautiful single varieties as Galatea, rich salmon-rose; Mill's Favourite, deep crimson; Radha, crimson; White Lady; Mme. Melba, white, flushed with salmon-pink; an improved Lady Brooke; Etoile de Lyon, the florets red, white in the lower portion, a finer kind than Souvenir de Mirande, of which it is possibly a seedling; Lady Tennyson, rich salmon; Mme. de Bondeville, rose, deeper margin to the petals; Blue Peter, magenta; the Double Improved Raspail and Double New Life (silver medal). Messrs. J. Veitch and Sons sent a fine group of Chrysanthemums, comprising splendid individual blooms, especially of the Japanese varieties J. Stanborough Dibbens, Val d'Andorre, Mlle. Marie Hoste, Sunflower, Florence Davis, and Mrs. C. W. Wheeler (silver medal). A large and well staged collection of cut blooms came from Mr. Wythes, gardener to the Duke of Northumberland, Syon House, Isleworth. The flowers individually were of much merit, especially the incurved, as Mabel Ward, Mrs. Norman Davis, and Jeanne d'Arc; whilst of the Japanese kinds, Eynsford White, Louis Boehmer, Mme. C. Audiguier, Florence Davis, and Sunflower were of note; and of the reflexed, the bright yellow Chevalier

Domage (silver medal). Mr. R. Parker, Impney Gardens, Droitwich, had a very creditable collection, comprising leading kinds (silver medal). In each of the following cases a bronze Banksian medal was given. Mr. W. Wells, Earlswood, Redhill, had a large assortment, comprising many seedlings and novelties, as Golden Wedding, Emily Wells, rose, single; and Mme. Albani, a deep crimson-purple flower, more strongly scented of Violets than Progne. Mr. C. E. Shea had a delightful collection, and shown on small stands, being sections of the ordinary 6-inch board. His flowers of Mlle. Thérèse Rey, Silver King, a fine silvery rose-coloured Japanese seedling; Sunflower, and Sarah Owen were worthy of note. Mr. W. Salmon, West Norwood, had a group of cut Chrysanthemums. Amongst the finest flowers were those from Mr. Slowgrove, gardener to Mrs. Crawford, Gatton Cottage, Reigate. These deserved a silver medal. We have never seen six finer blooms of Thunberg, a variety not easy to get to such perfection, and a cultural commendation was worthily awarded. He also had superb blooms of Sunflower, Boule d'Or, Mlle. Lacroix, W. Seward, and Vivian Morel. Messrs. J. Carter and Co., High Holborn, showed some promising varieties, and a large collection of novelties was staged by Mr. Owen; the finer types are described above. Pride of Maidenhead, a white Japanese variety, is highly promising. An important exhibit was the fine mass of Begonia John Heal from Messrs. J. Veitch and Sons, and a new acquisition named Mrs. John Heal. This is an addition to the valuable class of winter-flowering Begonias raised by Mr. Heal, and in the present instance the same parents were used as in John Heal, namely, a tuberous variety and B. socotrana. The flowers of Mrs. Heal are larger than those of the other hybrid, deep crimson, with small white centre, showy, and produced with comparative freedom. It is rather early to judge of it as yet, but it seems to be a vigorous, free, and bright winter flower, with far more of the B. socotrana character than John Heal, which is a splendid kind for winter, bright, and fog-resisting.

Prizes for Chrysanthemums.

Classes were provided for Chrysanthemums, and there was good competition. The most important was for a collection, distinct kinds, in which Mr. Wythes was first, showing a large assortment of fine flowers tastefully set up. The incurved varieties were remarkably good, also the Japanese, as Mr. A. H. Neve, Col. B. Smith, Stanstead Surprise, Sunflower and the reflexed Cullingfordi. We could mention more, but may say that all the leading kinds were represented. A good second was Mr. Thos. Osman, Ottershaw Park, Chertsey, Surrey, with the chief varieties; and Miss R. Debenham, St. Peter's, St. Albans, third, this exhibit comprising many single kinds. A very fine exhibit from Mr. J. McLeod, Dover House Gardens, Roehampton, was disqualified, as not in compliance with the schedule. Another class was for eight new Chrysanthemums, and the first prize went to Mr. W. Slowgrove for eight of the finest blooms we have seen this season. They were superb for form and colour, and comprised Lord Brooke, a noble bloom; G. C. Schwabe, Excelsior, Chas. Davis, R. Flowerday, deep crimson, silvery reverse; Mrs. Libbie Allen, W. Seward and Mrs. Harman Payne, all shown in the finest form. Mr. Wythes was an excellent second, his collection including more incurved kinds, as M. R. Bahuant and Baron Hirsch.

Fruit Committee.

The exhibits before this committee were not so numerous as usual, though most interesting. Seedling Potatoes and new Apples were shown in quantity. Messrs. H. Cannell and Sons, Swanley, staged seventy dishes of Potatoes, having well-known kinds and a few of recent introduction, the best dishes being Colonel Long, Edgemoor Purple, Peach Blow, The Dean, Our Boy, very large, several seedlings, and Eynsford Mammoth, rather coarse, but stated to be of excellent flavour (silver Banksian medal). From the society's gardens came a large collection of Celery, most of

the kinds in cultivation being staged. The best were the well-known Sandringham White, Giant White, Veitch's new Dwarf Red and Early Rose, the latter an excellent form of pink Celery for early use; Carter's Solid Red, Dobbie's Select Red, a solid good variety; Henderson's White Plume and Golden Dwarf, novelties, but not valuable where size is required; Major Clarke's, an old variety, and still one of the very best; and Standard-bearer, the last one of the best for its good late-keeping qualities. Mr. Leach, Albury Park Gardens, Guildford, sent some nicely curled Parsley named Leach's All the Year Round. This should be shown next spring to show its keeping qualities. Mr. B. W. Howard, Canterbury, sent two dishes of seedling Potatoes The Field King, specially suitable for field culture, and Lord Wolseley. Mr. J. H. Ridgewell, Histon, Cambridge, also sent four dishes of new seedling Potatoes named Earl's Court Champion and New International; these seedlings the committee desired to be tried at Chiswick, as then their cropping qualities could be ascertained. Mr. W. Roupell, Harvey Lodge, Roupell Park, N., sent good Newtown Wonder Apple grown in the open in the London radius. Mr. Divers, Ketton Hall Gardens, Stamford, sent a good dish of Barnack Beauty Apple, and Mr. W. Jenkins, Abergavenny, sent a nice-looking fruit named Monmouthshire Beauty, but not superior to existing or well-known kinds. Mr. J. Godfrey, Rolle Street, Exmouth, had a small collection of Apples of second growth, small fruits in clusters at the points of the shoots. Mr. T. Edmunds, Uckfield, contributed two dishes of seedling Apples. From Mr. Crook, Forde Abbey, Chard, came a good dish of Coe's Golden Drop Plum, showing its value for late keeping. Mr. J. Pitt, Panshanger Gardens, Hertford, sent a dish of the recently certificated Banana named Lady's Finger, a small fruit, but of excellent quality.

Mr. R. Parker, in the course of his remarks on the Chrysanthemum, stated that he first became interested in the flower by visiting the Stoke Newington show some twenty years ago. There had, however, been a great advance both as regards size of bloom and number of varieties. A great deal had been done of late years towards raising new varieties, but this was not all that was wanted to bring these flowers into notice and to retain them in favour. What he wanted specially to see was varieties that would flower freely and so be useful for cutting. A great number of people were in favour of striking their cuttings in December or early in January, but he did not consider it at all advisable to do so unless the plants were grown solely for exhibition, when more time was required. For decoration he would prefer striking in February or March, and then potting on or planting out. If potted, he advised 9-inch pots, which were large enough for most purposes. The plants should be stopped three times after they were rooted, and if planted out he did not consider it wise to make the ground too rich, as by so doing many failures in the culture of Chrysanthemums took place. He considered good loam with a little leaf mould was quite sufficient when first potted, and after the plants had set their buds he considered manure was more beneficial than at any other time. A great many people in potting up Chrysanthemums were in favour of placing bones at the bottom of the pots, but he considered it a very bad plan; he could not in any way imagine how the plants could reap any benefit; indeed, the contrary. A good material at the bottom of the pots was shell gravel, putting it through a sieve, mixing the fine with the potting compost, and using the coarse as drainage. One thing he was in favour of was top-dressing, which he thought most beneficial, as Chrysanthemums had most roots on the surface of the soil. With regard to planting out, he considered it one of the best and the readiest way for the production of a large quantity of blooms. If planted out in the early summer and lifted in autumn, Chrysanthemum culture was simple. Those who could spare a vinery or Peach house would be able to have a large quantity of blooms for cutting. He

would advise anyone growing Chrysanthemums on this principle to cut round the plants several days before lifting. For the destruction of insect pests, syringing with soft soap for green or black-fly was most beneficial. He was not an advocate of patent manures for the plants. Other modes of culture were not touched upon, such as the production of large blooms, &c.

Paraffin.—What is the paraffin so many of your writers talk about? I have seen paraffin recommended for this and that in connection with plants and have tried what we call paraffin as advised, and have failed with it in every case. In THE GARDEN for Oct. 7, 1893, "Ridgewood" advises its use for Rose mildew—a disease our Roses are much subjected to and for which no efficient remedy is known here. Believing that your paraffin is not the substance we here know by the name, I ask as above before trying it on Rose mildew. Our paraffin is a residuum from the distillation of wood, coal, oils, crude petroleum, &c., and is an oily, waxy substance; in fact, so waxy that we make millions of boxes of candles from it. I suspect your writer's paraffin is kerosene, benzine, benzole or some other distillation of petroleum, and not a residuum from said distillation.—JOHN ADAMS, Chicago.

*** When I have been writing upon paraffin as an insecticide, what is more correctly known as paraffin oil has been meant. John Adams evidently confuses the two. The oil I use is the ordinary paraffin utilised for lighting purposes at about 10d. a gallon. It makes a very safe, cheap and reliable insecticide when used in the proportions I have frequently recommended, and especially as a further ingredient to many insecticides. I find it leaves the foliage particularly clean and also much less subject to the attack of mildew; indeed, it is so deadly to this blight, that, if used with due care, mildew fails to gain a hold upon any leaves that have been washed with the solution I advised in THE GARDEN of Oct. 7.—RIDGEWOOD.

Old stems of trees.—An old Walnut tree, the inside more or less soft and rotten, has been blown down and I have had it sawn up into 4-foot lengths. My idea was to make a sort of rockery with the pieces at the end of a bed that faces the north, and is partly shaded by trees. Can you tell me what (if anything) would grow in the tree? As a last resource I must plant creepers in the ground.—H. J. S.

*** We think it always a mistake to make rock-work of any kind of wood. It is never artistic, enduring or pretty. It is often best to leave the old stem where it dies and clothe it with some beautiful species of Clematis or other climber that one may care for. Another way of dealing with old stems is to saw them in pieces and use them as rustic vases.—ED.

Anthracite coal.—In answer to your correspondent "G. H. B." on p. 450 of last week's issue, I would like to state that I have used anthracite coal now for some years, and it has always given every satisfaction. I find a considerable saving in labour as compared with other fuel, inasmuch as there is not so much stoking required—in fact anthracite coal resents being meddled with too much. The heating power I consider is far in excess of either coke or nuts, and a great advantage is that there are very few clinkers. As to price, I am sure that weight for weight it is much cheaper; at all events since using it my fuel bill has been £10 per year less than hitherto.—W. J. BLIGH, *The Gardens, Plas Isob, Ruthin, N. Wales.*

— If "G. H. B." can get a ton of best cobbles delivered at 20s. compared with coke at 15s. per ton he would never use the latter again, that is if draught is good. After a lengthened trial I prefer cobbles, as being more economical in every way, less dust, no time lost in breaking, and a lasting fire. There being anthracite of very inferior quality in the market, I would advise "G. H. B." to obtain the best direct from the colliery in trucks holding from 8 to 10 tons. In using anthracite there are less dust and ashes and very few clinkers,

and no fear of the fire being out after twelve hours, while there will be no difference in the heat in the pipes at the end of the time stated. Poking between the bars from underneath is preferable to stirring up the coal. There is no smoke, and since I have used anthracite the flues are cleaned out every third week instead of weekly.—STEPHEN CASTLE.

IRON ROOFS.

WITH reference to your correspondent's complaint about his iron roofing, I fear the fault lies in his own ignorance of the material he is using. A slate or tile roof may be put up, and if left to itself it will wear as long as the wood of the laths will last; but it is not so with an iron roof. This requires a certain amount of looking after; but given this small amount of attention I think that everyone who has tried them will agree with me that iron is by far the cheapest both as to first cost and also in the long run. Now as to the proper way to go to work. The iron should have been galvanised, and if possible tarred on both sides before it was put up, and once a year during the fine weather it should be brushed over with tar as hot as can be managed. Hot tar is to be preferred to the much-advertised black varnish, as it is not so brittle and liable to chip off. No doubt paint would do equally well if price were no object. There seems to be a general feeling in favour of corrugated sheets for roofing, and as I have always used these I cannot claim to speak with any authority on the point, but I am strongly of opinion that flat sheets would be better. Given equal weights per unit of surface covered, the flat iron would be nearly twice the thickness of the corrugated, and would only have half the surface to tar and to rust. Nor should the flat sheets require any more spars to support them. Spouting is a much more difficult matter, and here I admit iron is not satisfactory. Hardly a winter passes without some of the cast-iron downrights being ripped to pieces by the frost. Up to the present wood has given most satisfaction both for the spouting and the downrights, but it soon comes to naught if it is not kept well painted. I can call to mind some chemical works near this place where the air is frequently thick with acid vapours, and yet the iron roofs appear to be as sound as when they were put up ten years ago, owing to the annual treatment with tar they receive.—H. J. S.

*** A good comment on modern ignorance of the art of building! A roof—which originally meant a thing like a rock to shelter man from sun and frost—must be daubed with tar once a year! The slightest experience should convince that an iron roof in the end is more expensive than one which will last, such as that formed of tiles, or stone, or concrete. There are plenty of tiled roofs in England that have existed for several generations and have never had annual attention, and there are roofs that have existed now for two thousand years to our certain knowledge. The whole of the iron roofing business is an ugly and impudent makeshift, and, as regards effect, the greatest misfortune that ever befell the home landscape in England. Even a wooden roof is far better in every way than iron, as the following paragraph in a recent issue of *Garden and Forest* will show:—

Wooden roofs.—A shingle roof which had been put on fifty-three years ago was lately removed from a house in Nashville, Tennessee. Four kinds of shingles were used indiscriminately—Poplar, Oak, Chestnut and Walnut. The Poplar shingles led in soundness, followed in order by the Chestnut, Walnut and Oak. The Chestnut had simply worn away, the Walnut had a dry rot on the under side of the exposed portion, and the Oak had rotted. The shingles were rived and hand-drawn. It is not probable that a modern sawed shingle of either wood would have lasted half as long. Besides cutting across the open ducts of the wood, and affording inlets for moisture, the saw leaves a fuzz on the surface of the shingle which causes it to dry off more slowly after rain.—ED.

The weather in West Herts.—The most noteworthy feature of the weather of the past

week has been the persistence of north-easterly winds; in fact, during the eight days ending Monday for only three hours did the wind come from any other point of the compass than those between north and east. With the exception of Saturday, the last eleven days have been all unseasonably cold, and on two nights the exposed thermometer indicated from 11° to 12° of frost. Since the 4th the temperature of the ground at 2 feet deep has fallen 5° and at 1 foot deep as much as 8°. Until Tuesday the weather had been fairly dry, but on that day over half an inch of rain fell. Previous to this fall no measurable quantity of rain water had come through the percolation gauge containing heavy soil for eight days. Small quantities were, however, measured each morning from the light soil gauge. On Thursday in last week and also on Sunday and Monday last the sun shone brightly for six or more hours.—E. M., *Berkhamsted.*

Book on Ferns.—Will you kindly inform me in next issue of THE GARDEN (if possible) what you consider the best work on exotic Ferns?—INQUIRER.

*** The best work on exotic Ferns is undoubtedly the "Book of Choice Ferns," giving the descriptions of the best and most striking Ferns and Selaginellas, and giving also explicit directions for their cultivation and propagation, the formation of rockeries, the arrangement of ferneries, &c. This important work, which is the most practical and complete ever published on the subject, is written in a popular style and is particularly accurate. It is illustrated with numerous coloured and monochrome plates and engravings prepared from drawings, photographs and sketches made especially for the work. All the generic names have their derivations given, and every specific name has also its equivalent in English, which greatly assists in remembering them. The geographical distribution and the culture of each genus are separately and extensively given, and the illustrations, as also the letterpress, are all that can be desired. This handsome work may be had, either in parts or in bound volumes (twenty-one of the former or three of the latter completing the work), of the author, Mr. G. Schneider, 17, Ifield Road, West Brompton, London

Names of plants.—*Thos. Stansfield.*—A poor variety of *Cattleya labiata*.—*E. Gurney.*—1, *Cypripedium Arthurianum*; 2, *Cattleya Loddigesii*; 3, *Cattleya Bowringiana*; 4, *Dendrobium Phalenopsis Statterianum*.—*Thos. Robinson.*—1, *Hymenophyllum asplenoides*; 2, *Gymnopteris nicotiaefolia*; 3, *Odontosoria aculeata*; 4, *Asplenium cuneatum*; 5, *Adiantum macrophyllum*.—*W. A. Gunner.*—*Liparis spathulata*.—*T. J. M.*—*Laelia anceps*; 2, *Laelia autumnalis*.—*W. Woodward.*—1, *Polystichum lobatum*; this is found in many varieties at Clova, and this is one of them; 2, *Asplenium Adiantum-nigrum*.—*J. B.*—Please send better specimen with leaves.

Names of fruit.—*G. Warrington.*—1, *Uvedale's St. Germain*; 2, *Catillac*; 3, *Baronne de Mello*; 4 and 5, *Fondante d'Automne*.

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No. 1149. SATURDAY, November 25, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

CHRYSANTHEMUMS.

CHRYSANTHEMUMS FOR COLOUR.

MANY much-praised Chrysanthemums are of poor colour. The flowers are beautiful in form perhaps, but of a dingy purple, magenta, rose, or similar shade, which looks fairly well on the show board, but not in a mass. Such kinds one does not want to grow for cutting, and the rage for size in the individual bloom has led to the rejection of many charming varieties for colour which we have mentioned in these notes.

The large collection of Chrysanthemums in the Chiswick Gardens is interesting, as many old varieties are grown, and the plants have been little disbudded. I went carefully through the large array in the vineries and old Palm house to select a few of the finer simply for colour, taking no account whether they were new or old. Others may be able to add a few more kinds not mentioned here, free-growing, vigorous varieties with flowers of a decided shade. One notices the large number of white-flowered Chrysanthemums, and the prettiest of all is Jane, or Snowflake, a single kind, the flowers individually large and of the purest white. Two or three specimens are smothered with bloom, and the graceful sprays are delightful to cut for the house. If only one white Chrysanthemum were required for cutting, my selection would be this, so free, graceful, and informal. Mons. Astorg, Fair Maid of Guernsey, Eynsford White, Avalanche, and amongst the earlier kinds Elaine, Lady Selborne, and Mlle. Lacroix are invaluable. Of course, very few comparatively of the large number of white Japanese varieties are mentioned, but sufficient for ordinary collections. Of this number I prefer Avalanche and Eynsford White to the others. There is a charming curve, so to say, in the florets of the last-mentioned. In the other classes white-flowered varieties are numerous. Amongst the pompons Miss Talfourd is of note, the flowers of the purest white, and of the large flowering Anemones Fleur de Marie is very beautiful. Mention must also be made of *Sœur Melanie*, one of the freest of Chrysanthemums, a gem for cutting.

A large section of Chrysanthemums comprises those with flowers of chestnut-orange and allied shades. The most popular of all is *Source d'Or*, a variety, like many of the others mentioned, seldom seen at an exhibition. It is remarkably free, the colour orange and gold, and the flowers produced in profusion. No kind is grown more for the market, and I remember some time ago when in the nursery of Messrs. Balchin and Sons at Hassock's Gate, near Brighton, a large houseful of it, the rich colour giving as much pleasure apparently as the purest white. Another fine variety at Chiswick is William Stevens, the flowers rich chestnut-red in colour, with the petals margined with orange. A plant in full bloom is superb, the colouring being so rich and decided. Such kinds as these are very different to the dull reds, purples, and yellows which unfortunately abound. *L'Île des Plaisirs* must also be mentioned, a very old variety, it is true, but rich and beautiful in its bronzy red colouring.

Rozain-Boucharlat, Le Nigre, very free, and William Robinson all deserve a place. The last of the trio is still one of the best Chrysanthemums in cultivation for cutting, and at the recent Aquarium show there were several fine flowers of it. Of yellows there is a very large selection. The best single is unquestionably Yellow Jane, the counterpart of the white form, the flowers of a very rich self-yellow colour inclining more to orange. It is very free, and in every way a fine Chrysanthemum for cutting. Sunflower, a well-known exhibition kind, is charming when grown in a natural way, the shade of yellow in the flowers being as fine as in any Chrysanthemum in cultivation. Buttercup, Golden Mlle. Marthe amongst the pompons, the thin-petalled Japanese kind E. G. Henderson, a perfect mass of bloom; the golden yellow reflexed Cloth of Gold, and Elsie are all of merit, the flowers of varying shades. Thus Elsie is more of a primrose tint, a lovely colour, and I think this is the most beautiful Chrysanthemum almost in cultivation. There are several plants in the Chiswick collection, and all of the same free habit in growth and bloom.

A class I think too little grown for cutting is the Anemone pompon. At Chiswick a very fine deep crimson-purple kind is *La Marguerite*, not a dingy colour, but bright and distinct. It is very free and well worth a place in even small collections. Purple Pompon is a good rose-purple shade, and amongst others with purplish-coloured flowers is *Progne*, which has quite a Violet-like fragrance. William Holmes is, of course, one of the best of the crimson-coloured flowers, and others I especially singled out were *La Charmeuse*, Brilliant, deep crimson-purple, an intense shade, and Eynsford Gem, a pompon one does not often see, but a neat, pretty flower of a rich crimson-purple colour. *La Triomphante*, white, shaded with rose; Mlle. Cabrol, a beautiful Japanese Anemone variety, white and with a rose-coloured centre; Maiden's Blush, rose; St. Leonard, bright rose, a fine reflexed flower; *Beauté de Jardin*, rose-purple; Jas. Salter and Margot are all of fine colour, especially the last-mentioned, which is one of the most charming Chrysanthemums grown. The flowers are of rather flat form, but delightful colour, a kind of rose-lilac, very soft and delicate. A few others of great merit and grown naturally, so to say, as at Chiswick, gain in interest. The large Anemone-flowered *Nouvelle Alvéole*, the flowers carmine-rose in colour, is very pleasing, so also is the Japanese variety *Hamlet*, the colour dull red, with buff reverse to the florets. Miss Rose, single and of a rosy colour; Mary Anderson, single, white, touched with pink; the pompon rose-coloured Mlle. Elise Dordan; *Triomphe du Nord*, light red; and Mr. Charles E. Shea, the yellow-flowered sport of Mlle. Lacroix, a very free and pleasing variety, are also noteworthy.

Such kinds as those mentioned are of use for amateurs in particular and all who do not want exhibition blooms. As will be seen, many that are prized by exhibitors are included, these when grown more naturally being very beautiful. It is time one saw a group of such plants at exhibitions. At the Royal Aquarium show a special prize was offered for naturally-trained specimens, but not for a group, although such a feature would prove of much interest. The group need not be confined to Chrysanthemums alone, but Ferns and Palms might be intermixed to get a varied effect.

C.

Old certificated Chrysanthemums.—I recollect not long ago somebody complaining that

many varieties which had received first-class certificates were no longer grown, and, therefore, that the awards were improperly made. The explanation seems very simple, and anyone who has attended the meetings of either the R.H.S. or the N.C.S. must readily admit that many flowers which a few years ago would have been sure to get this coveted award would now-a-days stand not the slightest chance. The standard of excellence has been raised enormously, but particularly so during the past three years, and it is only right that as cultivation advances the societies should be more exacting. Among Chrysanthemums that once occupied a prominent position as certificated varieties may be mentioned Agnes Flight, Alpha, Brise du Matin, Buttercup, Duchess of Albany, Duke of Berwick, Emma Stevens, Hamlet, Jupiter, L'Ebouriffée, La Triomphante, Macaulay, Mlle. Panle Dutour, Maiden's Blush, Margot, Martha Harding, M. Astorg, Moonlight, Mrs. J. Wright, Othello, Phœbus, Roi des Japonais, Fernand Feral, George Stevens, and many others. Where are they now? So far as the show-boards at our leading exhibitions are concerned, they may be said to have been practically swept out of existence, a remark that applies with equal force to the list of the best twenty show Japanese of a decade ago. The varieties most in favour in those days, and still remembered by many of us, were such standard sorts as Fair Maid of Guernsey, Mme. C. Audignier, Peter the Great, Comte de Germigny, Elaine, Meg Merrilies, M. Ardène, Baronne de Prailly, Criterion, Ilver Fleuri, Album Plenum, Sarnia, Fanny Boucharlat, Soleil Levant, Boule d'Or, Triomphe de la Rue des Châlets, Bertier Rendatler, Pere Délaux, The Sultan, and Thunberg. It is a striking contrast to the duration of a modern favourite that many of these old varieties remained in cultivation from ten to fifteen years.—CHRYSAANTH.

Certificated Chrysanthemums.—Last season at the floral committee meetings of the N.C.S. there were thirty-four varieties certificated. These were staged by eighteen different exhibitors, being a trifle under the rate of two certificates to each exhibitor. Up to the 8th inst. the same society had awarded twenty-six first-class certificates to twelve exhibitors, which, as will be seen, is just a little over the same rate. These figures, to my mind, seem to point conclusively to the impartiality that is displayed by the committee in making its awards. Considering the enormous number of novelties staged at some of the meetings, the committee can scarcely be charged with being prodigal with these distinctions.—C. H. P.

Chrysanthemum Source d'Or.—This is one of the most popular of market varieties, and it will be long before we get another kind of its colour that will yield such profitable returns. It grows very freely, and the flowers are, when not thinned, of just the size that suits the florist. What is needed is a late blooming variety having the same characteristics. Golden Gem is very good, but it has not enough of the much admired bronzy colour that distinguishes *Source d'Or*. By stopping the latter at intervals from the middle of June till the end of July one may have good blooms up to mid-December, but I have not found it practicable to get them at the new year.—J. C. B.

SINGLE CHRYSANTHEMUMS.

THESE are certainly very pretty, and will probably become popular. It is to be hoped, however, that raisers will direct their efforts to improvement in form and colour other than to an increase in size. The flowers of such varieties as Jane and Mary Anderson are very lovely, and have an excellent appearance when used in the house with some kind of foliage that will show them off to advantage. One of, if not the smallest flowered of the singles is Miss Rose. To my mind this is one of the most charming flowers in cultivation. It is so small, that at first sight one might easily mistake it for one of the annual varieties. It is quite a charming little Chrysanthemum, and one that would satisfy the most refined taste. Purity is

very good, and is interesting as showing how the present race of incurved varieties originated. The petals have a marked tendency to turn inwards, and it was probably a single kind like this, perhaps identical with it, from which descended the show varieties of the present day. Jane and its yellow variety are among the best known of this section, and Guernsey Sunset, Miss Ellen Terry, Exquisite, Coquette, Mozart and Miss A. Bates are among the best. The Virgin and King of the Yellows are late bloomers. As regards beauty of form, I doubt if any variety can surpass Mary Anderson, and if I had to choose one only, this would be my sole choice. Some of the recent additions to this section of the family may, however, be as good, my experience of single Chrysanthemums being limited to those that have become more or less popular. As they seed so freely, there is a danger of our having too many too much alike varieties.—J. C. B.

—These were shown remarkably well recently at the Royal Aquarium, but we missed the bunches of recent years. These were very pleasing when no attempt was made to make all the flowers point one way. It is quite a mistake, as on this occasion, to cram the blooms on a small board, or to cut them with short stalks and little or no leafage. Why cannot there be a class for Chrysanthemums of this type, pompons, Anemone pompons and allied sections, in which the flowers shall be shown in graceful bunches? Throughout the whole exhibition, large as it was, there was not a bunch of single or any other Chrysanthemums in the competitive classes that one would care to see in such a form on the table. Plants, groups and blooms are stiff and unreal at these exhibitions.

CHRYSANTHEMUM GROUPS.

I HAVE observed with very great satisfaction that the once favoured trained plants at the Chrysanthemum shows are gradually becoming extinct. It is one of the things which no one will mourn over, for they have long been plant abominations. They never would have existed but for the encouragement given them in the shape of prizes, and they have been grown only to win prizes. As gardening is not dependent for its existence as a profession upon prize-winning, and still further, as so far as trained plants are concerned, has it rarely been found that their production has helped horticulture, so does it seem folly to sustain the growing and showing of what is neither desirable nor pleasing. There still remain, however, these objectionable features at show Chrysanthemum groups. At our summer shows we very often see of miscellaneous productions some very lovely combinations, that by their lightness, grace, beauty of arrangement in form and colouring command the warmest admiration of everyone. Everyone has felt that the farther in these summer groups we get away from the lumpy and formal, the more pleasing are they. We have at some of the winter shows attempted to copy these through similar agency, but generally with indifferent success. The result was usually a poor copy made in bad light and with indifferent surroundings. Even these groups are now becoming fewer, and the field at the winter shows is being still more left to the Chrysanthemum groups. Now of these it may be said with entire truth that the farther they are removed from the lightness and elegance which characterise the summer groups and the nearer they come to dull, heavy stiffness and formality, the more are they held in esteem. It would almost seem as if Chrysanthemum growing for exhibition did conduce to the killing in growers of all sense of grace and of appreciation for natural beauty. Apart from the fact that the groups are huge masses of large mop-headed flowers on tall plants, it would be difficult to find anything in plants that gives so much that is stiff, solid and unattractive as does a modern Chrysanthemum group. There is about the arrangement from top to bottom, from back to front, such an attempt to bring every flower into face and line, just as if each one had been clipped,

that not a petal should project one hair's breadth above or below the level. How can it be otherwise than that this sort of thing should tire? The half-dozen competitors for the prizes regard the groups with passing interest until after the awards are made, but no one else cares. If the prizes were offered to the gardener who could succeed in packing into a given space of so many square feet the greatest number of plants and mass of bloom, we could then understand the crowding now seen. But that any sensible man should suppose that cramming means beauty or effect is hard to believe. In not a few cases how wretched an appearance around their lower fronts do these groups often present—a collection of pots in various sizes, too often dirty, smaller ones stuck upon larger ones, or the reverse, sticks like to a wood, leafless stems, ragged foliage. How often does this present a true picture, and it would be a kindness did someone, considerate for the feelings of the spectators, but draw a cover of green baize round the whole and shut it out from view. Why should all this be endured? Groups of some description must be continued; why in such miserable form? It is constantly pleaded that, mixed with fine-foliaged plants, the groups would be far lighter and more graceful. Of course they would. No one wants to see groups in which there are twenty plants of a white or a yellow or pink repeated *ad nauseam*. A. D.

Chrysanthemum flowers in vases.—A new and fine feature at the recent exhibition of the National Chrysanthemum Society was the bold arrangement of blooms from Mr. H. J. Jones, Ryecroft Nursery, Lewisham. The flowers were of the usual show type and loosely and tastefully arranged in very tall vases of good design, appropriate to the colours of the Chrysanthemums. Fern fronds and Asparagus were trained over the sides and at the base, the whole forming one of the most effective exhibits we have ever seen at a Chrysanthemum show. We used to be told that it was impossible to get pleasing displays in this style, but have always urged that such a bold flower as this could be used to the greatest advantage at exhibitions, and features like these are a relief to the single cut blooms and stiffly-trained plants.

Late Chrysanthemums.—The exceptional season we have had, with many kinds of flowers a month or more in advance of their ordinary season of blooming, does not appear to have affected Chrysanthemums to the extent one might have expected. In fact the ordinary dates of Chrysanthemum shows have even in the south of England found the flowers just at their best, and little difficulty has been experienced in either hastening or retarding the blooms, at least of the majority of kinds. In the case of those varieties that are grown expressly for late bloom, I do not find them at all in advance of ordinary seasons. I grow a quantity, principally white varieties, for cutting at Christmas and onwards, and they have just been placed under glass. The buds are just bursting out, so that there will be no difficulty in keeping them until required. I find old plants cut down once are excellent for producing a quantity of bloom. They are kept in cold frames after they cease flowering in January until danger of severe frost is over, when they are set out in the open, shaken out of their pots, repotted in extra large pots or tubs, and in May topped to ensure a good head of flowering branches. They are then allowed to grow quite naturally, getting abundance of water every day and liquid manure three times a week. Very little disbudding is done, the result being some hundreds of good useful blooms on the largest plants.—J. GROOM, *Gosport*.

Japanese Anemone Chrysanthemums.—One of the most interesting features of the National Chrysanthemum Society's show was the Japanese Anemone type. We have seldom seen better flowers, and this class is difficult to produce in perfection. The exhibits from Mr. Ives, gardener to Mr. E. C. Jukes, Hadley Lodge, Barnet, are always good, and we should like a note from

him as to their culture, as he succeeds remarkably well with the plants. Those shown comprised the best now in cultivation. A novelty is named Rodolpho Ragioniere, which is a beautiful addition to the list, the name, unfortunately, a drawback. The guard petals, as in all the true Japanese type, are long, broad and silvery white, touched with rose, the centre gold, but the tubes delicate rose with silvery white tips. Jeanne Marty is one of the older forms and well known; whilst also worthy of mention are the following: Le Deuil is a new kind, given a first-class certificate by the society last year. The flowers are of true character, the centre good, and the colour is self crimson-purple, a distinct and attractive shade. Minnie Chate, rose-lilac, with rose disc; M. Pankoncke, described not inaptly as claret-brown, the florets tipped with a bronzy yellow colour; Mme. Cabrol, rose-pink, a very pleasing flower; Sabine, one of the most distinct for its primrose-coloured flowers; James Weston, the guard florets white, centre very delicate primrose or sulphur colour; Nelson, purple-crimson; and Fabias de Maderanaz, which has remarkably long guard florets, are the best of this section. Two of the best novelties we have noticed this season are Mme. Lawton and Mme. Natalie Brun. The former has broad and flat guard florets, pure white, tipped with delicate rose, the disc pale pink and full. The other is delicate pink, except the disc, which is white.

FREELY-GROWN CHRYSANTHEMUMS.

ONE might go into scores of gardens at this season of the year and find only specimen blooms. These are all very well in their way, and I have nothing to say against them; but those people who devote their energies to the production of these only, lose a great deal of the charm of a Chrysanthemum. These large Chrysanthemums are only of short duration, but not so those freely-grown little bushes, which, if a good selection is grown, will gladden the eyes of the grower or owner for at least four or five months. For cutting for room or table decoration they are hard to rival. One might even cut basketfuls for friends without their hardly being missed. Varieties adapted for this form of culture I am always on the look-out for, and which may be cultivated well in 6-inch, 7-inch or 8-inch pots, according to the variety. Singles as well as the ordinary varieties I grow under this form, although as regards the singles there is not that advancement in the habit of the plants that one would like, and which, perhaps, is one cause why these have not become so popular as their admirers expected they would; in fact, some of them have quite a wretched habit, being tall and weak-growing as well, the flowers hanging their heads instead of holding them erect. Cut and placed in vases this defect may not be so noticeable, but a variety to become popular should have a good habit when grown as a pot plant for conservatory decoration. Such, for instance, as Mary Anderson, Jane, Miss Rose (the latter perhaps the most compact-habited Chrysanthemum in cultivation), Gus Harris, and last, but not least, Mme. Edouard Crousse, a most charming variety, silvery white, shaded with rose, very free-flowering. It is the best single variety since Jane and Mary Anderson were sent out and does well in pots.

M. Gustave Grunerwald is certainly a very fine introduction as an early decorative variety. It has a good habit and a very pleasing colour. My stock of two plants will be increased considerably, as nice plants may be grown in 6-inch pots. Mme. Greard is a capital early white of good habit. Alexandre Dufour, described as Bishop's Purple, is one of the most perfect habited varieties for growing in small pots; so also is the crimson Roi des Précoces. As an accompanying white to the above two excellent varieties we have the pure Sœur Melanie and L'île des Plaisirs, deep crimson, tipped with gold. A variety that I am particularly pleased with is Margot. The plant in itself is certainly rather loose, but the quantity of flowers a plant will produce is wonderful, and the colour is pleasing. Those who have not grown this variety as a

freely grown bush, I would advise them to do so. Although described as an early variety, it is not so when grown as described. Of course, James Salter and Lady Selborne are two well-known varieties, and now that we have a yellow sport, we have a charming trio. Then there are the pretty Florence Piercy, Mlle. Lacroix, and its sport Annie Clibran. Source d'Or is also a well-known beautiful kind for cutting, and just now I have a distinct sport, being a lovely shade of old gold, and which I hope to fix. Elsie, a reflexed straw-yellow, is of a distinct shade which we have not got in any other Chrysanthemum. A variety I have named Garon is another very pretty Chrysanthemum, the colour a silvery rose. Mme. de Dubois, creamy white, shading off to a violet-rose, is most effective; so also is Coral Queen. La Charmeuse, a shade of purple, suffused with white, is very showy grouped along with the more sober-toned colours. Peter the Great and W. H. Lincoln, two distinct shades of yellow, are very free grown in a bush form, but must be given in the larger sized pot. Then there are La Nympe, Bouquet Fait, Mme. Louise Leroy, and some others. Coming to later varieties, what could be better for Christmas decoration than Boule de Neige and Golden Gem. In pompons there are the pretty Mlle. Elise Dordan and the little Snowdrop. Other newer varieties I have on trial to note their adaptability for this form of culture. A. Y.

AMERICAN CHRYSANTHEMUMS.

IN some respects it seems to be an unfortunate thing for American seedling Chrysanthemums that Messrs. Pitcher and Manda, of Hextable, relinquished their business there almost on the eve of the Chrysanthemum season. During the past two or three years the meetings of the floral committee of the National Chrysanthemum Society have been exceptionally interesting by reason of the new American varieties exhibited by that firm, to say nothing of those which have been introduced by our own growers from such raisers as Mr. Spaulding, Peter Henderson and Co., Mr. Thorpe and others of like renown. The competition between the French-raised and the American Chrysanthemums was becoming very keen, and if matters had gone on in the usual way, I believe from past experience we should have this season found that the best of the new introductions would have been varieties raised in the States. Fortunately for the credit of the French, M. Ernest Calvat just stepped into the ranks in time, but if we except the new flowers sent out by him, the really genuine novelties of American growers far surpass those of all the other French growers put together. One feature, however, in connection with the American sorts must be borne in mind. Not all the Chrysanthemums received from the other side of the Atlantic can be fairly termed American, because large numbers of those cultivated there have been imported from Japan, and there is much difficulty in ascertaining definitely which they are. Being catalogued in American lists often leads our introducers to assume that the new flowers they purchase are the product of those American firms who sell them, but this is often not the case, as previously mentioned.

In looking over the reports of some of our leading exhibitions, it will be noticed that Chrysanthemums from America form an important feature on the winning show-boards, although they have not done so at the meetings of the floral committee. English raisers, too, are now beginning to compete very successfully with their foreign *confrères*, and it is possible that if an audit of the best 50 or 100 show flowers were now taken, it would be made up of almost an equal number of French, American and English-raised varieties. This, however, is a work that must be left to other hands, but it may be useful to mention the names of such American Chrysanthemums as have been shown in the best form during the past few weeks, and as they are mostly well known to the average Chrysanthemum grower, descriptions may be usefully dispensed with. They are Col. W. B. Smith, Mrs. E. W. Clarke, Mrs. E. D. Adams, Wm. Tricker,

Violet Rose, W. W. Coles, Puritan, W. H. Lincoln, Eda Prass, Waban, Lord Brooke, Mrs. C. W. Wheeler, Julius Roehrs, R. C. Kingston, Potter Palmer, Miss A. Hartshorn, E. G. Hill, Wm. Falconer, Mrs. Alpheus Hardy, Louis Boehmer, G. W. Childs, John Dyer and Mr. A. G. Ramsey. Those which have been certificated are Eda Prass, Tribune, Golden Wedding and G. W. Childs.

CHRYSANTH.

SPOILING THE CHRYSANTHEMUM.

SOME years back you published some remarks from me under this heading, and since then there has been a great improvement in the method of showing the Chrysanthemum. The flowers are often shown on long stems, either with the natural foliage or with Ferns or other feathery leaves. There was a very pretty stand at the Drill Hall on Tuesday, November 14, where the blooms were resting among the branches of a Ficus or some similar trailer. At the Aquarium there were some fine vases filled with Chrysanthemums on long branches on Mr. Jones' stand, and these had a splendid effect. As a contrast, and not far off, were a series of hideous "trained" plants, all elaborately tied out on sticks in a balloon form, with stiff flowers at equal distances, with the general artistic appearance of an "ornament for yer foire stove," or of the pink wooden imitation flowers sold to Seven Dials children for a halfpenny. It is a horticultural scandal that prizes should still be given by any leading society for such tasteless monstrosities. If they still must be given to please important supporters who stick to the "florist" standards of their youth, an encouragement should be given to more natural and tasteful habits of growth. Prizes should be offered for naturally grown plants, lightly staked and with all the buds left on as Nature places them. True, the flowers would not have the size of a Sunflower, a Dahlia, or a Cauliflower, but they would be infinitely more in accordance with the grace and, so to speak, the natural standard of the Chrysanthemum.

While it is very satisfactory to notice more artistic ways of showing the flower gradually making their way, I fear that the flower itself is continuously and rapidly losing all its natural grace and beauty. It is true that the odious incurved section is fast losing its hold on the favour of private growers. But the stiff regularity of that Cauliflower among indoor blooms is still the ideal of the so-called florist. As the incurved flowers go out an excellent imitation takes its place in the newer so-called Japanese varieties. They have already reached the standard of beauty of a double African Marigold, coupled with the size of a Sunflower, and with perseverance they may yet be turned into the roundness of the cricket-ball, and may even vie with the grace and careless abandon of the double Dahlia. This seems ten thousand pities. Where are the old thread-like or tangled tresses of the native Japanese sorts? Where are the flowers that the artists of Japan depict on their countless varieties of vases and fans with such infinite skill and artistic effect? Would any artist take a prize Japanese of our shows of to-day and put it anywhere in a picture? why he would as soon take the kitchen mop, handle and top included, as his emblem of floral perfection!

Again, who wants Chrysanthemums as big as soup plates, and what can be done with such floral monstrosities? Such flowers are simply impossible in a nosegay or for any decorative purpose. For cutting, outdoor plants while they last are infinitely superior, and this year the semi-early Japanese left alone to grow as they pleased out of doors, but planted in rich

soil, have made a splendid display. The half opened buds round the central flower have quite trebled the beautiful effect of the plant growing as Nature meant it to grow. It is no doubt true that in many years such flowers would fail out of doors, and we do not seem, therefore, to be advancing much with the hardy kinds. We want a race of Japanese that shall flower all through October out of doors. Then we want a hardy break of singles for late October and November blooming in our borders. Singles would be less affected by the frost and damp of our miserable autumns.

These remarks were suggested to me by Mr. Parker's expression of opinion at the Drill Hall, that the Chrysanthemum had greatly advanced as a flower in the last twenty years. So far as size goes he is perfectly right, but when beauty and grace are considered, I think the double flowers have distinctly retrograded. The Horticultural Society is eminently fitted to bring us back to a more natural state of things, by forbidding curling tongs and similar abominations, by insisting on flowers being shown on long stems, by giving encouragement to plants that are not disbudded, and to single plants grown naturally in pots as Nature meant them to grow. J. I. R.

CHRYSANTHEMUMS AT MAIDENHEAD.

MR. ROBERT OWEN, of the Floral Nurseries, Castle Hill, Maidenhead, is so well known to cultivators of the Chrysanthemum as a raiser and importer of many excellent varieties, that a few notes concerning the novelties now on view there will be welcome. Besides a complete collection of all the newest and best of the American and French introductions, Mr. Owen has a large number of new seedlings of his own. He does not confine himself to any one section, but seems to be equally skilful in the obtaining of pompons, Anemones and incurved, besides of course the latter day favourites, the Japanese. There are six or seven glass-houses containing the plants in bloom, and there are few trade displays in or near London where a more interesting collection of novelties can be seen, although there may be several of more extensive dimensions. The plants are well grown and the blooms very fully developed, except those in one house, which are reserved specially for fertilisation. High exhibition cultivation for this purpose would be useless, as most growers of seedlings are aware, and those who desire to obtain seed in any quantity must resort to other methods than those adopted by the winners of prizes at the leading shows. A large number of the seedlings are as yet unnamed, many of them are being tried for the second and third season, and doubtless a large proportion of the best will in due time be announced for distribution. The principal seedlings which attracted attention were a rosy mauve counterpart of Colonel W. B. Smith; a large rosy mauve globular Japanese; a fine orange-bronze Japanese with a yellow centre and long florets; a deep rosy amaranth long-petalled Japanese with a silvery reverse raised in 1891; another of the same season of a peculiar shade of light lemon-yellow, and many others of the same section. I also noticed some promising seedlings raised from Mrs. Falconer Jameson; a few interesting incurved varieties of a very deep crimson colour obtained from seed from M. R. Bahuant, and a goodly assortment of Anemone-flowered novelties, chiefly of light lilac and deep yellow colours.

Of varieties which have already been noticed in these columns and to which I need not append descriptions, the best are H. W. Fowler, W. H. Atkinson, E. L. Jamieson, Pride of Maidenhead, Wm. Mease, Golden Wedding, Thomas Wilkins, Rose Wynne, Niveum, Miss M. Simpkins, Lord Brooke, Charles Blick, John Shrimpton, Wm. Seward, Gettysburgh, all belonging to the Japanese section and exceedingly well done. Others not so well known are Marion Dingle, a very large

white Japanese, with a pale greenish centre; Prince du Bois, a deep golden yellow Japanese with narrow curly florets, a fine globular bloom; Mrs. Denne, a massive long-petalled Japanese, deep silvery mauve; and Richard Dean, an enormous crimson and gold Japanese with long drooping florets. Fascination also belongs to the same class, having long florets of a pale primrose hue. Dr. Masters is another, but a globular flower of deep chestnut-crimson and golden bronze reverse. Robert Owen, a large Japanese incurved, is a big solid bloom of deep golden bronze. President W. R. Smith is also a finely incurved Japanese of a deep rosy blush. Close at hand are Walter Surmar, a globular flower with pointed florets, a deep orange-yellow Japanese, and Golden Gate, with long fluted twisted florets of the colour indicated by its name.

The incurved are represented by Mrs. John Gardener, a very regularly built flower of deep golden yellow, slightly lined with reddish bronze; Wm. Tunnington, a large perfectly formed flower of the class, crimson inside the petals with reverse of bronzy yellow. A pale straw-yellow sport from Lucy Kendall is promising, and Brookleigh Gem, a sport from Jeanne d'Arc, sent out last season, is also good. Lord Rosebery has rather narrow pointed florets, but it is a massive incurved bloom of rosy purple, and a true example of the type. Most of the novelties in this section, such as C. B. Whittall, Robert Petfield, and the like, are in fine form.

There are two or three of the Italian seedlings sent out last year, but most of them have had to be discarded. French seedlings comprise Mme. Thérèse Pankoncke, a real Japanese of the old type, a spreading flower with snow-white flat petals; Soleil de France, an incurved Japanese of crimson and gold; Souvenir du Jambon, a short-petalled Japanese also of crimson and gold; Mme. Rozain, a very fine large Japanese bloom with long incurved petals, colour rosy mauve; M. de Mortillet, a big flower, rather broad, but flat, colour crimson with tips of gold. These are principally from M. Ernest Calvat and M. Boucharlat, but one, a small Anemone called Lumière d'Argent, a pretty shade of pale silvery blush, was one of the few seedlings we have seen this year from M. Simon Délaux.

American-raised varieties are also numerous. Etna has long pointed petals of reddish-bronze with a yellow centre; Golden Wedding, shown at the Aquarium show, is also good in colour, but rather thin; Matchless, as round as a ball, but a Japanese flower of rich yellow, were the most attractive. Lilian Russell, a Japanese with very narrow florets, is a big golden yellow flower; so, too, is Mrs. E. D. Adams, but the colour is a deep pink, and not almost white, as we have seen it elsewhere. Niveum, pure snow white and very large, is remarkably delicate in appearance. Rosslyn, also a Japanese of pale shrimp-pink colour not fully out, and others for which space cannot be spared, were also promising. Since the advent of Mrs. Alpheus Hardy and Louis Boehmer, much attention seems to have been paid to the raising of new varieties of the hairy section both on this and on the other side of the Atlantic. Zambesi, a fine yellow flower sent out from America as one of these, is quite destitute of hairs at Maidenhead, and unworthy of the name. L'Enfant des deux Mondes, a white Louis Boehmer, is well deserving of the appellation. Chrysanthémiste Délaux is also a hairy sort; the colour is a dull unattractive crimson, quite distinct in its class, but not a pretty flower in any respect. Mireille is of a pale shade of lilac, a Japanese variety of the hirsute section; so is Souvenir de l'Ami Coxe, a pure white incurved Japanese with narrow, grooved, pointed florets, the backs of which are well covered. Belle Arlésienne has the peculiarity less marked than the one preceding; it is a pure white flower with a centre of yellow. Others in this class are Miss Baldwin, a tall grower, light mauve, bloom rather flat. Mrs. Dietrich, deep silvery mauve, with incurved florets, which are twisted and curly; and Sautel 1893, which is, perhaps, the best of all. This is a Japanese incurved variety with deeply grooved florets, the colour inside being light rose-amaranth, and the reverse a silvery-pink.

The new Anemones and a few new pompons are interesting, but we have said enough to show that we may yet expect to have some important additions to the lists from the Castle Hill nursery, as we have already done in the past. VISITOR.

DWARF GROWING CHRYSANTHEMUMS.

Now that so many new varieties are being raised from seed, we are in possession of many kinds of dwarf habit which give blooms equally as good as the tallest growers. This is important, as it will tend to popularise the Chrysanthemum more than anything else. Few persons, apart from those with unlimited convenience for housing plants, can find room for varieties that run up to 10 feet and 12 feet high. The point for raisers to consider is to utilise the already numerous comparatively dwarf growing sorts as seed-bearers. No better type of plant could be imagined than Avalanche; this favourite white-flowered Japanese possesses all the points alluded to to render it valuable for this purpose.

It is not everyone who cultivates Chrysanthemums purely for cut blooms. Many never think of destroying the beauty of the flowers by cutting them the moment they arrive at their best. Dwarf varieties are a boon to such cultivators, and any addition to this class is sure to find a warm welcome. It is possible now out of the material obtainable to form a really good collection of Chrysanthemums that do not, under the orthodox method of cultivation for the production of large blooms, grow above 5 feet high. Many varieties produce many fine blooms at a foot less, and indeed many grow but a yard high.

It is in the Japanese section that we look for and find so much improvement in the height of growth, for the reason that varieties in this section are so easily raised from seed. Not so in the incurved and other sections; we are in a great measure dependent upon sports, which cannot be controlled. So few really deserving incurved blooms according to the florist's standard are obtained from seed, that the business is a slow one. Blooms from seedlings are not of the character consistent with the present-day necessities of perfect flowers of the incurved section. Hence the slight advance made in bringing out new kinds of dwarf habit. Seldom indeed do the Queens, Alfreds, or the Princess family give us perfect examples from dwarf plants—those under 5 feet high for instance. Amongst the newer introductions in the Japanese section none shows a greater advance than Viviani Morel in this respect. The finest blooms of this variety that I have ever seen were growing upon a plant 3 feet 6 inches high. Its golden bronze sport—Charles Davis—is identical in growth with its parent. This appears to be a capital variety for giving blooms singly on plants 2 feet high in 6-inch pots. Apparently we shall have a white-flowered variety directly from Viviani Morel, if there is not already one in existence. White flowers are always appreciated, especially when obtained from plants of low growth. Comte F. Lurani, G. W. Childs, John Shrimpton, William Seward, Mrs. F. A. Spaulding (syn., J. S. Dibbens), Edwin Beckett, G. C. Schwabe, Mrs. E. D. Adams, Mrs. Nisbet, Countess of Hambledon, W. K. Woodcock, Mme. Octavie Mirbeau, Mrs. Falconer Jameson, Mrs. C. Wheeler, Mlle. Thérèse Rey, Mrs. J. S. Fogg, Val d'Andorre, Colonel B. Smith, and M. Bernard are dwarf growing Japanese kinds that should be found in every good collection.

E. MOLYNEUX.

Good Chrysanthemums.—That the good qualities of plants may be viewed from different standpoints was well illustrated in a conversation overheard the other day at an exhibition of these beautiful flowers, in which the terms good and bad varieties cropped up pretty frequently. Their merits were in this case, I found, based neither on the value of the flowers for exhibition nor for decoration, but from the readiness with which they could be propagated—that is to say, those that produced suckers in quantity were good

varieties, and when the reverse was the case they were then bad. There is certainly a very great difference in this respect to be found among the various Chrysanthemums, for some will produce an almost unlimited number of suckers, while others are very sparing in this respect—so much so, indeed, that in nurseries where large quantities of any particular variety are often required it is a difficult matter to get sufficient stock—at all events till the return of spring. Several of the newer varieties are very prolific in this respect, for such as Beauty of Exmouth, J. Shrimpton, William Seward, C. Shrimpton, Princess Victoria, Viscountess Hambledon, Edwin Beckett, Charles Davis, Baron Hirsch, and many others yield quite a wealth of cuttings, while Robert Owen, Golden Wedding, Lord Brooke, and other strong growers are not nearly so free in pushing up their young shoots. Some varieties will often stand a long time without producing any good cuttings, the Princess of Wales group of incurved being very backward in this respect, while of Japanese a few that may be mentioned are Criterion, Eynsford White, Mrs. C. W. Wheeler, Mrs. Falconer Jameson, Christmas Eve or Mrs. H. Cannell, Anna Hartshorn, and Sunset. Many others show various peculiarities of especial interest to the propagator, notably the huge-flowered Etoile de Lyon, cuttings of which take longer time to root than those of any other variety of Chrysanthemum that I have tried. This is especially noticeable if cuttings of a great number of varieties are put in together, for some will be growing freely before those of Etoile de Lyon have made a single root.—T.

Chrysanthemum Col. Chase.—In your issue of THE GARDEN, November 11, 1893, it is stated in the report of the N.C.S.'s show at Westminster that Chrysanthemum Col. Chase, which received a first-class certificate, was raised and exhibited by Mr. E. Beckett. Allow me to correct this. It was grown by Mr. Beckett for a friend of mine, Mr. Kelly, gardener to Mrs. B. Dobree, Beauregard, Guernsey, who raised it with many other fine varieties, notably Violetta, for which Mr. Beckett also received a first-class certificate, October 25, 1893. —THOS. H. LE LIEVRE, *St. Martins, Guernsey.*

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Pearl Beauty is one of the most promising of recent new varieties. The flowers are of the Japanese incurved class and bluish-white in colour.

Chrysanthemum Beaute de Toulousaine.—This is a good Japanese variety for colour. It is new, and therefore not common as yet. The florets are of a deep red shade.

Chrysanthemum Pride of Maidenhead, a seedling raised by Mr. Owen, of Maidenhead, and shown by him at the recent meeting of the Royal Horticultural Society, is very charming, the flowers of beautiful form and white.

Chrysanthemum Primrose League is a very promising Japanese variety, and we have seen good blooms of it at recent exhibitions. The colour of the flower is distinct and pleasing—soft primrose passing to creamy white in the centre.

Chrysanthemum Waban is a good new kind of the Japanese incurved section. The flowers are full, and pink in colour. We do not care greatly for this class generally as we seem to lose all the charming freedom of the typical Japanese kinds.

Chrysanthemum Mrs. Robinson King, the new incurved variety, was well shown at the recent Aquarium show, although this class was not in perfection as a rule. The flowers were very rough. This variety is of a deep orange-red colour.

Chrysanthemum G. W. Childs is a variety we have not seen remarkably fine this year, but it will undoubtedly come to the front. It is a seedling possibly from Edwin Molyneux, and very fine in colour—deep crimson with old gold reverse to the florets.

Chrysanthemum Mme. Darrier was one of the best incurved varieties at the recent Aquarium show. It is a remarkably neat and compact flower, the petals small, and of a nautkeen-yellow colour with purple stripes or suffusion, rather dull, but not objectionably so.

ROSE GARDEN.

WILD ROSES.

WE all allow the Roses of the florist to be without rival among flowers of the garden, and we can but admit that wild Roses are perhaps the most lovely flowers of the field. What can be more beautiful than *Rosa arvensis*,

and now attains to a height of about 20 feet, making wreaths of rosy blossom in summer. The Spruce is now dead, but the Rose still clings to the old stem, which forms just the right kind of support. Such an object as this or *Rosa arvensis*, in the collection, makes us wonder why these single Roses have not received more attention. They are usually so robust, just what is wanted for pleasure grounds and the wild garden, and then in

have doubles of *Rosa spinosissima*, but just now we are far more interested in single varieties, for which there should be a considerable future. We do not by any means despise the doubles, for of all flowers the Rose doubles with best effect in point of real beauty and loveliness, but we cannot do without the type of flower that Nature gives us. We remember the suggestive paper on "Modern Roses and Hybridisation" communicated by Lord Penzance to the Rose conference in 1889, and published in the eleventh volume of the "Journal of the Royal Horticultural Society," and also the exhibits of Sweet Brier hybrids by that raiser, who has, we believe, some singles, and thus has taken a lead in the direction that seems to us so desirable for raisers to follow. There may be fine exotic single Roses yet to introduce, for Mr. Christy has told us of Sweet Briars growing in the neighbourhood of Constantinople with flowers of various shades and some 3 inches across. No doubt our own Sweet Briars are capable of immense improvement; indeed, the common Sweet Brier as it is, like *R. rugosa*, makes a line, which serves as a hedge, of great beauty. It would be a good work to get our native Roses together, to select the best kinds and raise from them with a view to improvement. No doubt, too, they might be crossed with exotics with good results. We should endeavour to secure the natural elegance of habit that marks some of the kinds, and to have Roses that need not the hard pruning by which certain garden Roses are often so ugly when not in flower. Our attention may be devoted to the truss, the individual flower, the colour, form and size, and to the almost essential attribute of perfume. It were a pity, however, to lay down laws, if we can only get raisers to work, for by rigid rule many fine flowers have been lost by the florist. It would be safe to say that numbers of handsome single Roses have been thrown away as useless.

To show what material there is, we may mention that the seventy or so distinguished forms of Britain fall under seven distinct aggregate species according to "The Student's Flora."

We have first the well-known Scotch or Burnet Rose (*R. spinosissima*), lovely with white or pink flowers; next, *R. villosa*, which in various forms makes a large bush, with erect or arching branches, very hairy leaves and densely glandular sepals. It is distinguished from the last-mentioned by its larger size and equal prickles, and from *R. canina* by its straight prickles. Under it we have *R. tomentosa*, with a large pale pink flower, and *R. mollissima*, with a smaller, deeper-coloured flower. The succeeding species is *R. involuta*, under which are numerous kinds, small and erect, with short branches and crowded prickles, passing into bristles. Among them we may note *R. Wilsoni*, with bright red flowers, and *R. Sabini*, with ample foliage and pale pink flowers. Next is our fragrant *R. rubiginosa*, which, however, is less fragrant, as it approaches *R. canina* and *R.*



The Field Rose (*R. arvensis*). Engraved for THE GARDEN from a picture in the possession of Mrs. L. Marse.

the subject of the accompanying illustration? It portrays a lovely wealth of white blossom, but there are numbers of these untamed wildlings, if we may use the expression, all beautiful, and some of surpassing charm. We want to see them more often grown in our gardens, for which they are so well suited. Sometimes we admire a chance seedling, as, for instance, in the Cambridge Botanic Garden, where some years ago *R. dumalis* (*R. canina* var.) took possession of a Spruce Fir,

and now frequently have a brilliant display of red fruit. At this moment in some of the hedges of the neighbourhood are shrubs with quantities of fruit, which in a garden would help considerably in colour effect.

The attention of the raiser might well be given, we think, to British Roses—the Roses of our own climate. Certainly we have doubles in the Ayrshire Rose, from *Rosa arvensis*, which lately in its single wild form has greatly excited our admiration, and we

villosa. It is one that has already given good results in hybridising and is certainly one to work with. Belonging to this species we may mention *R. macrantha* and *R. sepium*, both of which have rather pretty flowers, though they are somewhat small. The common Sweet Brier is equal to either and might be the best form to work with. *R. hibernica* is the next species to refer to, and it is intermediate between *R. spinosissima* and *R. canina*, though most like the latter. It is small and erect, with short, sometimes arching branches and erect globose naked fruit. It is figured with pale pink flowers. *Rosa canina* is the familiar Dog Rose, of which the varieties are very numerous. It has long arching branches, with stout hooked prickles, having a thickened base, and in the common form is the strongest growing of British Roses. It is often very beautiful, and, all things considered, some of the best results may no doubt be got from this species. *R. cæsia* and *R. incana*, belonging to this species, have glaucous leaves. The foliage of *R. Bakeri* is very pretty, and we have already referred to *R. dumalis* as a fine tall-growing kind, but the varieties of this species are so numerous, that it is difficult to specify. Our last species is *R. arvensis*, the typical form of which is the subject of our illustration. It is known from *R. canina* by the union of the styles into a long slender column, that species having the styles free. There are two sub-species, *R. arvensis* proper (*R. repens*) having the leaflets glabrous, glaucous beneath, and *R. stylosa* with leaflets pubescent beneath. This last connects *R. arvensis* with *R. canina*, and under it the several varieties occur. The variety *Monsonie*, found in a hedge at Watford, has very large red flowers and sub-globose, orange-red fruit. It is our present *R. arvensis* proper to which the Ayrshire Rose must be referred. The flowers are more cup-shaped than those of any other British Rose, and Lindley says that Sabine had a variety with pink flowers. No illustration has before appeared in any journal, but a figure in "English Botany" shows to some extent what a fine thing it is. The plant has long, trailing shoots, with small, scattered prickles, oval leaflets, glabrous on both surfaces, and glaucous or whitish green beneath. The flowers are of elegant outline, with pure white corolla, except the throat, which is yellow, and have a purple calyx. The fruit is scarlet when ripe. It is a common plant in the south of England. This same form, probably, is very charming in the Cambridge Botanic Garden, where it grows over and over itself, making a great round hummock of flowers and foliage.

The raiser may probably obtain the best results from *R. rubiginosa*, *R. canina*, and *R. arvensis*, and as well, no doubt, from *R. spinosissima*, which in some single forms is very lovely. We should like to see crosses of at least the three first with the Austrian Copper and Yellow Briers, which might be possible. It is not alone our

British Roses that might be worked with for single forms, but such kinds as *R. lucida*, the foliage of which is often so finely coloured in autumn, and *R. rubrifolia*, which early in the year is remarkably charming with red-grey leaves. It comes near *R. canina*, and with it might give some curious results. *Rosa rugosa*, again, may be improved, for in the Cambridge Botanic Garden we have a very fine form with splendid flowers, and much more elegant in habit than the common *rugosa*, to which species it is referred by the Kew authorities. Rose hedges are now plentiful, and the best way is perhaps to sow the seeds when quite ripe in pans and place them in a cold frame.

R. IRWIN LYNCH.

STAYING POWER OF ROSES UNDER GLASS.

WHEN one first begins selecting Roses for cultivating under glass he does not always realise the importance of choosing those varieties that possess staying powers, or that are amenable to a moderate degree of heat. I know I did not, or I should not have included in my first selection of Hybrid Perpetuals such as *La Reine* and *Mme. Rivers*, which require at least 10° more heat in the month of March to get the flowers to open properly than those varieties which have a less number of petals, like *General Jacqueminot*. Since that time I have avoided such varieties as *La France* and *Queen of Queens* for early forcing, not only because it is more difficult to get the flowers to expand, but because they do not last any longer than those developed in a lower temperature. This is not the only objection I have to these full-petalled flowers. I dislike them because the blooms have a tendency to hang down their heads owing to their weight. With regard to the staying powers of the different flowers, whether they are Teas or Hybrid Perpetuals, my experience leads me to prefer those flowers that are not too double.

Niphetos I regard as all that is good in this respect, and the more varieties we can get with the same useful qualities the better. Flowers of a semi-double character like *W. A. Richardson* are not always the best, as under a bright March sun the buds expand so quickly, that those which show no signs of opening in the morning are useless by mid-day. *General Jacqueminot* is a good type of a Hybrid Perpetual, possessing good staying powers, and so are also the *Duke of Teck* and *Dupuy Jamain*. To these I may add *Mrs. J. Laing*, *Ulrich Brunner*, *Alfred Colomb*, and *Perle des Blanchés*. It is amongst the Teas, however, that we must look for Roses possessing the greatest staying powers, and we shall find them in varieties like *Catherine Mermet* and *Anna Ollivier*. The flowers of these are not so full of petals but what they can expand in a moderate temperature, and there is sufficient space between the individual petals of an expanded flower to allow the air to circulate and prevent damping; whereas in very full flowers the centre prematurely decays under the influence of damp and a low temperature. *Perle des Jardins* possesses wonderful staying powers, as does also *Marie van Houtte*, but *The Bride* and *Grace Darling* are not remarkable in this respect. I do not think anyone would regret growing the single Roses in pots for early forcing when the flower-buds are required for personal adornment, and surely none can be prettier in the bud state than *Fortune's Yel-*

low, which is semi-double. Of course, the plants would have to be removed to a lower temperature before the buds had time to expand.

J. C. C.

REPOTTING ROSES FOR FORCING.

I do not think "*Ridgewood*" will find many private gardeners support him in his views on this subject (see *THE GARDEN* for October 21, p. 361), for the reason that the private grower cannot secure a fresh stock of plants every three years, as "*Ridgewood*" says he does. Both Hybrid Perpetual and Tea-scented Roses can be kept in good condition in 8-inch and 10-inch pots for many years, provided they get a change of two-thirds of fresh soil. "*D. T. F.*" says that no pot Roses should be shifted previous to being forced. I quite agree with this. I have always found that the proper time to repot Roses that are to be forced is the early part of the month of August. By that time the growth the plants made in the forcing house and afterwards has got well hardened and the eyes on the lower part of the branches prominent. If properly treated they are at that time resting, so to speak. They have exhausted the soil in which they are growing and require the assistance of a fresh root medium to support the young growth and blossoms which they are sure to produce when introduced into a higher temperature. If the plants are dealt with at the time I suggest and two thirds of the old soil removed and the stock given cool treatment without being exposed to severe frost, the roots will have taken well hold of the new soil by the beginning of November and be in just the right condition to respond quickly to an increase of temperature.

The private grower has to keep his stock of pot Roses for forcing in good condition for many years. Nor is it difficult to do so, a little judicious root-pruning, by which I mean the removal of the large ones, and a change of compost once a year being all that are required in the case of those which are restricted to 8-inch pots. When 12-inch and larger sizes are used, a change of soil once in two or three years is sufficient if the plants are otherwise skilfully treated. When good growing Hybrid Perpetuals are selected for pots, which are worked on the *Manetti* stock, they can be kept in a fairly vigorous condition for many years, and will produce blooms of sufficient merit to be appreciated. As a matter of fact plants of this character give less anxiety in the forcing house than those more recently potted, for unless a plant is well established, the newly-made growth has a tendency to extend instead of forming flower-buds. It may be that "*Ridgewood's*" remarks were intended chiefly for the Tea-scented Roses. On that point he is not very clear. If so, I admit that there is less fear of that class of Roses producing flowerless wood under his treatment than the Hybrid Perpetuals. Still, as a private grower who has never had the advantage of a separate house for the production of early forced Roses, I have found that the less root-disturbance the plants had just before forcing the more flowers I got.

J. C. CLARKE.

Pot Roses.—These need careful attention as regards water. If allowed to suffer at all, there will be a corresponding check in the rise of sap. At the same time an equal amount of mischief may easily be done by keeping the soil over-moist. The roots must not be flooded simply because the plants are making new growth freely. If my previous notes upon pot Roses have been followed up, it will be well to take a batch of plants under cover now, choosing those most forward from among the earliest pruned. By the end or middle of November I would advise that all pot Roses be pruned, and those intended for the latest batches placed in a cool pit, care being taken to give all the air possible without admitting frost. Where young growth is attacked with aphids, no time should be lost in cleansing the plants. A very slight attack at this period of the year is far more injurious than in the spring, as the plants are by

no means so quick growing and robust during the sunless days so often experienced from now onwards. Take full advantage of this splendid weather to thoroughly cleanse the plants by frequent syringing with a weak solution; this will not be so easily done a little later on, and the mild weather seems to have brought almost a spring crop of insect pests. I find my own plants need much more attention than usual in this respect.—A. P.

Red Roses under glass.—I do not find any Rose so good in this colour as *Reine Marie Henriette*. Many red Roses have been tried, but none possess so intense a scarlet, combined with good foliage and long flower-stalks, as the one under notice. I have previously remarked upon its good qualities under glass, but would like to call attention to this fact again. It is only during favourable seasons that we see it bright out of doors, while under glass its brilliancy is most remarkable. It grows exceptionally strong and clean, while few, if any, Roses are so free-flowering. I have cut away large quantities of wood and yet been able to leave many long and well-ripened rods upon my plants. Early in the season and under glass the flowers are almost as deep and bright as those of *General Jacqueminot*.—A. P.

THE EARLY FORCING OF CLIMBING ROSES.

WHETHER grown in pots or in the border these need steady treatment far more than any other class of Roses. If too much heat be afforded only the forwardest eyes will carry satisfactory flowers. Even with other varieties I find that the few forwardest eyes grow away and practically monopolise the whole of the plant's energies; but this is far more noticeable with climbers. Under steady treatment I secure a fine crop of bloom, and this is made much more certain when the shoots are brought into a horizontal position. Of all Roses for early forcing I consider these the most certain to produce a good crop of bloom provided they are carrying a shoot or two of thoroughly matured growth. By introducing one or two plants to a slightly raised temperature at an interval of a week or so, we can be tolerably certain of successional crops. Let almost all of the plants stand in a house with a temperature of about 40°; a late vinery will answer well. As the plants break into growth, choose out the forwardest of them for placing in a slightly warmer temperature. After the young growth has attained a length of 2 inches to 3 inches, a further increase may be afforded with safety. The grand secrets are well ripened wood and very steady forcing at first; in fact, the first few weeks scarcely come under the name forcing, being rather more like keeping them exempt from cold nights than anything else. I have a large batch of these climbers which were repotted early in September immediately after the wood was ripe. These have now almost filled the pots with healthy and vigorous roots, while the wood itself is almost as much at a standstill as when they were first shifted. My own experience has proved that it is much better to pot this section directly the wood has become sufficiently ripe. The batch I am writing of was grown in 6-inch pots, and is now in 8-inch and 10-inch pots. On no account should this repotting be done until the plants have finished growing, and provided they are well done and afforded a sufficient amount of liquid stimulants, there is little difficulty in securing growths ranging from 6 feet to 12 feet in length. Once get the wood matured, a steady rooting into fresh soil must be a great support to early forcing. One cannot follow Nature too closely, and I contend that the above treatment approaches Nature far more closely than the immediate forcing of Roses without first securing a considerable amount of new roots. We find that Roses in the open ground make a large quantity of root growth fully four to six weeks previous to the eyes showing any signs of bursting into leaf.

When Roses are hurried too much at first, they produce a large quantity of blind growths, and I am sure a large proportion of these are caused by the check resulting from the roots not being sufficiently forward to provide enough nourishment, and so prevent any check when once the Roses have started. The plan I have recommended prevents this, but if we introduce plants that are pot-bound, we do not get so early and efficient a batch of new roots; in fact, a pot-bound plant requires much more starting than one in the stage I have endeavoured to describe above. R.

Cutting Roses for decoration.—How often do we find cut flowers of all kinds removed from the plant with so short a stem as to preclude the possibility of using them to full advantage in decoration. Roses are not exempt from this ridiculous practice; indeed, I sometimes think they are worse treated in this respect, considering how very easy it is to obtain sufficient stem and also the great advantage of retaining an improved shape in the plant at the same time. A Rose cut with a long stem, having a few buds around the bloom and being possessed of a few clean grown leaves, is one of the few things it would be difficult to place wrongly when decorating. It also possesses greater boldness and has a far grander appearance than the same flower cut with so short a stem as often seen. If one-tenth of the flowers usually employed when these short stems are in use could consist of good blooms upon stalks of from 1 foot to 2 feet in length, a much prettier effect would be secured. There is also a considerable saving in time by using the bolder spikes, while the buds and foliage enhance the beauty of the whole so much, that it is strange we do not more often see Roses so used. Roses which have a drooping tendency, such as *Mme. Bravy*, are not so well fitted for cutting as those with a bold, upright growth like *Anna Ollivier*. A second consideration in Roses for cutting is to secure those producing a good centre flower among a quantity of buds in various stages. I also grow a few plants of *Perle de Lyon*, not for the blooms, but on account of its most handsome foliage. This variety is well worth growing for the above purpose. I do not know of any Rose that has foliage of a more handsome appearance. It is the deepest coloured of any, and the shoots carry very prettily shaped buds. As these seldom open well, there is less reluctance to cut them in order to further enhance the beauty and value of such varieties as produce good showy blossoms. The young shoots of such rampant growers as the *Boursault*, *Ayrshire* and other climbers which make an over-abundance of wood may also be used to great advantage; but, as a general rule, it will be found that the foliage of each class is best suited for its own blooms. Given long stems, formality and stiffness are easily avoided, and the whole effect can be more natural.—A. P.

Winter Roses.—Never in my recollection have there been better prospects of full crops of Roses during the winter months, say December to end of February. The wood upon all plants, whether growing in pots or planted out under glass, has matured so well that little excuse can be found for failure among winter Roses. Owing to their early and efficient ripening it has been possible to start plants with safety rather sooner than usual. In addition to this, the splendid weather of October has been far more like early spring than usual, with the result that the sap in ripened wood is already moving freely. Many of our earliest plants are carrying growths which already show the flower-buds. Others are breaking strongly and satisfactorily, and those still in the pits are swelling rapidly. Such charming weather as the present will afford all of the plants a most excellent and natural start. This is of considerable importance, it being by no means easy to secure stout breaks sufficiently early to produce good winter blooms during a dull November. This season, owing to so welcome a start, the plants will probably pull through well even if we get a dull time during the few weeks before Christmas. Up to the time of writing, my plants have had no fire-heat, shutting

up the house about 4 o'clock being quite sufficient at present. The secret of having good Roses during winter is thoroughly ripened wood and very steady treatment until new growths have reached some 3 inches to 5 inches in length, after which they may safely be hurried on as required.—R.

Rose William Allen Richardson.—On October 21 I cut a good bunch of this beautiful Rose, which was introduced by *Veuve Ducher* in 1878. The majority of our strong climbing Roses are by no means perpetual, but this variety and *L'Idéal* produce a full crop of bloom more than once during the year and also afford a few stray blossoms between the larger displays. This year, probably owing to the dry summer causing the growth to ripen better and earlier than usual, many of the long maiden shoots are clothed with fairly good blossoms. A batch of maidens growing upon the seedling *Brier* in an open field with a northern aspect is now carrying a most serviceable crop of bloom. This will by no means injure the plants for another season, as the wood now blooming would be of little or no service next season, owing to the whole of the plants having to be shifted to new quarters. Even upon established plants of considerable size the earliest of the shoots are carrying a fair crop of flowers. Not far from me there is a cottage by the roadside, over which a plant of this variety has grown so luxuriantly as to almost completely cover the front. I have passed this perhaps a dozen times during the summer, and not once was the plant without several good flowers, while early in June it was a perfect picture.—A. P.

Rose The Pet.—This miniature Rose is one of the most profuse bloomers grown. All through the spring and summer a batch of plants in pots has been a mass of bloom. The flowers are about the size of a shilling, very double, almost pure white, and produced in large trusses. These plants are some four years old, and do not average more than a foot high. They produce a series of shoots from the bottom which carry immense trusses of blossoms for their size. I know of no Roses better suited for conservatory culture or a suitable window than than the following half a dozen: *The Pet*, *White Fairy*, *Perle d'Or*, *Mignonette*, *Lawrenceana rubra*, and *Lucida*.—R.

Rose Margaret Dickson is a splendid grower, and will probably make a good white Rose for pegging down. As a maiden it seldom blooms; at any rate, my plants have been almost flowerless. The growths reach a length of 6 feet to 8 feet, are short-jointed and well matured. If it turns out as good under pegged-down treatment as it promises from a couple of plants so treated during the past summer, it will without doubt rank as the best white Rose of any size for this system of cultivation.—N. S.

CANKER IN ROSES.

THAT this disease is first caused by a sudden check to vigorous growth or by the unequal production of sap is more impressed upon me than ever. Lately I have been pruning several Roses that are turned out in a border under glass. I find canker upon plants growing on the *De la Grefferaie*, the *Brier*, and upon the *Manetti* stocks. Taking the requirements of each variety grown upon them and the amount of sap each stock would generally produce, I do not find much to choose between the three. Among these Roses are some *Jean Ducher* that were 8 feet to 10 feet high, and splendid bushes. These were grafted upon the *Manetti*, and up to this season have done well. Even now they are carrying remarkably clean and healthy wood, but this cannot possibly do itself justice during the coming season owing to canker having set in very strongly. Two plants of *Reine Marie Henriette*, also grafted upon the *Manetti*, are developing canker, and will probably be of little use after next spring. Each plant was carrying about twenty shoots of this summer's growth before I put the knife into them a few days ago, and as they would average a length of 10 feet, it will be seen how strongly the plants grew. The same variety

on the seedling Brier has not grown quite so strong, and does not show signs of canker. On examination I find that the Rose has swelled more rapidly than the stock at the point of union. The roots must perforce have grown in proportion to the Rose wood, but the swelling at the union not being uniform seems to me the real cause of canker in these plants. Many of my readers have doubtless noticed a number of warty protuberances upon Rose wood when the tying material has been too tight and the swelling wood has been restricted. I fail to see the least difference between this and canker at the base. We do not find canker upon own-root plants unless under a state of constriction, nor upon worked plants when the stock and Rose seem to be equally balanced.

There is something not fully understood in regard to this disease among Roses. For instance, we find some varieties in each class or section which refuse to do well upon one or other of the stocks which their companions delight in. Among the Hybrid Perpetuals we may instance Horace Vernet, Marie Verdier and Her Majesty—three Roses of most distinct habit and representing weak, medium and extra strong growth. Neither of these takes kindly to the Manetti. In the first variety the Manetti evidently overpowers the Rose, while in the last we have so strong a grower as to seemingly overpower the Manetti, and yet all three of these good Roses refuse to do well upon this stock. Further than this, we find that almost all of the strong-growing Teas and Noisettes will prosper upon the Manetti, but there are notable exceptions in Rêve d'Or and Bouquet d'Or. I have also frequently noticed a strong, healthy-growing Rose first show signs of canker after a large quantity of growing wood or roots had suddenly been removed. This would seem an additional point in favour of undue balance of root and wood having a great influence upon this disease. Over-feeding with liquid manure will have similar results, and which are evidently brought about in the same way. Too strong a stimulant will kill the points of growing roots and also render the soil distasteful for a time to new rootlets. When this is the case it is evident that the supply of sap is considerably reduced, and at the very period when a full flow is absolutely necessary if vigorous growth is to be sustained. RIDGEWOOD.

STOVE AND GREENHOUSE.

BOUVARDIAS.

To flower Bouvardias well at this season of the year it is necessary that the plants should be treated a little different to those for summer and early autumn blooming. For early flowering the cooler they can be kept, provided they are well exposed to the sun, the better they will do; but plants to bloom well now must have plenty of warmth, all the light that can be given and plenty of air. I find early-struck or cut-back plants are most reliable, but they should be stopped from time to time, the last time of stopping being about the end of August or beginning of September.

The plants may be potted on according to their size, never allowing them to get stunted through want of pot room. All liquid or artificial manures should be withheld until the plants begin to flower, when either liquid manure made from cow manure and soot, or any reliable artificial fertiliser may be used frequently. At the commencement it should be used sparingly, gradually increasing the strength. The plants must be kept free from insects. A small dark-coloured aphid is often very troublesome, and when once it makes its appearance it is only by frequent fumigation that the plants can be kept clean. Before the flowers begin to open, clear soot water may be used for syringing and will go a long way towards keeping off insect pests. The syringing, however, must be discontinued after the plants begin to come into bloom. Those grown for cut bloom may be syringed occasionally after the bloom has been cut.

In the neighbourhood of London it is difficult to flower Bouvardias well at midwinter, but in more favoured localities many of the sorts will keep up a succession through the winter, or at least up to the time that forced spring flowers begin to be plentiful. For winter flowering it is not desirable to go in for a great number of varieties; the only varieties I would recommend are President Cleveland, scarlet; Mrs. Robert Green, pink. The most reliable white is Vreelandi, though other whites might be grown. Jasminoides is a good one, also candidissima, the latter named more particularly as a pot plant, being dwarf in habit and very free. It does not, however, keep up a succession of bloom. I am not an admirer of the double-flowered sorts, but where they are preferred the three best sorts are Alfred Neuner, President Garfield, and Hogarth flore-pleno. The single yellow flavescens has flowered well with me this autumn, and the colour does not fade so quickly as when we get more sunshine. It is a great pity we cannot get a really good yellow variety. I have tried the double and single varieties, but cannot say much in favour of any of them; flavescens and flavescens flore-pleno are the two best.

Few classes of plants are more useful for cut bloom than Bouvardias, and they are much easier to cultivate than is generally supposed. The most important point is to avoid starving the plants. Planting out is often recommended, but my experience is that the plants make good growth, and flower freely for a time after they have been taken up and potted, but do not keep up a succession of bloom like those grown in pots. F. H.

Rhododendrons, Javanese.—The fine bright weather, of which we have had so large a share this autumn, would appear to have been very favourable to the Javanese Rhododendrons, for they are flowering with unusual freedom, and have been very beautiful for the last month, while, judging by the number of unopened buds, they bid fair to continue for some time. Where a structure is kept at a temperature above that of an ordinary greenhouse these Rhododendrons are just the things to brighten it, not only at this season, but to a certain extent nearly throughout the year. These Rhododendrons succeed within the baneful influence of the London fogs better than many other classes of plants, certainly far better than their allies, the Indian Azaleas, many of which will after a few days' fog lose nearly the whole of their leaves. A light warm structure with a free circulation of air is just the place for these Javanese Rhododendrons during the autumn and winter, as if too cold and damp the young leaves are very liable to be attacked by mildew, which especially in the case of the weaker growers is somewhat difficult to eradicate. There are now a great many varieties of these Rhododendrons, but two of the oldest, viz., Duchess of Edinburgh and Prince Leopold, are about the most continuous blooming of any. The first-named will often flower itself into a bad state of health unless given an occasional rest. Its blossoms are of a glowing crimson tint, which causes it to stand out conspicuous among paler tinted varieties. In the case of all these Rhododendrons over-potting must be especially guarded against, as their roots are by no means particularly vigorous.—H. P.

Iris alata in pots.—This beautiful autumn-flowering Iris is sent here from the southern part of Europe in the shape of fine bulbs, which are all ready to flower if placed under favourable conditions. I have seen numerous examples this season of bulbs that reached here about the end of August in a thoroughly ripened state and were then potted and placed in a cold frame. About half a dozen bulbs were put into a pot and were soon in full flower. These little masses of Iris flowers formed a very pretty and most uncommon autumn feature in the greenhouse. There is no reason why Iris alata should not be more often grown for flowering under glass, and in the spring several other kinds of the bulbous Iris are very useful in this way. Iris reticulata has been so employed in a very limited fashion for years, and last

spring I saw the strikingly marked Iris persica in fine condition in a greenhouse.—H. P.

The Spanish Jasmine (*Jasminum grandiflorum*).—This Jasmine, so widely cultivated throughout the warmer parts of the globe, is not much known in this country, yet in a warm greenhouse it will often flower for a long time during the winter, and the delicious fragrance of its blossoms causes it to be much appreciated. The flowers of this Jasmine are white, sometimes slightly tinged on the exterior with red, and altogether they bear a general resemblance to those of the common *Jasminum officinale*. According to the "Dictionary of Gardening," *J. grandiflorum* occurs wild at 2000 feet to 5000 feet elevation in sub-tropical North-western Himalayas and was introduced into this country in 1629. It is of a somewhat rambling style of growth and may be trained to a rafter in the greenhouse, or in some similar position, while little specimens flowering well as bushes may be occasionally met with.—H. P.

A TRIO OF USEFUL DECORATIVE CROTONS.

CROTON WARRENI.—This fine variety is without doubt one of the very best, if not the best of all long-leaved Crotons of pendulous growth. I can at least say I have not seen one yet to equal it when it is grown in good form and well coloured. It is of most robust and vigorous growth, and well calculated for cultivation on single stems, or at least without stopping the leader, a few lateral growths may be thrown out, but these are immaterial to the general effect of the plant. I have it now in capital condition, and every succeeding leaf even at this season of the year assumes its variegation as well as in the summer-time. The foliage in its earlier stages is irregularly mottled and suffused with orange-yellow on a pale green ground, changing as the leaves become fully developed to a rich crimson and dark green. A plant of this variety, when well coloured and clothed to the pot with healthy foliage, has a beautiful effect when allowed to be the central plant of a large dinner table arrangement. I used it thus a few months back, and was particularly struck with the beautiful effect produced by its elegant and richly coloured leaves when under artificial light. It was perhaps rather venturesome of me on that occasion, and I would not advise anyone to follow the practice if he had not a strong heat at command for after treatment. Finding the plant to be about a foot too tall for my purpose, I cut the top off at the required height, thus securing fine foliage to the point of separation from the parent stem. This top was then stood into a glass receptacle, and afterwards made to appear as if it were growing in a mound of *Selaginella*. Later in the same evening the same top was inserted into a small pot, then transferred to the propagating frame, and is now a well-balanced plant. When this variety is grown as a trained specimen, each shoot being persistently tied in, the graceful effect of the plant is lost. By far the better way is to grow it even if of large size in the free pyramidal style.

CROTON BARONESS JAMES DE ROTHSCHILD.—This is another excellent decorative variety of the broad-leaved section, which for home uses is best grown on a single stem, just as one sees *Ficus elastica* presented. The habit in fact of this variety predisposes it to this style of growth, and when seen in good condition, from 1 foot to 2 feet or more in height, and the foliage retained down to the pot, it is all that can be desired as a vase plant. Its foliage in shape is after the old, but still useful *C. pictus*, rather broader perhaps, having one decided advantage, however, over that well-known kind in possessing leaves of far greater substance, and consequently endowed with more persistency in withstanding the changes of temperature, &c., concurrent to a plant that is required for other uses than being displayed in its growing quarters. The richly coloured markings of its leaves are seen to great advantage either by daylight or by artificial light. The ground colour in the well-matured foliage is a dark olive-green with veins of a

rich crimson, the latter colour being frequently extended around a portion of the margin of the leaf. In the younger leaves an excellent contrast is afforded by the light green ground, veined with a pale golden colour.

CROTON ANDREANUS.—This, like the foregoing variety, is, I believe, of continental introduction, and in many respects resembles that fine kind, in habit in particular. Its leaves are possibly one-third longer and a trifle broader. The leaves, too, are thick and leathery, denoting persistency when used for decoration. Its growth is vigorous, whilst if at all shaded the foliage oftentimes takes on too much of a green colour. GROWER.

CRINUM MOOREI ALBUM.

THERE are good and bad Crinums from the cultivator's point of view, and *C. Moorei* belongs to the good ones. It is easily grown in a greenhouse, or it may be grown out of doors for summer effect and wintered in a shed as we do with *Agapanthus*. In the warmer parts of these islands it is grown successfully in the open border out of doors. In addition to all this it is a really good stove bulb. Since it was first introduced by the late Dr. David Moore and grown by him with marked success at Glasnevin some twenty years ago it has become a common plant in gardens. Like many good garden plants, it has numerous names, having been called *C. Makoyanum*, *C. Mackeni*, *C. natalense*, *C. Colensoi*, *C. ornatum*, &c. But its correct name is that given to it by Sir Joseph Hooker in compliment to the man who first grew it and flowered it at Glasnevin. In the gardens of colonists in South Africa it is one of the commonest plants, and is generally known as the Natal Lily, being, I believe, found wild only in Natal and Caffraria. It was first made known to botanists by Bishop Coleuso, who sent a drawing of it to Kew in 1858.

There are several varieties of *C. Moorei*; the ordinary form or type, a second improved form with broader segments and richer colour, and a third with pure white flowers, which is the one represented in the accompanying woodcut prepared from a plant flowered at Kew. The late Dr. Regel looked upon this as a distinct species and figured it under the name of *C. Schmidtii* in his "Gartenflora," t. 1072. It is, however, nothing more than an albino form of *C. Moorei*. For the introduction of this variety we (in England) are indebted to Mr. Woodall, of Scarborough, who sent a bulb of it to Kew, where it flowered in 1891, when Mr. Woodall wrote:—

I read with pleasure that the bulb of a *Crinum* which was given me in Madeira four years ago under the name of *C. giganteum* has bloomed in the cold frame at Kew, and is now rightly named *C. Moorei album*. . . . A grand clump of this fine *Crinum* in a Madeira garden, with thirty spikes of its snow-white blossoms on long stalks above the bright green foliage, was so beautiful a sight that I asked for a bulb, never dreaming it could be possible for such a magnificent Lily to be hardy, or nearly so, in England, and I am consequently equally surprised and pleased to know it is a white form of the hardy *C. Moorei*, which will grow and flower wherever the *Amaryllis Belladonna* thrives.

The Kew plant has since yielded a good number of offsets, and to show how quickly this *Crinum* grows I may mention that an offset planted in 1892 flowered in spring this year in a cold greenhouse. The picture described by Mr. Woodall of the Madeira speci-

men is enough to make all who succeed with *Crinums* out of doors long for the "trimmings" of that grand mass. The flowers of *C. Moorei album* are as large and substantial as those of the best forms of the pink-flowered type and of the purest dazzling snow-white.

We have now available a nice little group of hardy *Crinums*, namely, the above *C. Moorei* and its varieties, *C. longiflorum* (capense) and its several varieties, all of them quite hardy at Kew, and the hybrid *C. Powellii*, raised nearly twenty years ago by Mr. Powell, of Tunbridge Wells, from *C. Moorei* and *C. longiflorum*. The hybrid is represented by three distinct forms: 1, rubrum, with deep rose-coloured tubular flowers not unlike those of the *Belladonna*; 2, roseum, a pale pink form, slightly smaller and still more tubular; 3, album, with pure white flowers. Mr. Gumbleton, who grows these plants well, says of the white *Powellii* that it is "quite one of the most beautiful hardy bulbs with which I am acquainted," which is saying a great deal, but not a whit more than it deserves. All these *Crinums* grow and flower to perfection planted out in the borders in the large temperate house at Kew. W. W.

Impatiens Sultani.—The fact that there are several distinct forms of *Impatiens Sultani*, as



Crinum Moorei album.

mentioned on page 424, does not appear to be generally known, although a very interesting series of them may often be seen at Kew, where they form a very striking feature. I cannot say if they are flowering there just now, but I have noted them often within the last two or three years, and have been very much struck with the variation in tint. I see in the catalogue of one of our prominent nurserymen, that besides the typical *I. Sultani* the varietal names of *carminata*, *salmonica* and *variegata* also occur. This last has the foliage variegated with creamy white, but it can scarcely be considered a desirable form, for the pale green of the foliage does not contrast so markedly with the variegated portion as in the case of many other plants.—H. P.

Thibaudia acuminata.—This has been flowering with unusual freedom with me for the last two months; indeed, the blossoms have been almost as numerous as they generally are during the spring. It is certainly a very pretty evergreen for the greenhouse at all seasons, as the deep-tinted shining leaves are very ornamental, and being in the young state tinged with pink they are then very noticeable. The tubular flowers, which are borne in clusters at the points of the shoots, are about 1½ inches long and of a bright red, tipped with greenish white. They are of a thick wax-like texture. The colour of the blossoms varies a good deal according to the conditions under which the plants are grown, as in a clear atmosphere the flowers are more richly tinted than when it is dull and heavy. With regard to this feature, I have been given to understand that the flowers are never so attractive with us as they are in their

South American home. Messrs. Low have before now showed us how to grow this *Thibaudia* in the shape of neat little bushes studded with flowers, but its usual habit is to form a loose-growing shrub, very suitable for a pillar plant or for some similar purpose. This *Thibaudia*, in common with most other members of the genus, is a native of the mountainous regions of South America.—H. P.

Rhapis flabelliformis.—In any selection of Palms that can be depended upon to keep in health for a lengthened period in the house a prominent place must be assigned this *Rhapis*, which, given ordinary care and attention, may be kept in health for an almost indefinite period. Being a native of Japan it requires only the protection of a greenhouse, and consequently it resists draughts much better than those subjects that are grown in a higher temperature. It must at no time be allowed to suffer from want of water, and the leaves should be well sponged at least once a week, as they are not so smooth as those of the *Kentias* and *Aspidistras* (two subjects commonly employed for the same purpose), and consequently the dust adheres more readily to them. A good specimen of this *Rhapis* forms a very graceful object, and for dropping into single vases it is in many situations just the thing. This Palm in its earlier stages should be grown as a stove plant, but, of course, it should be thoroughly hardened off to a greenhouse temperature before it is brought into the dwelling-house. It would doubtless be much more commonly met with if seeds were sent to this country in large quantities, as in the case of some Palms. As matters stand, the principal means of increasing this *Rhapis* is by division, which must be carefully done, and the plants encouraged to grow away quickly afterwards, as if allowed to get stunted they often take a long time to start into growth. There is a form with variegated leaves, but it is not often seen.—H. P.

TREE CARNATIONS.

THE season generally has been very favourable for these. The early autumn blooms suffered from the attacks of thrips, but this troublesome pest has now pretty well disappeared and blooms open well. In the management of winter-flowering Carnations it is most important that the plants should be started at the proper time. There are some varieties which flower only once during the season, while others will branch out freely, and the lateral growths will flower a month or so after the main shoots have bloomed. Where large quantities are grown, it is not difficult to keep up a succession of bloom throughout the year of such sorts as *Winter Cheer*, *Miss Jelliffe*, and those of similar habit. Yet many of these grown for winter flowering require to be started at intervals to keep up a succession. The plants should be stopped about the end of April; this applies to old plants or those propagated during the winter, and then others propagated later and stopped a few weeks after the first batch will come on in succession. Those propagated from short side shoots, say about April, will not require any stopping. As so much depends upon the sorts and the condition of the cuttings, it is impossible to give any definite instructions, but it is only by growing plants on in batches that a succession of bloom can be kept up, and it is quite useless to attempt to force them into bloom. A little extra warmth may be given when the buds are well developed, and they will open better for it. Light and air are the most important factors in the culture of Carnations. Sufficient fire heat may be given to keep out frost or to dry the atmosphere in damp weather. See that the plants are kept quite free from insects and not over-watered, and there will be little risk of failure.

Lists of the best sorts have been frequently given; to these I may add *La Neige*, one of the best whites for winter work; it is remarkably free, though the flowers are rather small. The improved variety of *Miss Jelliffe* should always be grown in preference to the older form. *Winter Cheer* is a distinct advance on all other scarlets

and will be likely to hold its place for years to come. In crimsons Mrs. Hemley is likely to find a rival in Duke of York; the flowers of the latter are larger and of more substance. We are still badly off for yellows. *Andalsia*, which used to grow so vigorously, seems to have quite lost its character. Pride of Penshurst and Germania, though belonging to the border sorts, may be grown with the Tree varieties, and will bloom well in the autumn or early spring, but do not flower well except from the main shoots; consequently they should never be stopped. The plants grown indoors for early spring blooming will make good stock for autumn if layered as soon as flowers are over, or they may be propagated from cuttings, but layers make the strongest plants, and cuttings are uncertain, especially after we get bright warm weather. All of the border section lose vigour if grown under glass, and where it is desirable to grow them for early flowering new stock should be procured from time to time. *Gloire de Nancy* is useful for early flowering, but though a vigorous grower, it soon becomes weak when confined to pots.

F. H.

Amaryllis formosissima.—This beautiful bulbous plant is more generally known by the above name than that of *Sprekelia formosissima*, though this latter is now regarded as the correct one. It is quite distinct from anything else grown in our gardens, and its rich crimson flowers are about April and May very attractive. It is grown in considerable quantities by some of the Dutch bulb growers, and grand thoroughly ripened bulbs that can be depended upon to flower well are readily obtained at this season at quite a cheap rate. They should be potted as soon as received and placed in the greenhouse, but little water being given till the roots are active. The pots should be well drained, and the soil best suited for the *Amaryllis* is an open sandy loam. After flowering, the plants should be encouraged to complete their growth by keeping them in a light position in a warm structure, and as they go to rest water must be gradually withheld.—H. P.

Ixias.—As I had a grand show of these early last spring and am about to pot up bulbs for next season's display, a few notes upon their treatment may be welcome. A variety of chaste colours is found in these. The bulbs are very cheap, and for a frame or cool greenhouse must rank among the most pleasing plants we have. If grown outdoors they must have a warm and sheltered border either at the foot of a wall or hedge. I prefer the latter, as being much drier in winter. The best bed of outdoor *Ixias* I have had was at the foot of an old Yew hedge and in rich, but light soil. Here the bulbs were quite hardy, and with *Sparaxis*, *Calochortus* and *Babianas* afforded a charming lot of cut blooms all through the late spring. But it was not upon their outdoor culture that I wished to dwell, but on their value in the unheated greenhouse. If this structure is to look well, great care is needed in selecting the various occupants, and a batch of *Ixias* is certain to please all who will carry out the following instructions: In the early part of November put six or eight of the bulbs into a 5-inch pot, using a compost of loam, sand, leaf soil and manure. I use these in about equal proportions. Make it firm and cover the bulbs with about 1½ inches of soil. Plunge in a cool pit or frame. They need no water through the winter, but early in March, when they will be showing their flower-spikes, more moisture will be needed. The temperature found in unheated greenhouses at this time is much more suitable to these pretty bulbs than a heated house.—R.

Adhatoda cydoniæfolia.—In reference to your request for specimens of new or old plants not generally cultivated with a view to their being described in THE GARDEN, I herewith enclose some sprays cut from the above-named stove shrubby flowering plant. Our plant is growing up the roof of a stove containing a mixed collection of stove-flowering and fine-foliaged plants. It is trained to three wires fixed under one of the rafters, in the same way as Vines are often grown.

It is planted in a brick pit about 18 inches square and 12 inches deep, built under the hot-water pipes that run round the house under the stages. The pit is raised some few inches above the level of the floor to prevent its getting water-logged. The soil used is a mixture of two parts sandy loam, one part peat, and one leaf soil, plenty of drainage being used. Blooming, as it does, during the month of November, it is a very useful addition to any collection, especially as stove plants having blue or purplish-coloured flowers are not plentiful at that season. We use it occasionally for mixing with other flowers for the decoration of vases in rooms, though it does not stand so long when cut as some flowers do. For those who have convenience to do so, it would be better adapted for training up pillars than up the roof. Another year, all being well, I intend trying it in baskets, striking the cuttings in spring, and planting them in the baskets in the same way as Ivy-leaved *Geraniums*, *Petunias*, &c. I have no doubt it will have a charming effect when thus grown. It is a very free-growing plant; ours has made fully 10 feet of growth this year. I find cuttings strike freely in spring by taking small side shoots some 4 inches in length and inserting them in a sandy compost round the sides of small pots, which are plunged in a brisk bottom heat either in a hotbed or propagating case in the stove.—H. J. CLAYTON, *Grimston, Tadcaster*.

KITCHEN GARDEN.

WHITE TURNIPS.

WHILST all admit that we have just now a wealth of winter crops almost beyond precedent, the white Turnip crop has been found unusually plentiful, and the roots are very clean, fresh, tender, and sweet. That very unlooked-for result—for not so long since does it seem when it was thought impossible to secure a plant—is most due to the persistent sowings made in repeated succession so soon as others failed, so that not a day was lost. Had growers but waited a week or two longer, the season might have been absolutely lost. But all who had experience of the ground recognised that it was as warm and capable of promoting quick seed growth in September this season as is usually the case in August, and what with this warmth, the thoroughly fertile condition of the soil through lack of summer exhaustion, and continued ample light, realised that these presented unusually favourable conditions for late-sown Turnip breadths, which has since proved to be right. To these advantages has been added one of the best and most extended growing autumns ever remembered, so that it is no wonder we have now such a wealth of fine, clean, white Turnips in the market, whilst we cannot hope always to have such fine opportunities for late-sown breadths. The fact that we have had them so exceptionally plentiful this year may at least encourage the making of some late and, indeed, frequent sowings ordinarily, for there seems to be no knowing what good results may arise. Sometimes the bulbs are but half grown. They are considered very small, yet how delicious are they and how much more soft and refined is the flesh than is that of larger bulbs. Sometimes no bulbs result, but there is a good breadth of plants that will carry a heavy crop of the most delicious tops in the spring, and, indeed, if even so much as that be not realised, the resultant growth more than repays the small trouble involved in the sowing if dug in as a green manure crop. Oddly enough, we very seldom in gardens utilise green crops as manures. Some portions probably must be left vacant to undergo

the annual operation of trenching, one far too important to be neglected, but still some breadths can always be thus manured, and a very excellent manure, as well as a cheap one, is a good green Turnip crop when thus buried in the soil in the spring, especially if there be no bulbs on which grubs or wireworms can subsist. As to summer Turnips, we have long since realised that these are but very secondary crops, seldom being then needed as a distinct dish, and chiefly required for flavouring purposes. A very small breadth sown every ten or fourteen days keeps all the Turnip needs of the summer fully supplied. Even this season, late as it is, we have found the immense abundance of Cauliflowers everywhere to militate appreciably against the use of the Turnip, because the soft succulent flesh of the root of one and the flower of the other have close identity when cooked. The great demand for Turnips comes more fully when at the end of November Cauliflowers are past and other roots have largely lost their freshness, even Brussels Sprouts becoming under the influence of the greater cold rather strong; then it is that Turnips, if still young, fresh and juicy, are so highly appreciated. But if hard weather sets in, the Turnips soon suffer also, unless something be done to afford them protection, and that is too seldom found. Even in gardens it is still far too much the rule to sow seed broadcast. When, however, sown in drills 12 inches apart, and that is perhaps rather close together, it is easy then to pull up to the end of November every intervening row, finally clearing them absolutely away, so that soil from the cleared spaces can in gardens with a hoe or fork, and in fields by the aid of the moulding plough, be drawn up to the remaining rows, and thus give them capital protection through severe weather. In such case the roots keep much fresher and juicier than if pulled and stored in any other way for winter use.

A. D.

Field Mushrooms.—I should think readers of THE GARDEN would note with surprise 1s. 2d. being paid per pound for Mushrooms, and this field ones, too, in this abnormal season of plenty. As I am credited with this statement, I can only say that it must be a printer's error. What I stated was ½d. (one halfpenny).—A. YOUNG.

Vegetable Marrows outside.—It is not often one can send these to the table the first week in November, but this I was able to do so from the open ground, and not a single fruit, but five good useful ones. These were grown in a sheltered spot, and when the early frost in September came on the plants had an old mat put over them and this preserved them. We had no frost again to speak of till the first week in November.—DORSET.

Kales and drought.—It is wonderful how the Kales and Broccoli have recovered from the drought, especially the late varieties of the former. The various kinds of Broccoli are most luxuriant; whereas some of the Kales present a patchy appearance and had a hard time; indeed at one time despite all watering they refused to grow, the excessive heat on our dry, gravelly soil being most injurious. I never saw the sprouting Broccoli so good. Veitch's Protecting Broccoli is very fine this season; indeed, with so many drawbacks, there is a wealth of green vegetables. Celery I have never had better. Certainly it was a little tough a few weeks ago, but it is all that can be desired now, and out of many heads I have not seen one that has bolted. On examining the quarters in which the Kales are growing I find that those which stand the severe weather the best have suffered most from the heat of the past summer. The Buda or Asparagus Kale suffered

badly; indeed, this was our worst variety, although it is one of the hardiest Kales grown, as in the severest weather the stem of the plant rarely suffers. Another kind—the Cottager's—suffered similarly; this also is one of the best and hardiest varieties grown. The variety known as Ragged Jack is also badly affected by the heat. On the other hand, the Curled Green or Scotch Kales suffered very little; indeed, they are as good as usual, very finely curled, and somewhat dwarfed. The purple Kales seem to thrive in hot weather, as there are no blanks and the colours are deeper than usual. I prefer the Scotch to the Purple, as I consider it better flavoured and equally hardy. The effect of the past season on the hardier kinds shows that these varieties require a heavier soil to be able to resist drought and make headway, so that in light soils deep cultivation is imperative, selecting the heaviest soil for those kinds. Though Kales thrive in poor soil in ordinary seasons, it pays to give those kinds richer food which are required to prolong the supply till spring Cabbage turns in.—G. WYTHES.

The London or Rosette Colewort.—I am pleased to find Mr. Iggulden recommending this delicious winter vegetable, and am surprised that it should be met with so seldom. It is essentially a winter vegetable, but I have sometimes seen it fit for cutting during August and September, the seed having been sown in spring with the ordinary winter stuff. If seed be sown about the second week in July and the seedlings transplanted as soon as ready, they will form good solid hearts by the beginning of November. The smaller seedlings should be allowed to grow for another fortnight and then be planted. These will arrive at maturity in December. For hardiness nothing can equal this Colewort. I have known all the Broccoli, Brussels Sprouts, and even the old hardy Scotch Kale succumb to severe frosts, and the little Colewort pass through the ordeal unharmed. Their small size allows them to be planted from a foot to 15 inches apart all ways, and any plot from which Peas, Beans, or Potatoes have been cleared may be used for Coleworts without any further preparation. Another point in its favour is the non-liability to split when fully hearted, while the flavour will please even the most fastidious. Taken from all points, I know of no winter green vegetable of greater merit.—JOHN CRAWFORD, *Coddington Hall*.

Coarse vegetables.—In whatever is grown for eating flavour should be the first consideration. If this be so, will anyone venture to say that a big half Cabbage-like Brussels Sprout is as good in flavour as one of the small bullet-like close sprouts? Again, is the flavour of a Drumhead Savoy equal to that of a Tom Thumb? I quite agree with "A. Y. A." that the large Cauliflower is inferior to the small type as regards flavour. Let anyone cook a dish of both kinds in July and then compare them. The same holds good in the case of all green vegetables. Regarding Onions, it will take stronger proof than "W. I. R." has advanced to make me believe that those large growing soft kinds will keep as well as the good old James' Long Keeping. A short time ago I called on a friend who is an expert in growing large Onions, and who has gained several prizes for them on the exhibition table. When looking at some bulbs from 2 lbs. to 3 lbs. each, I asked him where his stock was for supplying his family. When he showed them to me I remarked, "Then you do not believe in these big soft kinds for keeping." He shook his head and said, "None of those for me." The remarks made by "A. D." at p. 378 are to the point. I fail to see where the educational point comes in in any committee giving prizes to produce that has nothing but mere size to recommend it. I think judges are equally to blame in this matter, and a reform is badly needed.—J. C. F.

Carrot Early Gem.—This is a distinct variety, oval in shape, from 4 inches to 6 inches long, and of excellent quality. It differs from many varieties by the small amount of core; indeed, some of the smaller roots have scarcely any core. This

is a distinct gain, as the roots are more succulent and of better flavour. I am induced to send this note on account of its value for shallow soils or places where Carrots canker. This is one of Messrs. Sutton's recent introductions, and one that will hold its own when it becomes well known. It possesses several advantages over the earlier or Stump-rooted kinds, being more fleshy and equally early, thus giving more weight for the room occupied. It is also an excellent keeper, retaining its good flavour for a long period. For early sowing it should become a special favourite on account of its good quality and quick growth, and, what is so desirable in early roots, increased size.—G. W. S.

WHOLE OR CUT POTATO SEED.

FOR several years back opinion has been a good deal divided regarding the question of cutting the tubers of Potatoes used for seed. Many farmers still firmly adhere to the practice of cutting the seed once or twice according to the size of the Potato and its stock of "eyes." I have even known them slice a bit off the "blind" side rather than plant the tuber whole. The great advantage claimed for the cutting is the economy effected in seeding. As it generally requires from 14 cwt. to 16 cwt. of seed to plant an acre, it will readily be seen that the cost entailed for seed is considerable. It is only natural, therefore, that means of economising should be adopted, especially in seasons when big prices are obtainable in the market; but the saving policy can be overdone, and, in the light of recent investigations and experiences, it might be worth while for those who have hitherto held firmly by the system of planting cut Potato seed to weigh carefully all the facts of the case, and ask themselves whether, in the long run, the method is in reality an economical one. In nearly all the celebrated Potato-growing districts seed-cutting has been finally abandoned. Whole seed, although a little more costly, has been found to produce very much better results in every way. Not only is a heavier crop produced from the entire tubers, but the crop while on the field is found more vigorous and robust in growth, and therefore less liable to yield to the attacks of blight or disease. It is not claimed that the use of whole seed is an absolute preventive of disease. But crops grown from whole seed have been found to resist the scourge more effectively than those produced from cut sets. Therefore, although not in itself a complete preventive, the system appreciably assists any other preventive or curative means that might be employed. It is also maintained by experienced farmers that a more uniform crop, and therefore a larger percentage of marketable or profitable tubers, is obtained by planting the seed uncut. The seconds, or medium-sized tubers, are best adapted, and are generally used, for seeding purposes. The largest-sized Potatoes are not any better growers than the seconds if the latter are wholesome and sound, while they invariably command a more ready and more remunerative market.

A striking instance of the superiority of whole tubers over cut ones for seeding purposes came under my notice a few weeks ago. When inspecting the crops on a well-known farm in the county of Bedford, my attention was attracted to a curious mixture of crops in a few drills on one side of the Potato break. There were a few bunches of Potato haulm visible here and there, but what at first sight appeared to be weeds, and what a closer inspection revealed to be Oats and Vetches, held the upper hand. Upon inquiring of the farmer the meaning of that strange conglomeration—Potatoes, Oats and Vetches—growing alongside such a level and magnificent crop of tubers, I learned the cause. As is his custom, the farmer selected and retained the seconds of the preceding Potato crop for seed. But he found that he had not sufficient to cover the ground allotted to this year's crop. Accordingly he fell back upon the firsts, which he considered, on account of their size, should be cut. This was done, and the result was the utter failure referred to.

I would not urge those who still plant cut Potato seed to at once abandon their old and well-tried method in order to adopt the one I recommend—the planting of whole tubers. I have every confidence that the latter practice would in time commend itself strongly to them; therefore I invite those who have never given it a fair trial to do so on a small scale before finally and exclusively accepting it. Let them begin to experiment next year with a few drills, giving of course both kinds of seed similar treatment and opportunities in every respect. The following year, or for a few years, the trial might be repeated until the results are sufficiently conclusive to decide which is the better system.—B. M., in *Field*.

Rosette Coleworts.—These, like other vegetables, differ much in quality and shape. There are good and bad forms even in Coleworts, and those who have a good one have at this date a choice vegetable equal to the early spring Cabbage. The Rosette Colewort is a most useful autumn vegetable, easily grown, but one often sees in a quarter plants of various heights and not at all like Rosettes. Out of many hundreds of plants I have scarcely a rogue, and the quality is all that can be desired. I have seen the hardy green mixed with the Rosette. This is annoying, as it spoils the quarter and gives the kitchen garden an untidy appearance. The hardy green Colewort is equally useful, but should be grown for spring use, as it stands severe weather. The Rosette is more tender, having more heart and is soon injured by frost. To prolong the supply well into the winter it may be lifted and placed in a cool place.—G. W.

Veitch's Self-protecting Broccoli.—Often in the autumn after the Cauliflowers are over there is a gap before the winter Broccoli are in. This variety will furnish the supply for at least six weeks at a period of the year choice vegetables are on the wane. There is no better vegetable than this if cut in a small state. The heads are beautifully white, free of caterpillars and of a mild flavour. I have for years taken care to have a good quarter of this variety, and I do not know of a better for late autumn use, as it possesses peculiar advantages, having a perfect covering of leaves over the flower. Where there is a demand for choice vegetables, the Cauliflower and Broccoli are always appreciated, and by planting at the end of June, there will be no lack of good heads at this date. If small heads are desired, plants may readily be lifted and placed under a north wall to prevent their getting too large and to prolong the supply till such varieties as Snow's Winter White come in. By having a good breadth, the latest plants may be placed in cold frames or even Peach cases, and, with free exposure, will eke out the supply.—S. H.

Late-sown Carrots.—The present season has taught us some useful lessons, among others that of sowing a good supply of Carrots at midsummer, as this year, owing to the intense drought, the first crop was nearly a failure. Directly I had lifted some early Potatoes I dug the ground and sowed Early Nantes, French Horn and James' Intermediate Scarlet. Heavy rain having fallen directly afterwards, the crop grew away rapidly. Lately I have pulled an abundant supply, and certainly for quality they are far superior to the early-sown. I feel sure that even in ordinary seasons it would be better to have two distinct crops than to rely on the early sowing for a full supply.—J. G. H.

Cool storage for Salsify.—This is not appreciated as it deserves, and in some instances the flavour is much impaired by storing in unsuitable places. The value of the above is as a spring vegetable at a time there is a dearth of other things. Those who can store in cool cellars have a great advantage over those who store in warmer buildings, as in the latter the roots grow out badly, and by the early spring have lost that plumpness all roots should possess. Even such roots as Beetroot, Carrots, Turnips, and winter Radishes require cool storage, and many shifts have to be made if flavour is considered. I have used disused ice

wells and stoke-holes in preference to dry, airy sheds, which are useful for such roots as Onions. Even Cauliflowers and Broccoli often require shelter at this season, but those who wish to preserve the above vegetables will do well to store as cool as possible just free of frost, and when placing in the store to use plenty of soil or ashes between the layers, this keeping the roots firm, preventing shrivelling, and also warding off frost.—S. H. B.

FERNS.

TINTS IN FERNS.

In addition to the variegated Ferns referred to in a previous note, a variety of distinct shades is found in the normal forms. Under favourable conditions many Ferns, especially the *Adiantums*, assume very bright tints in the young fronds. These brightly tinted fronds gradually fade until they assume the normal green colour, but while they do retain the bright colour they add considerably to the effect of the fernery. The old system of growing Ferns under heavy shading was not favourable to the development of colour, besides which the plants were too tender to be used for decoration outside the fernery. Most of the *Adiantums* may be grown fully exposed to the light, and will only require a slight shade during the summer-time; in fact I have seen *Adiantum Farleyense* growing luxuriantly when fully exposed to the sun. Of course, it is necessary to be careful that the plants do not get dry. I find, too, that the brightest tints are produced when the plants are potted in a good loamy compost. It may be advisable to use some peat for a few of the more delicate sorts, but good fibrous loam, leaf-mould, a little well-rotted manure, and good drainage will suit most of the *Adiantums*. I have often heard complaints about *A. Farleyense* damping off, and find the cause has generally been through letting the plants get too dry. There may be no outward appearance of damage, but on examination some of the under fronds will be found to have shrivelled up. As soon as the damp settles on these they will begin to decay and the fungus, which almost invariably makes its appearance on the decayed parts, will spread and cause further damage. The mischief is generally put down to too much moisture, while the primary cause is just the opposite. Although *Adiantums* do sometimes suffer from drought, it more often happens that they are over-watered.

Among those with tinted fronds, *A. tetraphyllum gracile* is one of the most remarkable. It is a delicate variety and should be confined to rather small pots. The young fronds have quite a crimson hue. *A. Veitchi* is a free-growing variety with equally bright fronds. This can only be propagated by division, and consequently is not very common. *A. rubellum* is another deep crimson-tinted variety, of which there are several slight variations; in fact, most of the tinted varieties vary somewhat when raised from spores. *A. tenerum* may be found in all shades, from a pale fawn with just a slight tinge of pink to a deep, almost purple tint. Those with the deep shade change to a deep green, while those with a lighter shade of colouring in the young fronds are of a paler shade of green when matured. Of this lighter shade *A. Collisi* is one of the finest. *A. Farleyense* must be included in this list, for when well exposed the young fronds have a lovely rosy-pink shade. It is remarkable that those of the *cuneatum* type have no colour, though when well exposed they are of a lighter shade

of green than when grown under heavy shading. Those of the *Capillus-veneris* type, too, are destitute of colouring, and almost invariably retain the deep green. *A. C.-v. Mariesi* may be given as an example, the peculiar deep green shade of its fronds forming a distinct contrast to such as *A. Williamsi*, which has a very pale soft green shade. It is remarkable that those destitute of any colouring in their fronds almost invariably like a more shady position than those with the bright tints. None of the *Aspleniums* have the slightest tinge of colour, and these all delight in a shady position. The *Nephrolepis* may also be quoted as having no colour, and all flourish in a shady position. To return to the tinted varieties, *Lomarias* contribute very distinct and beautifully coloured varieties, of which *L. l'Herminieri* is the most remarkable, the young fronds being quite as bright as a well-coloured *Dracena*; it is a delicate Fern, however, and is not often seen in good condition. It should be grown in the cool fernery, but must not be exposed to a dry atmosphere or a draught. *L. attenuata* is another. Though the tint is of a paler shade it is equally attractive, and the plant is not quite so delicate, though by no means vigorous-growing. *L. Pattersoni* is a very distinct Fern of dwarf habit; the young fronds have a bronzy tint, which gradually changes to deep olive-green. In the *Doodias* we have some bright colour, *D. aspera* and its variety *multifida* being the brightest. I have seen the latter very bright indeed. It is best when grown on freely from seedlings. Though it may be grown with the greenhouse Ferns, it succeeds better when grown in the stove.

Of *Blechnums*, *B. occidentale* is one of the prettiest tinted forms. *B. longifolium* also gives a distinct shade, the young fronds being of a deep bronzy purple. *B. corcovadense*, the tinted variety of *B. brasiliense*, when well exposed has a very bright rosy crimson tint.

Davallias contribute only one tinted variety, as far as I am aware; this is *D. polyantha*, which has large recurved fronds, deep bronzy purple when young, and changing to deep green with almost black rachises. Although there is no colour in the other species, there are various shades of green from pale pea-green, as in *D. pallida*, to deep olive-green, as in *D. bullata*. I should not omit the beautiful *D. immersa*, usually known as *Leucostegia immersa*; this has a deep bronzy tint in the young fronds, and changes to a pale almost straw colour.

In *Lastreas*, *L. erythrosora* is the brightest coloured; *L. prolifera* also has a deep bronzy tint, and *L. opaca* has a pale bronzy brown tint. These hardy varieties colour well when grown in warmth in the spring. In the *Pteris* family we have several good variegated varieties, but few with the tinted fronds. *P. aspericaulis* is the only striking variety with coloured fronds; it has deep bronzy brown fronds with a slight reddish tint when well exposed. It is nearly allied to *P. tricolor* and almost as beautiful, with the advantage of being much easier to manage. It should be grown in the stove, and in an elevated position where the damp will not settle on the fronds. *Woodwardia orientalis* may be included in the list of tinted Ferns; the bulbils, each of which has a tiny frondlet of a rosy tint, do not always develop the rosy tint, but I have seen them beautifully coloured. Most of the *Osmundas* are remarkable for the pale shade of green. *O. palustris* is an exception; it is one of our most beautiful greenhouse Ferns, graceful in habit, beautifully tinted with rosy red, and does not lose its fronds in winter.

Others might be added to this list of tinted Ferns. There are also those which have per-

manent colours, as in the *Gymnogrammas*, &c., to which I will refer in a future note.

A. HEMSLEY.

SEEDLING FERNS.

FREQUENTLY at this season of the year there may be found a considerable quantity of small seedling Ferns in the pots of other plants, or even on borders where the Ferns may have stood. If the stock of any kind is short, advantage should be taken of these young ones to replenish it, and it will be found far better to attend to this item of work now than defer it till the spring comes round. The young plants may not make much progress, but they will at any rate become established, starting away in the spring much more readily. Where the plants are large enough, they should be potted singly into small pots straight away, and if somewhat small they can be pricked off in seed-pans for a time. By looking after young plants in this way it is always possible to keep up the stock for decoration as plants or for cutting. It is also far better to do so than to depend upon the same plants from year to year. Some will decline under the best of culture in course of time, and it does not pay to attempt the restoration to health again of any kind that can be grown on from the seedling state in a short time. Some sorts, it is true, are not so easily obtained from spores; to these the foregoing remarks do not apply. When seedlings are not obtainable under natural conditions, then the well-ripened and fertile fronds should be searched out for the purpose. Some prefer to let these fronds lie on paper for a time after they are taken from the plant, but I cannot see any actual advantage in this. The idea is no doubt to ripen the spores, but this is not in any degree necessary. The better way is to prepare at once some pans (shallow ones by all possible means) and distribute the fronds over the surface fertile side downwards, and leave the rest to Nature for the time being. Later on, as the fronds decay and the spores are distributed on the surface, a covering of glass will be found desirable to prevent rapid evaporation, as well as to encourage a more speedy growth. The soil should consist chiefly of peat, and that not very fine, silver sand or rough sandstone being also good additions; a smooth, even surface even is not essential. Two or more species of one genus may be raised in the same pan without any trouble. By thus intermixing them there is always the possibility of obtaining something distinct, the fertilisation taking place, as most are aware, after the spores have made a further advance in the pans. It is in this way that new varieties are obtained by those who make it their special study. For raising a young stock it is better to start at once, it being a waste of time to leave it until the turn of the day.

FILICES.

GARDEN FLORA.

PLATE 937.

DIPLADENIA ATROPURPUREA.

(WITH A COLOURED PLATE.*)

THIS is an exceptionally good stove plant, which was first introduced from Brazil by Messrs. Veitch, of Exeter, and flowered by them in 1842, when they exhibited it before the Royal Horticultural Society, who awarded it the Banksian medal as a new plant of exceptional garden value. It was figured in several periodicals at that time, notably by Dr. Lindley in his *Botanical Register*, 1843, t. 29, where it is called *Echites atropurpurea*. It does not appear to have remained long in cultivation, notwithstanding the figures, medal, and its undoubted

* Drawn for THE GARDEN by H. G. Moon in Mr. Sauder's nursery at St. Albans, June 8, 1893. Lithographed and printed by Guillaume Severeys.



DIPLADENIA ATROPURPUREA

beauty, for we find no record of its having been in gardens for the last thirty years until it was re-introduced in 1889 by Mr. Russell Clarke, of Croydon, in whose garden it appeared as a waif upon a mass of imported Cattleyas. Mr. Clarke sent flowers of it to Kew, where it was identified with the plant figured by Lindley, and referred to its proper position under *Dipladenia*. A plant of it raised from a cutting received from Mr. Clarke flowered at Kew in 1890. The stock afterwards passed into the hands of Messrs. F. Sander and Co., St. Albans, who have exhibited beautifully flowered specimens of it during the last two years, and in whose nursery there is a large number of plants which have flowered profusely, even small plants blooming freely. A first-class certificate was awarded to it by the Royal Horticultural Society in June, 1892. It also received an award when exhibited under the name of *D. Marie Henriette* at one of the shows held at Earl's Court last year. It has also been called *D. atropurpurea* var. *Clarkei*, without, however, any good reason.

Most cultivators who have grown *Dipladenias* know how freely *D. boliviensis* grows and flowers compared with the other larger-flowered species, such as *D. Brearleyana*, which, whilst ranking with the most beautiful of all stove plants, are not good-natured under what may be called ordinary treatment. Luckily, *D. atropurpurea* is as well behaved in this respect as *D. boliviensis*, growing as freely and flowering as profusely as that species under the same treatment.

The size, form and rich colour of the flowers are well shown in Mr. Moon's drawing, and when it is understood that flowers such as these are produced by plants grown in 5-inch pots the value of this species will be readily seen. Cuttings of the shoots will root at any time. The first bit of the plant received at Kew was grafted on to *D. boliviensis*, and it formed a nice specimen by the following year, when it flowered. The shoots may be trained on to a balloon trellis or up a pillar, or they may be stopped freely so as to induce the plant to form a bushy, self-supporting little pot shrub. Sir Joseph Paxton grew it along with *Stephanotis*, a happy idea, the deep crimson of the *Dipladenia* and waxy white of the *Stephanotis* going well together.

Messrs. Sander and Co. have lately introduced two other new garden *Dipladenias*, viz., *D. illustris*, a handsome stove climber with a woody root-stock, annual climbing stems, leathery ovate leaves, and large rosy red flowers. This species flowered at Kew in 1891, and was figured in the *Botanical Magazine*, t. 7156. It was also offered in the same year among the new plants sent out by Mr. Bull. The second is an exceptionally beautiful species which is likely to become a favourite with growers of stove plants. It is a small-leaved, free-growing plant, bearing bunches of rich rosy red flowers, nearly as large as those of *D. atropurpurea*. It was recently named *D. eximia* by Mr. Hemsley, of Kew.

Whilst upon *Dipladenias* I might call attention to the excellent results I lately saw obtained from sowing the seeds of *Dipladenias* in a garden in Cornwall. I forget the name of the species, probably *D. Brearleyana*, but a pod of seeds produced by the plant had been sown, and from them a batch of seedlings of beautiful character had been raised. They were in vigorous health and flowering freely, the flowers showing considerable variation in size, form and colour. Evidently the seeds of garden *Dipladenias* are worth looking after. The other species of *Dipladenia* already figured

in THE GARDEN are *D. Brearleyana*, 1875, *D. profusa*, 1881, and *D. boliviensis* this year. There are some twenty-five species of *Dipladenia* known, and they are all natives of tropical South America. The genus *Mandevilla* is very closely related, a relationship which hybridisers might profitably take advantage of.

W. W.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

FORCING CARROTS.—There are few establishments where a supply of young and tender Carrots is not expected to be forthcoming as early as possible, and as at this season of the year there is generally an abundance of leaves, a bed may well be started at once. Where there are deep brick pits at disposal, these form the best places, as in these the heat is retained longer, that is when a depth of not less than 4 feet of well-trodden leaves can be provided. Failing brick pits for holding the leaves together, wattled hurdles may be used, using a little fresh stable litter so as to bind the bed together. It is also advisable to use a little stable litter in any case where leaves by themselves are not likely to generate warmth. The soil for surfacing should be fairly rich and friable, and to bring it to this state use sifted leaf-soil or old potting soil. A depth of 6 inches or 8 inches will be sufficient. The seeds should be sown in drills drawn 5 inches apart in preference to broadcast, and as the drills are drawn in, firm them with the back of a rake. The best variety for early forcing is the kind known as the French Forcing.

HORSE RADISH.—Although this is generally left undisturbed for years, with the result that there is a difficulty in securing a decent sized stick, yet with a little systematic management this may be overcome and a supply be at hand when needed. On some soils it may take two seasons to secure good-sized sticks, whilst in others this may be done in one season. In the case of a neglected bed a trench should be taken out to the depth of at least 2 feet, and then the whole be carefully forked over, taking care to break the roots as little as possible. The roots should now be sorted over, those of a usable size being laid in by themselves for immediate use, the others being reserved for planting. The best sets for planting are those thin roots a foot or so in length with a crown. The preparation of these can be done on a wet day. This will consist in rubbing off any side roots to within an inch of the bottom, either with a blunt knife or even with a piece of sacking. The site for the reception of the sets should be worked well over to the depth of 18 inches, mixing in some burnt refuse. If any rotten manure is added, this must not be placed nearer the surface than 15 inches, or forked roots will be the result. The roots should be inserted their full length, the crown being an inch or so below the surface. They are also best arranged in rows a foot or 18 inches apart, and 9 inches between the sets.

HORSE RADISH ON RAISED BEDS.—On cold or shallow soils excellent produce may be secured on raised beds. In this case a bed is thrown up, similar to a raised Asparagus bed, using plenty of decayed manure and burned garden refuse, especially the latter.

CARDOONS AND CHARDS.—After these become fully blanched they are apt to decay if left in the soil, but if this process is not yet fully completed, leave them a little longer, protecting the tops with a little long litter in case of severe frost. Those that are ready should as they are taken up have the bay-bands removed, also any decaying portions. Take them to a cool shed or cellar, standing them upright with some sand laid about the base of the stems or roots.

PROTECTING CELERY.—Celery is in fine condition this season, the weather having been most favourable for earthing up. Whether protection from frost will be needed will depend upon cir-

cumstances, for where the rows were set out at the distance apart as I advised in a former calendar, there would be ample soil for earthing up well. Celery highly fed is apt to decay rapidly. Celery which is well earthed will only require protection in case of a sharp and prolonged frost. In this case a layer of dry litter or Bracken may be laid along on each side of the row, a little of the longest being sprinkled lightly along the top, removing it again directly the frost has passed away. In low-lying districts where wet often causes injury from decay, a good plan is to lay a cap along the tops of the rows formed by having two thin boards fixed together thus \wedge . They must be so fixed that light and air may circulate freely.

GREEN MINT AND TARRAGON.—Both of these useful herbs may be forced readily enough in an intermediate temperature, and as they are always in demand a few clumps of Mint should be taken up and laid in boxes with a surfacing of rich soil. The growth will be more satisfactory if the roots are placed near the glass. Tarragon forces best if established in pots, but if no provision has been made, some roots must be taken up and placed in boxes. A. YOUNG.

ORCHIDS.

THE Orchid grower has time now to give more attention to the details of the work, such as cleaning the plants, the glass and woodwork; this I have generally impressed upon cultivators as being of more importance than many growers care to admit. As there is not much to be done in the way of repotting plants, we may well discuss the question why certain Orchids after a time have such a tendency to degenerate in most collections, and occasionally by mere chance, as it were, they will thrive well year after year when no particular care has been taken of them. One lovely and particular Orchid I would allude to because it is in flower now, *Vanda cœrulea*. For a few years after its introduction it grows freely either in the *Cattleya* house or the East India house, and produces its splendid spikes of large delicate blue flowers abundantly, with a score of blooms upon each, and two spikes on small plants. Why do the plants decline after producing these spikes pretty freely for a few years? I fancy because the *Cattleya* house is not the right place for them, and because the spikes of blooms, large indeed for the size of the plants, take too much out of them if the flowers are allowed to remain until they fade. I was proud of a batch of these plants some ten years ago, which were pictures of health in the *Cattleya* house, but which declined after the fourth and fifth years of their flowering. They were removed to the East India house temperature and placed at the coolest end of the house, and in a light position near the glass roof; they are again in good condition and flower well, but I cut the spikes off when the flowers have been open a week or less, and they are used as cut flowers in the house. The *V. suavis* and *V. tricolor* types have not this tendency to deteriorate in quality, but they have a tendency to go wrong in another direction, which is a considerable annoyance to cultivators, that is to lose several pairs of leaves sometimes every year or every alternate season. I think it is annoying to a degree to see the leaves gradually change from deep green to paler green, and at last lose their greenness altogether. The leaves generally go one, two or three pairs of them all at once, and when they are removed the plants go on all right again for another year or two, when the same disturbance in the life of the plants occurs. Doubtless every grower who has passed through this experience has felt greatly annoyed at it, and has asked himself the question, how is it? What is the reason? I have known the leaves go wrong after the spikes of flowers have been upon the plants for six weeks or more, and have felt inclined to blame the flowers for exhausting the plants, but here again is the fact that *Vandas* in some collections flower twice in a year, and retain their leaves well. I fancy the cause is probably owing to the plants being grown in an atmosphere that is too dry and a temperature higher than it

ought to be. Being East Indian plants, some growers have come to the conclusion that the warmest house is best for them, and also that they will do if very lightly shaded from the sun in summer; and herein are two grave errors made. One in keeping the plants too warm, and the other in not sufficiently shading them, two causes which might easily by themselves be the medium whereby the lower leaves fail to retain their vitality. I have tried them in various ways, and find the shady side of the Cattleya house suits them best, and even if the temperature falls below 50° the plants are not injured in the least, and never at any time should they be exposed to the sun so much as most of the Cattleyas and Lælias. At this season they are in a state of comparative rest, and should not be too freely watered. Let them rest until signs of growth appear early in the year; this is apparent by the tips of the roots assuming a green tint, while they are almost as brittle as glass, and the ends snap off at a touch. I ought to add that when the plants get bare at the lower parts of the stems to such an extent that they are really an eyesore, it may be better to cut them over, being careful to see that there are plenty of stem roots above where the cut is made. Sometimes growths will be made from the bare stems, which will in time cover them again, but cutting the top off causes the growths to start more freely. When it is time to repot the plants, which is in the early spring, the pots should be filled three parts of their depth with clean potsherds, large pieces at the bottom, smaller pieces at the top; put a layer of Sphagnum over the drainage, place the plants on it, and fill up amongst the roots with a compost of equal parts clean washed live Sphagnum and potsherds, with a few pieces of charcoal mixed with them, finishing off the top in the form of a mound like a molehill. After repotting, keep the surface always fairly moist, so that the Moss will grow, and it should be thus kept in a growing condition all through the summer without giving the plants too much water. The deciduous Calanthes are now pushing up their flower-spikes very freely; we allow them to remain in the warmest house until a few of the lower flowers upon the spikes are developed, when they are arranged in the Cattleya house amongst Ferns, which are useful to hide the bulbs and perhaps a few leaves which may be in a half-decayed state. They do not require a great deal of water—enough merely to keep the soil fairly moist. No manure water should be used now; this should only be used when the plants are in healthy, vigorous growth. The Pleiones are also in flower and are very pretty when they are arranged with Maiden-hair Ferns. The showy Cattleya labiata makes a fine display, and C. Bowringiana, although not so showy, lasts a long time in good condition.

It is pleasant, too, to see the long spikes of Lælia anceps rapidly rising up. See that the points of the spikes do not come into contact with the glass roof, as they may get injured in that way. As I write these lines the plants are being exposed to very damp, raw weather with fogs, which make things very unpleasant, and cultivators are fearful lest both their Orchid flowers and those yet in the bud state will be destroyed. The Phalaenopsis seem to be more easily injured than most others when in bud, and we can do nothing but look on and see the mischief done. Orchid cultivators who are within the radius of dense fogs do not take kindly to the patent ventilating apparatus which Mr. Toope has invented to save the blooms in the densest fogs—at least I have not yet heard of their doing so. It is a matter certainly deserving the attention of cultivators, as I believe Mr. Toope grows Orchids and preserves their flowers from injury by his method of filtering the air through charcoal and some other preparation, and this in an East-end district, where, to say the least of it, the conditions are not nearly so favourable as they are at the more open West-end. If anyone has had this ventilating arrangement fitted to his houses, he would certainly confer a boon by giving an account of it in the gardening press. Meantime we must do our best by keeping the houses shut up when dense fogs are on and ven-

tilate carefully at all seasons, being very careful in the dispersion of water by evaporation. The temperature of the cool house may now be 45° to 50° at night, with a rise of about 5° in the daytime; Cattleya house about 55° as a minimum, and the warmest house need not be more, especially on cold nights, than 60° to 65°. J. DOUGLAS.

PLANT HOUSES.

PREPARING PLANTS FOR CHRISTMAS.—Between now and the end of the year we have to deal with the most unpropitious part of the season. If forcing in any form is attempted it has to be done cautiously, otherwise the results will not be of a satisfactory character. To delay forwarding any particular class of plant for another week or two means that an undue amount of forcing will have to be attempted. I make use of the word "attempted," for failure may ensue where irrational methods are adopted. There should be at least a few days' interval between the time of a plant being forced into flower in heat and its use in a cooler house, otherwise it cannot be expected that it will last for any length of time in good condition. The probable demand, with a slight margin in advance thereof, should be anticipated, and steps be taken at once to meet it. In almost every establishment the needful supply at the coming season is above the average, and it will be a rare occurrence to find any excess therein. In some cases it may be found necessary to delay rather than to hasten on the stock of any given kind. Roman Hyacinths are in our case an instance of this; these, when potted or boxed early, are now showing their flower-spikes in cold frames. To have these either as a regular succession, which is our object, or *en masse* is only a question of comparative simple management. The mistake of deferring potting in the case of this useful and quite indispensable article is very palpable when the bulbs thus treated have to be afterwards forced into flower. In such cases it is absurd to lay the blame on the bulbs themselves. The Snowflake, Paper-white and Roman Narcissi will, if potted early, need but little inducement to flower at the right time, nor will the Duc Van Thol Tulips.

With Carnations also it is more a question of keeping in than of forcing into flower. Cold chills and winds ought to be guarded against, and aphides must be watched for; a gentle warmth in the pipes with ventilation to preserve a genial buoyant condition of the atmosphere will suit them. Bouvardias should have at least 5° more warmth (or a little more even than the Carnations); they will flower in less heat, but the secondary or lateral shoots will not be so freely produced. Poinsettias will require tact to keep them fresh until Christmas, a dry atmosphere, plenty of light, and a moderate stove temperature suiting them best. The old form and the double (P. plenissima) are the best sorts for the season now coming on. Euphorbia jacquiniæflora, where the growth has been well ripened, should come in about right under ordinary stove treatment. So also will Aphelandra aurantiaca Roezli, which is a beautiful plant for the time of year, well worthy of extended culture. Eranthemum pulchellum (invaluable in the winter) may if struck somewhat late, so as to have dwarf plants, require some little hastening to get it into bloom. A moist and warm house will suit this plant admirably; the spikes produced in heat and moisture are much finer than those from a cooler stove. Gesnera cinnabarina and G. exoniensis are extremely showy and valuable plants both in foliage and flower, but to cultivate them within the fog radius is only to court failure. Epiphyllum truncatum Russellianum vars. are the best for the end of the year. These should now be advancing into flower; a stove temperature is too much for them, but an intermediate house will suit them admirably. Plumbago coccinea and P. rosea look well enough on the plant, but in a cut state or in a cooler house whilst in flower they are comparatively useless. The shrubby winter-flowering Begonias are, however, invaluable; a cool stove fairly

dry will be the best place for them. The old kinds, as B. insignis and B. Knowsleyana, with the newer sorts, as B. Gloire de Sceaux and B. Gloire de Lorraine, are amongst the best of these. One advantage which these Begonias possess is that they light up well, at the same time putting up with exposure to other than a congenial atmosphere as well as most plants.

In the cool house the Epacris will be found at their best where managed as advised by the end of the year, and Erica hyemalis will also be then in full flower, if not so already. Look to it that in neither case the plants suffer from want of water. Both double and single forms of the Chinese Primrose will also come in useful in a month's time. Keep the plants now in as dry an atmosphere as possible, and close up to the glass to prevent the flower-spikes from lengthening out too much. Cyclamen persicum now in cool houses may require a little hastening to get them well into flower in time, but it must be done gently. Late Chrysanthemums are rather earlier this year than usual; these will require to be kept as cool as is possible, otherwise they will not keep fresh. Jasminum grandiflorum is one of the best cool house species for the winter; it flowers well as small bush plants, but better when allowed a free run to the roof. In a cut state it is an excellent substitute for the Stephanotis, being delightfully fragrant. Lasiandra macrantha floribunda, although classed as a cool house plant, does better with slightly more warmth and moisture; a fernery suits it well for flowering.

In the forcing house or pit Lilies of the Valley claim our first attention; these should be crowns, not clumps for this season; about twenty crowns in a 6-inch pot will make a good show. These should be brought on in a brisk heat with moisture, it being a good plan to cover the pots with cocoa fibre or Sphagnum Moss to keep the crowns constantly moist, otherwise they will not start all at once or in a kindly way. By putting in a good few pots at short intervals, it should not be any trouble to get a batch at the right time. Early Azaleas will be found useful for cutting, the white varieties being most in demand; of these the old white (A. indica) and A. Deutsche Perle are two of the best. The latter will often flower almost without any forcing. A. amoena, A. obtusa, and A. vittata elegans are the best early coloured sorts still. Lilac can be got into flower by Christmas if started in heat and moisture at once. A steady bottom-heat from a bed of leaves cannot be surpassed as an incentive to growth at this season of the year, Oak or Beech leaves being preferable.

From the open ground the Christmas Roses should now be lifted with good balls, and then be transferred to a cold frame from which the frost can just be excluded when desirable. Potting, &c., will not be requisite unless the plants are wanted in the conservatory or house when in flower; in fact they will be all the better if not so treated. JAMES HUDSON.

HARDY FRUITS.

APPLES.—Heavy crops of fine well-coloured fruit have been the order of the day, but unfortunately all have kept or are keeping badly. Getting rid of the bulk of the fruit of what should have been late in ripening may have been advisable in the case of market growers, though not so in private gardens, especially if a steady, light demand for ripe fruit is the rule. It will have been found that of the whole of the fruit, not more than one half in fact early became spotted or diseased, the rest keeping fairly well. Those, therefore, who have good-sized heaps of late varieties ought to carefully sort these over occasionally, turning out all that are diseased or decaying and keeping the rest as cool and dark as possible, short of exposing them to frosts. Thus treated, Cox's Orange Pippin, Blenheim Pippin, King of the Pippins, Margil, Adams' Pearmain, Beauty of Kent, and such like are keeping better than at one time thought probable. So many bushels of early and second early Apples have been

spoil this season, that many growers will have wished ere this that fewer of them and more of the later varieties had been grown, and if this experience tends to promote the more extensive planting of good later sorts than formerly, then this must be reckoned as a result of the unusually hot summer of 1893.

WALL CULTURE OF APPLES.—The specimens of Peasgood's Nonsuch that attracted so much attention at west of England shows, and were also awarded medals at different metropolitan meetings, were gathered from a tree trained against a high sunny wall. In this position the tree rarely ever fails to bear a crop of fine fruit, and other Apples succeed equally well under wall culture, the fruit invariably being large, of good form and well coloured. Those, therefore, who have wall space to spare and are anxious to grow prize-winning fruit, should cover it with Apple trees. They may be trained exactly the same as Pears, or as cordons, palmette verriers, horizontal, or fan shaped. The informal fan really appears to best meet the case, branches being simply laid in wherever there is good room for them. If no clear wall space can be given up to Apples, it might yet be possible to plant single cordons on the broad-leaved Paradise stock midway between Pear and Apple trees that do not fully occupy their allotted space. Peasgood's Nonsuch is much the finest Apple in cultivation, Warner's King for size, and other good qualities being the nearest approach to it—Belle Dubois or Gloria Mundi, Belle de Pontoise, Bismarck, Emperor Alexander, Golden Noble, King of Tompkins Co., Mère de Ménage, Potts' Seedling, The Queen, and New Hawthornden all likewise attaining a great size and perfection when the trees are given the benefit of wall culture. Lady Sudeley, an early dessert variety, is particularly handsome when grown against a wall, and so also are Beauty of Bath, Worcester Pearmain, Red Astrachan, Baumann's Winter Reinette, and other popular Apples.

ESPALIER FENCES, ARCHWAYS AND CORDON TRAINING.—In some parts of the country the good old plan of training Apple trees to espaliers is still in vogue, and, properly managed, they are remarkably productive. Fences, as advised for Pears on page 440, are suitable, the trees being horizontally trained. If grafted on the Pear stock the trees should be planted about 18 feet apart, those on the Paradise stock being arranged 10 feet apart. Apples are also well adapted for training over either small or continuous archways, and for these, single or two-branched cordons and palmette verriers, or what may be roughly termed six-branched cordons, are the best. Plant them so as to bring the branches not less than 1 foot apart. Horizontally-trained cordons are not gaining ground in fruit growers' estimation, these requiring to be frequently partially lifted and root-pruned to keep them in a productive state. These should be on a dwarfing stock, single cordons being planted 6 feet apart, and doubles, or those with branches for training right and left, 12 feet apart, all being trained to a single strong wire strained from 18 inches to 30 inches from the ground. A single line may fringe a walk, and sometimes three lines of trees are planted in these positions, a distance of 18 inches dividing the rows, the back row being the highest and the front the lowest. When these low cordons are properly managed, this including protection from frosts when in bloom, very heavy crops of fine fruit are frequently obtained from them.

BUSHES AND PYRAMIDS.—Apples can be grown in a pyramidal form, but not so readily as Pears, and bushes are the least trouble and the most profitable in the end. The majority received from nurserymen are of pyramidal form, but they can easily be converted into bushes by simply cutting out the centre. Trees on dwarfing stocks are naturally the first to produce crops of fruit, but for real service those on the Crab stock are greatly to be preferred. The former may be planted 6 feet apart, but if the latter are to be allowed to grow freely with a view to eventually taking bushels of fruit at one time from them, they ought to be disposed 16 feet apart, and half that distance from

the walks. Good cooking varieties for either espaliers, cordon training, pyramids, or bushes will be found in Manks Codlin, Lord Suffield, Ecklinville, Duchess of Oldenburg, Lord Grosvenor, Lord Derby, Stirling Castle, Frogmore Prolific, Beauty of Kent, Peasgood's Nonsuch, Tower of Glamis, Warner's King, Domino, Cox's Pomona, Bramley's Seedling, Prince Albert, Wellington, and Northern Greening. Dessert varieties suitable for similar purposes are Beauty of Bath, Red Astrachan, Lady Sudeley, Worcester Pearmain, King of Pippins, Cox's Orange Pippin, Margil, Ross Nonpareil, Adams' Pearmain, Braddick's Nonpareil, Scarlet Nonpareil, Court Pendu Plat, Claygate Pearmain, Lord Burghley, Sturmer Pippin, Duke of Devonshire, Cockle Pippin, and Cornish Gilliflower.

ORCHARD TREES.—These have been most extensively planted of late years, and a few standards ought to be found room for in most places, as these sometimes produce extra heavy crops of serviceable fruit. In orchards devoted entirely to standards the trees are usually disposed 20 feet apart each way, but if there is to be an undergrowth of pyramids, bushes, and small fruits generally, then ought the standards to be arranged about 25 feet apart. Not many comparatively large trees of popular varieties are to be found in nurseries nowadays, and this is a matter for congratulation rather than regret, young trees really being the first to arrive at a large and serviceable size. Cooking varieties for orchard culture are as follows: Early July or Duchess of Oldenburg, Ecklinville Seedling, Golden Noble, Pott's Seedling, Cox's Pomona, Emperor Alexander, Hambleton Deux Ans, Hoary Morning, Lemon Pippin, Loddington, Lord Grosvenor, Reinette du Canada, Bramley's Seedling, Prince Albert, Wellington, Beauty of Kent, and French Crab; while suitable dessert varieties will be found in Lady Sudeley, King of Pippins, Cox's Orange Pippin, d'Arcy Spice, London Pippin, Claygate Pearmain, Gascoigne's Scarlet, Wyken Pippin, Baumann's Reinette, Winter Queening, Sturmer Pippin, and Blenheim Pippin.

W. IGGULDEN.

FLOWER GARDEN.

NELUMBIUMS HARDY IN ENGLAND.

WHATEVER "W. W." may write is always suggestive and well worthy of attention, but has he himself seen, heard of, or grown any species of Nelumbium in the open air in a cold water pond in this country? Having seen Nelumbium speciosum grown in tanks, tubs, ponds, canals, and even in swamps and ditches in the tropics, I know something of its grace of habit and of form, and much admire its superb colouring, and I should be extremely glad to see the plant established in a pond or tank in either England or Ireland. In the late Mr. Whampoa's celebrated garden at Singapore a canal 100 yards long or more was full of Nelumbiums, Nymphæas, and Victoria regia, and to see their flowers at sunrise was a sight long to be remembered. The success achieved in several of the Northern States of America is very encouraging so far as it goes, and that these plants will withstand cold equalling that of our most severe winters seems beyond a doubt. The main point in the struggle, however, is summer heat and sunlight rather than the winter's severity, and if we compare our average or mean summer temperature and sunlight with that of Paris or New Jersey, I am afraid we shall find that these factors will be against our doing likewise with Nelumbiums in this country. Could we make sure of a succession of such sub-tropical summers as that through which we have just passed, I should feel much more sanguine of success,

but such seasons in a continual sequence are too much to hope for, nor would they be altogether desirable for us generally speaking, however good they might be for these and other beautiful aquatic plants. One of the most successful attempts at growing Nelumbiums in the open air I know of was that of N. luteum in the round tank in the Jardin des Plantes at Paris. For years the plant flowered every summer, but in winter a glass roof was placed over it, and this protection was augmented by other coverings during frosty weather. This is the only species of Nelumbium I ever heard of as blooming "in the open air" at any time and enduring a northern winter in a cold water tank, but there are other instances, and I should be very pleased to hear of many more of them. In the "Transactions of the Royal Horticultural Society," vol. vi., p. 535, there is a very interesting paper read in 1826 relating to the culture of N. speciosum and N. luteum in Northern Italy, and this paper deserves the notice of all interested in these plants. The author, Mr. Joseph Clare, is very sanguine, and his experiments taught him the futility of trying to grow Nelumbiums from seeds in tubs or other small vessels in which the water is apt to stagnate and become infested with confervæ, and so the plants eventually dwindle away. By putting seeds in a large pot of earth, however, and plunging this into a small stone basin in which there was a fountain always playing, the water from which supplied another garden, and thus was always running, under these conditions the seedlings "flourished very much, throwing up leaves 2 feet wide, with abundance of flowers, and they ripened a great quantity of seeds. These plants, though left every winter in the open air, have since (1822 to 1826) continued to bear abundantly." This success, however, was obtained under an Italian sky, the summer temperature being for some weeks during the year 1822 at 93° in the shade. In the following winter the thermometer was at 25° Fahr. below the freezing point for above a month. Now all that this experiment really proves is that Nelumbiums will thrive in N. Italy in a cold water tank, as assisted by a splendid summer climate of 93° in the shade, and that as so cultivated their rhizomes will live through a month's frost or more with the thermometer at 25° below freezing point. We are not told if any snow lies over the ice in Italy, but in the United States this is the rule; hence, the aquatics as grown there are practically protected during winter by Nature in America as they are by man in Paris, i.e., isolated from external fluctuations of light, and heat or cold. Mr. Clare seems disposed to attach much importance to a constant inflow of fresh water wherever these plants are grown, at least during the summer months, and as an example he mentions that N. luteum as grown in a tub in the Pavia Botanic Garden never flowered until the tub leaked, and to replenish it a tap of running water was turned on to it, when "the plant sent up flowers and ripened seeds in that same year." Mr. Clare distinctly tells us that "all Nelumbiums require is fresh water and a long and warm summer; they are not afflicted by the severest frost of winter." In Northern China we are told the Nelumbium is cultivated in every available wet ditch, or marsh and swamp, its seeds and fleshy rhizomes being edible and highly esteemed in Chinese cookery, its deliciously fragrant flowers are in great demand for decorative and votive uses, while its petioles and leaves are devoted to medicine. The moats and ditches under the walls of Peking are full

of these flowers during the warm months, but in winter the ice is so thick and firm that carts can cross.

The seeds of *Nelumbiums* are said by Mr. Lee to grow after being kept for forty years, but I should prefer fresh ones, and plenty of them in order to make experiments as suggested by "W. W." Seeing that many good cultivators of these flowers have failed with them from seed and otherwise, even in hot houses expressly fitted with every convenience for their reception, it may be that a lack of a sufficiently copious supply of fresh or running water is one of the causes of such failure. It is well known that water, if at first quite free apparently from aquatic vegetation, soon becomes infested with chara, confervæ, &c., or otherwise it becomes vitiated and stagnant, both results or either result being inimical, and hence we may thank Mr. Clare for his experience and records in this direction as likely to lead us to better practical success. In endeavouring to naturalise *Nelumbiums* it would be well to begin with the very hardiest varieties or forms, and these are not always easy to procure. In Northern China, as also in Japan, where hard winters occur, we are told that there are numerous hardier kinds than those familiar in most tropical countries nearer to the line, and we should welcome any information as to whence and how these kinds may best be obtainable say in April or May of next year. Our American friends could doubtless send us seeds in quantity of *N. luteum* from its coldest limits in the Northern States. This species was introduced in 1810, and was flowered first in England by Mr. Miller, of the Durdham Down nursery at Bristol, who grew it in a warm plant house or stove.

N. luteum inhabits, we are told, the swamps, lakes, and slow rivers from New Jersey to Eastern Florida, extending inland to Louisiana. Michaux met with it in Illinois, and it was at one time introduced into the Brobston meadows near Philadelphia. A coloured figure and description of *N. luteum* as flowered at Bristol in 1839 are given in Maund's "The Botanist," vol. i., for that year. It has more recently been flowered in a tub by Mr. Lynch, of the Cambridge Botanic Gardens, and possibly elsewhere.

There is a hardy form of *Nelumbium* mentioned as having been seen by Pallas growing in great abundance near Astrakan and at the mouth of the Volga, and he says that a very fragrant water or perfume is made from its flowers. This plant has been called *N. caspicum*, but it is now regarded as a European or hardy variety of the eastern *N. speciosum*.

The open question still remains: Is it possible to establish any species or variety of *Nelumbium* in an open-air cold-water pond anywhere in the British Isles?

If I can obtain seeds in quantity, I shall begin the experiment next April or May, by cutting the hard testæ a little, enclosing the seeds themselves in lumps of adhesive earth or clay, and then boldly flinging them into the rich mud of our little Water Lily pond. Others I may try in tubs near to a tap or pump spout, as suggested by the extracts given above. Baron Von Mueller tells us that the ancient Egyptian method of sowing was to enclose the seeds in balls of muddy clay and chaff, which were then sunk in the water where the plants were desired to grow.

So far I have spoken of water under its natural climatic conditions, but wherever tanks or ponds are heated either by hot water running into them, or by hot water or steam-pipes running through them, then I should say *Nelumbium* and half hardy *Nymphæa* culture

ought to be a comparatively easy matter. Even a brick or concrete tank 2 feet deep and well sheltered from wind in the hottest and sunniest corner of a yard would be warmer and so better for this kind of experiment than a deeper pond in more exposed positions. A good deal has been said from time to time in THE GARDEN on cold, i.e., unheated, greenhouses for the culture of choice half-hardy things, such as Sikkim Rhododendrons, Magnolias, rare Lilies, Bamboos, Australian Tree Ferns, Fan Palms, &c., but there also seems a future looming upwards for cold houses for the growth of half-hardy aquatics such as the choicest of hybrid *Nymphæas* and these exquisite *Nelumbiums*. When at Newry lately I saw such a house built expressly for Water Lilies by Mr. T. Smith, and in which *Nymphæas*, *Sarracenias*, *Sagittarias*, &c., were growing well. One great advantage possessed by such glass-roofed and wall-sheltered tanks is that the plants are more immediately under the eyes and hands of the cultivator than when in a deep open-air pond exposed to all natural vicissitudes of climate and other, as it may be, adverse conditions.

"W. W." deserves the thanks of all who are interested in rare and choice aquatics for his able and persistent advocacy of their claims. My own views on naturalising *Nelumbiums* would be more sanguine if our mean summer records of temperature and sunshine were some few degrees higher than they generally are. But the greater the difficulties, the greater will be the satisfaction of whoever first establishes these beautiful flowers in our ponds or streams.

F. W. B.

NOTES ON HARDY PLANTS.

Aster puniceus.—I believe there are more varieties of this very beautiful species than have as yet found their way into the Chiswick Gardens, or, in other words, to the notice of the members of the Aster conference. I have seen flowers from more than one garden where they have been grown without a knowledge of the name of the plant, and in one case especially the flowers were really beautiful. I have them now standing in a vase with a few Catherine Mermet Roses, and I never saw a vase of flowers more beautiful. The conspicuous red stems of the Aster, the feathery effect of the heads sustained by bract-like leaves of a pale green, and the manner in which the panicles are set up render this Aster invaluable for cutting. I believe all the varieties of *puniceus* are useful, whilst a few are among the best of the Michaelmas Daisies. To call all the best varieties by name is as yet, I believe, impossible, but, thanks to the Aster committee, we know two by name that are worth securing, namely, *A. puniceus* var. *lucidulus*, the habit branching, stems purple, very leafy, flowers 1½ inches in diameter, pale lilac, height 5½ feet; also *A. puniceus* *pulcherrimus*, bushy, spreading habit, stems dark purple, flowers white, tinged with lilac, rays reflexed, height 5 feet. Some of the Asters are over-praised, but the best varieties of this species are not so. As I have often said before, the scientific names are useful, but very often the varieties of a species are superior to the type, and to one seeking flowers for their floral worth, all will depend on making the selection.

Solidago californica.—Personally I do not know this plant, but a friend having sent me seed with the note, "Saved from a plant raised from seed collected at Banff Springs, Canadian Rocky Mountains," I take it in hand with great pleasure, and the reason why I do so when given may possibly be useful. The seeds sent me are unpicked, that is in the form of the growing panicle, and, judging from this, the plant must be worth growing for its autumn effect alone. The fluffy clusters of seeds are, to my mind, a garden ornament equal

to white flowers. I mention this because I know few people care to grow the Golden Rods, and often the genus is passed by without a thought, but for garden purposes some of the *Solidagos* are useful.

Synthrysis reniforme.—This somewhat uncommon plant is quite green, pushing fresh flowers when others are going down. With a little protection I have had it in bloom all winter. True, its flowers are small, but they are of a pretty blue, and the short spikes have a delicate effect. The whole plant is characterised by neatness, and its hardiness is well proved.

Plumbago Larpentæ.—It is quite clear that the flowering of this plant is entirely a question of suitable weather or climate. Since my last note about it, the weather has kept exceptionally fine and favourable, and the result is that the flowers have come out well, and just now among the dwarfier subjects it is the belle of the garden.

Aster diffusus var. *horizontalis*.—It seems that there are two distinct varieties or sub-varieties of this, not reckoning the variety *pendulus*—syn. *Nondescript*. Both have the same twiggy, rigid, densely bushy and horizontal habit, but one has much redder or, more strictly speaking, brown-red flowers than the other. I merely draw attention to this because, though the distinction is very clear, both the plants cannot yet have received notice, as one may judge from the report of the Aster committee.

Lychnis vespertina plena.—My oldest and largest plant of this, in the latter end of October, is a mass of big white, sweetly-scented double flowers. On the same plant there has been a profuse succession of blossom ever since June. It is supposed to be a well-known plant, and if so, why is it not more cultivated? Each flower resembles a double white *Primula sinensis*, but nearly twice the size. So double are the flowers, that none of the seminal organs or rudiments of them can be seen. The plant has a straggling habit, but if set in an out-of-the-way corner sheltered from wind, it would prove a most useful thing for those who like table and button-hole flowers.

Veronica epacridea.—I thought I had in this one of the freer-flowering, dwarf, conifer-like species, and because of that I was inclined to forgive it for being a little more tender than other kinds. Patience, however, must have an end even with plants. After watching it for blossom all the sunny season of 1893 I give it up as hopeless. No flowers have appeared, and as it cannot take care of itself in winter, I for one shall let it go.

Senecio pulcher.—Notwithstanding the fine season and a good position in the garden, plants of this are only yet showing their flowering stems, and the heads might open and dazzle our eyes with their rich colour if we could have another month of fine weather, an almost unreasonable thing to expect after what we have had. Doubtless this plant requires to be brought on under glass in early summer, at least for these northern parts.

Romneya Coulteri.—No plant so well exemplifies the varied climatic conditions of our little isle as this. In some of the more favoured spots in the south, on the west coast, and on the chalk formations, it may be grown year after year without winter protection, but in my own district it is very far indeed from hardy, so that possibly the more favoured districts referred to may be just about the maximum extent of its hardiness, or the conditions under which it may be left out of doors in winter. Still, we should not forget that very often the climate which is warmer, drier, and otherwise more favourable for a plant in winter is the climate that would better ripen or mature the plant and fortify it against the winter season. I fear there is another drawback in connection with this plant than its want of hardiness for general use, that of being a spare bloomer under some circumstances, and such circumstances as many of us would not imagine would be fatal to flowering. The finest plant I ever saw was in the sunny garden of Mrs. Acton, of Wrexham, where the soil is light and rich, and where the position afforded for the

plant one would have thought should have exactly suited it; anyhow the position was where the plant had thriven for two years, and attained a diameter of 3 feet to 4 feet, and still even in this sunny year of 1893 it had failed to produce a single flower. Possibly the points might have been sunburnt. Many, I know, would imagine this at once, but as I have some idea of the great care with which plants are tended in the garden in question, and especially the Romneya Coulteri plant, I do not think that drought would be the cause of no flowers. In other gardens, too, I have heard complaints of no flowers, though the plants have been strong and woody at the base, so, as I take it, indicating a state of maturity in regard to age. The plant is becoming more common now, but, so far as I have seen, mistakes are made in planting it now, and it will only be with great care that it will keep alive through the winter. It would certainly be unnecessary risk to set out young plants, however strong in the autumn. I should not do so until April or May; in no sense would there be any loss of time by so doing, but a gain if kept in a cool greenhouse near the glass.

Androsace sarmentosa.—I saw this splendidly grown in the gardens of Mr. F. A. Sturge, Coed Efa, and it struck me as being well adapted for the wall garden, where, by means of its stolons, it draped the face of the stones with its soft grey rosettes in masses. The wall in question was not a mere dry structure, but a retaining wall, on the higher side of which it was filled up level with earth. This sort of wall, as I have before pointed out, is a very different medium for plant culture to the common narrow and dry fence wall. The former gets by capillary attraction nearly as much natural moisture as the soil itself; whilst the latter practically gets none, especially if more than 3 feet high. On a wall of the character indicated, this plant is highly decorative when not in flower. I was much struck with the way in which it grows in the climate of North Wales. The patches are not long in growing to a diameter of 2 feet or 3 feet. It is distinctly a lime lover. It may be grown without lime, but it is infinitely better with it and plenty of it in the form of limestone chips.

Spigelia marilandica.—I should consider this a plant certainly needing some special treatment about this time in the way of protection. It is never a vigorous grower and it certainly does not endure very severe frosts without injury. To plants in pots I would afford the protection of a cold frame, plunging the pots in such frame until spring and keeping them a good distance down from the glass. To plants in the open I would give a mulching of 2 inches or 3 inches of cocoa-nut fibre, and in addition a small armful of Bracken lightly disposed and secured against the wind by a peg or two. It is very much with this plant to-day as it was in Miller's time—a scarce thing, and scarcely kept in this country but by frequent importations. J. WOOD.

Woodville, Kirkstall.

Hardy bedding Fuchsias.—Absence from home has prevented my replying to Mr. Burrell's inquiry about these at p. 255. The Fuchsia I referred to is a kind that used to be grown in pots many years ago. It has a long red flower, foliage reddish green, the habit drooping and very dwarf. It makes a good bed, and has occupied the same place for several years. I grow both the Tobacco and Hyacinthus candicans amongst it, and find the same treatment answers for all. The bed is on a raised site, thus rendering it comparatively dry.—J. CROOK, Forde Abbey.

Notes on Violets.—The remarks of "M. H. F." as to Violets suffering from red spider this season are applicable to this district also. Of course, the single varieties are not grown hereabouts for market, but the double varieties, now found in all gardens of any pretension, are much affected by this pest, several batches I have seen being fit for nothing but the rubbish heap. Where the plants are grown on open quarters fully exposed to the

summer sun, it is next to impossible to deal with this enemy, especially if the subsoil is of a gravelly or porous nature. My plants occupy an east corner of the garden, and are surrounded by tolerably high walls; this allows the sun to play upon them for a few hours in the morning, which strengthens without distressing them. After the rooted runners are pricked out in May they are screened by small Spruce twigs, placed at intervals throughout the beds until established, afterwards well mulched with spent Mushroom manure and thoroughly watered on alternate evenings. At intervals of a fortnight a handful of flowers of sulphur is mixed with the water. This further aids in warding off red spider. As I have no other plot so suitable for Violets, I biennially renew the border with rough leaf-mould, the edgings of

and simply a mass of various coloured flowers, ranging from rose to pure white. This variety would make a charming edging to a large bed, or even a group by itself would be pleasing in late autumn. It is as free in bloom as the taller growing *A. cordifolius*, now smothered with the small white flowers.

SINGLE CACTUS DAHLIAS.

THE single Cactus Dahlia, which is well represented in the accompanying engraving, the electro having been kindly sent us by Messrs. Dobbie, of Rothesay, we understand originated with Mr. E. J. Lowe, Shirenewton Hall, Chestow, and is the result of much careful selection.

For the last two seasons single Cactus Dahlias have been grown largely by Messrs. Dobbie, of Rothesay, and Messrs. Keynes, Williams and Co., of Salisbury. The former firm has on several occasions set up beautiful groups of them before the committee of the Royal Horticultural Society. The single Cactus Dahlia will be sure to command favour with those whose notions are not too conventional, and if care is taken not to send out inferior varieties it will to some extent displace the circular type of singles. Already there are several really good varieties of the new type in the market. Guy Mannering is a creamy white, valuable either for cutting or garden decoration; the blooms stand 9 inches clear of the plant; Ivanhoe, pink, of a fine incurved form, the plants not more than 30 inches high; Meg Merrilies, an exquisite yellow flower, very attractive and beautiful.

One of the most beautiful features of these varieties is that they are not flat, but are rather incurved in form, the points of the petals being twisted. The most desirable qualities would seem to be good substance, bright distinct colours and a stiff foot-stalk, which would serve the double purpose of keeping the flower erect after it is cut and of holding it well above the foliage when growing. These qualities we hope raisers will keep in view. Dwarfness of habit is also another point which would be a decided advantage. We do not mean like the Tom Thumb varieties, but somewhere between 30 inches and 3 feet. During next season these new Dahlias are certain to obtain an extensive trial, and by this time next year growers will be able to speak of their merits.



Single Cactus Dahlias.

FLOWER GARDEN NOTES.

walks and drives, and horse manure, incorporating these thoroughly with the staple soil. This is as good as changing the site. I would draw the attention of growers to that most excellent variety Lady Home Campbell. It has a large pale blue flower, similar to the old Neapolitan, but is a better doer than that variety. The plant is most vigorous, standing the worst fogs with impunity, which cannot be said of Marie Louise. The flowers are very fragrant, and although not usually produced until early spring, are none the less valuable on that account. It is quite useless taking stock from plants infested with spider; such are better consigned to the rubbish heap, and fresh runners secured from another source.—JOHN CRAWFORD, Coddington Hall, Newark.

A dwarf Aster.—A very dwarf Aster worth a note now is *A. versicolor nanus*. It is one of the dwarfiest of the family, only a few inches in height,

is the re-arrangement and partial replanting of a long herbaceous border, and this, already in hand, will be pushed forward rapidly in order to complete it if possible before the advent of severe frosts. The border in question has been the receptacle for all sorts of herbaceous subjects, odds and ends, and bits of special favourites that have come to hand from time to time, and as a consequence is somewhat mixed; the aim, therefore, in the re-arrangement is to plant all subjects in sufficient quantity to get a good display from each. I noted above partial replanting, and this is so, so far as the present time is concerned, because several things, notably Pentstemons, Snapdragons, and early-flowering Chrysanthemums, will not be planted until the spring of 1894. The border is about 400 feet long by 8 feet wide, the width being sufficient to allow a depth of three clumps, if these are worked at an angle behind the front row. The annual

mulching this border has received from a heap of rough manure has given us 2 inches of nice soil that will work in well with the natural soil of the border, and this being rather on the light side, a compost of a rather heavier nature will be added as the work progresses for the benefit of those plants that may require it. I find the batch of cuttings of new tufted Pansies that were put in early in August come in admirably for occasional front row clumps; they are so managed in their respective colours as to contrast well with other things, preference being given to decided colours, whether in the light or dark shades, and to varieties of dwarf, compact habit. With the tufted Pansies will be associated such things as Ernest Ladhams, Her Majesty, and Pheasant-eyed Pinks, and an occasional clump of a good border Carnation, *Iris pumila* in variety, and some of the dwarfer Veronicas and Campanulas. In noting a few things that will be used either in the front, centre or back of border it may be added that they are not supposed to represent all that will be utilised, or that they are so much superior to other things, only that they are typical of the several heights of the different clumps in their respective positions. A few clumps of a good Star Daffodil that was planted three years ago so that a good batch of these flowers would be close at hand for quick cutting will not be disturbed, as so soon as the foliage dies down the ground can be covered with some summer-flowering tender plant that will harmonise well with its surroundings. The spaces required for those things at present in the cutting stage alluded to above will be required chiefly in the central portion of the border, and the necessary room will therefore be reserved. Other things, however, adapted for present planting will be *Spiræas*, *Iris*, *Funkias*, *Heimerocallis*, *Pyrethrums* in variety, specialities such as *Gypsophila paniculata*, two varieties of Sea Lavender, and such Starworts of medium height as *acris*, *Amellus major*, and *ericoides*. Any varieties possessing decided rambling tendencies in the matter of root action will be excluded, as also nearly all plants with similar characteristics, such, for instance, as the Japanese *Anemone*. Their proper place is in sites where they can have a wide range without trespassing on other things. There is not such a choice of subjects for the back clumps of the border, that is, to ensure a variety of colour, although a judicious selection of the taller Starworts, with a few *Helianthus*, will furnish a good display. It will be advisable to alternate these things with earlier-flowering subjects, as *Delphiniums*, and then there will be no large bare gaps for any length of time starting from the first display of flower. This, indeed, is a matter for consideration in all planting of herbaceous things where the general effect of the border and a long-sustained display of flowers are to be special features. A mulching from a heap of rough manure, breaking this well to pieces with the fork for the benefit of the smaller plants, will complete the work.

BORDER CARNATIONS.—That the good work already performed in the way of popularising these flowers has resulted in a much improved race is well known, and yet intending planters to whom they are a comparative novelty may well be warned against accepting many varieties that are put forward in some catalogues as specially good things, instead of holding fast by tried sorts that have been certified to in THE GARDEN pages as possessing all the necessary qualifications of good border varieties. For instance, chatting the other day with an acquaintance who had recently made a Carnation planting I said, "You have of course included such representative sorts as Countess of Paris, Mrs. Reynolds Hole, Ketton Rose and Murillo that cannot be beaten in their respective colours?" "No," was the answer; "so far as Countess is concerned, I was informed it would not do out of doors, and for the others I have decided improvements on them." Now the vendor in this case could not possibly have tried Countess of Paris outside or he would not have made such an assertion, and as for the improvements on my old favourites, all I can say is when they are at their best next

year, may I be there to see and note. Besides Ferns in variety, the indispensable *Asparagus plumosus* and the trailing *Smilax*, anything in the way of greenery is acceptable through the winter months where a lot of cut flowers is required, and a batch of scented-leaf *Pelargoniums* in pots is just now very useful. The varieties *denticulatum majus* and the small *quercifolium* were growing with others in the open, and were carefully lifted and potted before the appearance of frost. With an eye to increased material in this way for another summer, an occasional plant of *Tamarix gallica* may fill up an odd corner in the shrubbery; also one or two pieces of *Taxodium distichum*. This latter may be kept to the required height by the use of the knife, and makes a handsome shrub-like tree with plenty of its very delicate foliage always available. E. BURRELL.

Claremont.

Dictamnus giganteus.—I have read with interest Mr. J. Wood's note on this plant. I believe the *Dictamnus* which passes under this name is

unhappy one, as it usually is when applied to flowers, giving generally the idea of ungainliness, but the plant is certainly much more robust and has finer flowers than *D. Fraxinella*. Grown under the same conditions as *D. Fraxinella*, *D. giganteus* is considerably taller and the leaves are much broader; the flowers are also a little lighter in colour than those of *D. Fraxinella*. Even in the seedling stage young plants of *D. giganteus* are more robust than are those of the ordinary *Dittany*. They require good treatment, however, to bring them to a flowering size.—S. ARNOTT, *Rosedene, Carsethorn, Dumfries.*

A SELECTION OF MICHAELMAS DAISIES.

I SUBMIT a brief descriptive list of choice Michaelmas Daisies as verified by the recent Royal Horticultural Society Aster Conference. I employ their nomenclature, and it may be seen that this short enumeration embraces the cream of those marked by the committee XXX. Of course the more distinct types or species are not

NAMES.	COLOUR.	SIZE.	DATE OF BLOOMING.	HABIT AND STATURE.	REMARKS.
<i>Aster acris dracunculoides</i>	sheeny dark purple	small	Sep.	bushy panicles, 3 to 4 ft.	effective.
nanus	"	"	Sep. to Oct.	bushy panicles, 1 to 1½ ft.	fine.
<i>Amellus amelloides</i>	dark purple	2 to 2½ in.	Sep.	bushy, 2 ft.	one of the best blues.
<i>hesarabicus</i>	lilac-purple	"	"	"	"
<i>amethystinus</i>	amethystine-blue	1 in.	Oct.	3 to 4 ft.	effective.
<i>cordifolius</i> Diaua.....	pale, but sheeny lilac	small	"	erect, very bushy, 4 ft.	exceedingly beautiful, new.
<i>elegans</i>	bright lilac	"	Sep.	erect, very bushy heads, 4 ft.	most useful.
<i>diffusus horizontalis</i>	brownish-red	"	Oct.	horizontally and densely bushy, 2 ft.	neat and pleasing.
<i>ericoides</i>	white	"	"	bushy panicles, 2½ ft.	pretty.
<i>grandiflorus</i>	blue-purple	2 in.	"	branching, 2 ft.	very good.
<i>lævis</i> Apollo	deep lilac	1½ in.	Aug.	sparsely branched, 5 ft.	"
<i>Arcturus</i>	rosy-lilac	"	Aug. and Sep.	sparsely branched, 4 ft.	fine.
<i>decorus</i>	pinky-lilac	"	Sep.	dense, 3½ ft.	effective.
<i>Flora</i>	rich lilac	"	Oct.	free, 5 ft.	"
<i>floribundus</i>	rosy-purple	1 to 1½ in.	Sep.	sparsely branched, 4½ ft.	"
<i>formosissimus</i>	rosy-lilac	1½ in.	"	slender, 4½ ft.	"
<i>June</i>	rich purple	1 to 1½ in.	"	bushy, 5 ft.	"
<i>Pygmalion</i>	bright lilac	"	Aug. and Sep.	dense, 2 ft.	"
<i>multiflorus</i>	white	small	Sep.	one-sided, branched, 3 ft.	"
<i>Novæ Angliæ pulchellus</i> ..	deep violet	1½ to 2 in.	Oct.	robust, 4½ ft.	splendid.
<i>præcox</i>	rich purple	2 in.	Aug. and Sep.	" 3½ ft.	most desirable.
<i>rosæus</i>	pale rose	"	Sep. and Oct.	" 5 ft.	"
<i>ruber</i>	deep rich rose	1½ to 2 in.	"	" 4½ ft.	one of the best.
<i>Novi-Belgiæ derisus</i>	lilac-purple	1 to 1½ in.	"	very bushy, 3 ft.	extremely effective.
<i>Harpur Crewe</i>	white, rose-tinted	1 to 2 in.	Sep.	slender, branched, 4 ft.	very desirable.
<i>Janus</i>	white to rosy-purple	1 to 1½ in.	Aug. and Sep.	slender, branched, 5 ft.	"
<i>John Wood</i>	white	"	Sep. and Oct.	fine shrubby habit, 3 ft.	splendid bouquet material.
<i>lævigatus</i>	deep rose	1 in.	Aug. and Sep.	densely bushy, flowers crowded, 2 ft.	most pleasing.
<i>ranus</i> (syn., <i>hybridus</i>)	rose	small	Sep.	branching, 1 ft.	a charming rock plant.
<i>Purity</i>	white	1 to 2 in.	Aug. and Sep.	robust, 5 ft.	"
<i>Robert Parker</i>	lilac-purple	1½ to 2 in.	Sep. and Oct.	bushy, 5 ft.	fine.
<i>paniculatus</i> W. J. Grant ..	pale mauve	medium	Sep.	free branching, 3½ ft.	a graceful variety.
<i>ptarmicoides</i>	white	small	Aug. to Oct.	slender, bushy, 1½ ft.	"
<i>punicæ pulcherrimus</i>	lilac, tinged white	1½ in.	Sep. and Oct.	robust and bushy, 5 ft.	a silvery beauty.
<i>spectabilis</i>	dark blue-purple	1½ to 2 in.	Aug. to Oct.	spreading, 2 ft.	notable for deep rich colour of heads.
<i>Thomsoni</i>	silvery-mauve	2 to 2½ in.	Aug. to Nov.	branching, 1½ ft.	a gem.
<i>Tradescanti</i>	white	small	Aug. to Oct.	profusely branched, 3 ft.	"
<i>umbellatus</i>	creamy white	"	Aug. to Sep.	Willow-like, 5 to 7 ft.	beautiful when established by ditch or pond-side.
<i>versicolor</i> (syn., <i>discolor minor</i>).....	white, changing to rose and further deepening to purple	1 in.	Sep.	twiggy, 6 to 18 in.	a dainty rockery subject.
<i>versicolor</i> <i>Antigone</i> (syn., <i>discolor major</i>).....	"	"	"	robust, 3½ ft.	dressy.
<i>versicolor</i> <i>Themis</i> (syn., <i>discolor</i>)	"	"	"	spreading, 2 to 2½ ft.	showy.
<i>vinosus</i>	white	small	"	bushy, 2½ ft.	"

also known as *D. davuricus*, but, so far as I can discover, neither name appears in any of our British books of reference. There can be no doubt whatever that the true *D. giganteus*, or whatever may be its correct name, is distinct from the ordinary *D. Fraxinella*. The name of *giganteus* is an

so designated by the committee, but yet amongst them are some of the more beautiful varieties of the genus, notably *acris*, *grandiflorus*, *pyrenæus*, *sibiricus*, *spectabilis*, and *Thomsoni*. I have slightly varied the size of flowers, stature of plants, and period of blooming according to my ex-

perience of the plants in my more northern Yorkshire climate compared with Chiswick. I have overlooked the inclusion of the fine variety Archer Hind.

I believe it will be found that there are many other beautiful varieties of Michaelmas Daisies that, so far as the Chiswick committee's publications are concerned, have not yet been dealt with, and evidently it must be so, for there are not only old varieties that have long been hidden in old gardens that have not yet been brought into general notice, but in many places where the species or otherwise in fairly large collections of Asters are grown, new forms are constantly appearing as seedlings. These we must have whether we would or no, and however much we might desire finality of nomenclature, I cannot see that it is possible under the circumstances, *i.e.*, if we are to go on selecting improved forms and applying to such forms some designation by which they may be commonly recognised. J. WOOD.

Woodville, Kirkstall.

LILIES IN 1893.

THE present year has, generally speaking, not been a favourable one for Lilies, for though some kinds have done fairly well, there has, on the other hand, been many failures, especially where the soil is light and dry. One of the most affected by the abnormal weather through which we have passed is the golden-rayed Lily (*Lilium auratum*), which in many gardens has failed to flower in a satisfactory manner. Its troubles commenced early, especially where fully exposed to the sun, as several of the plants seemed to suffer from a kind of sun-stroke. Many of them were attacked quite early in June, at which time the sun was unusually powerful, and in all cases it was the upper portion of the stem which was affected. This was at once shown by the leaves becoming yellower than usual, by the growth being arrested and the top portion of the stem commencing to bend over. In a few days some of the leaves would drop, and frequently a discoloured stripe would make its appearance up the stem, which soon commenced to decay. Very frequently the upper portion would show all signs of being stricken with this disease, while the roots at the base of the stem would be fresh and active, thus showing that the malady originated at the top and did not travel upwards from the bulb. The golden-rayed Lily is every season liable to be attacked in this manner, but, as a rule, only a limited number are affected; whereas, this year I have seen large quantities and under different conditions, in all of which the percentage of flowers was very small indeed. The vigorous variety *platyphyllum*, which is more robust in constitution than the ordinary *L. auratum*, also suffered terribly in many cases; while those two choice forms—*rubro-vittatum* and *Wittei* or *virginale*—whose bulbs are as sent here from Japan usually a good deal smaller than the type, have both suffered very much, especially the white one. The hard dry weather experienced during the spring affected the early-flowering Lilies very much, and the erect, cup-shaped ones, which compose the bulk of the very earliest, in many cases did not open kindly. Most of these are varieties either of *L. davuricum* or *umbellatum* and *L. elegans* or *Thunbergianum*, this last being less in stature than the other. Again, when the blooms were expanded the weather was so excessively hot, that they quickly changed colour and the petals dropped. *L. umbellatum* was so much affected by the excessive heat, that even in a few hours the petals lost their freshness and became dull. The smaller *L. elegans* was not quite so much affected, except the variety *lateris* or *biligulatum*, which lost colour directly after expansion. Some specimens of *Lilium odorum* flowered grandly with me; whereas, on the other hand, two or three appeared to be diseased like *L. auratum*, but the flower-stem did not totally decay, and after a time a secondary stem was pushed up, which in each case flowered about the middle of August. The blooms, however, were not so massive as those that flowered at

the proper season. *L. Browni* in most cases bloomed well, but the chocolate coloured exterior was less dark than usual, hence the contrast between the ivory white of the inside and the dark-tinted exterior was less pronounced than it mostly is. The Turk's-cap Lilies all flowered well, especially the very dark-coloured *L. dalmaticum*. The flowers of this last remain in perfection a long time, and do not pale when exposed to the full rays of the summer's sun. Of what may be regarded as hardy border Lilies, two of the oldest are *L. bulbiferum* and the old Orange Lily (*L. croceum*). They are both great favourites of mine and are especially valuable from the fact that the blooms of these two remain in perfection for a very much longer period than those of their immediate allies. *L. bulbiferum* blooms about the same time as *L. umbellatum*, but instead of the flowers being gathered together in a crowded cluster, as they are in this last, those of *L. bulbiferum* are disposed in more of a pyramidal-shaped head. The flowers, too, are of a bright orange-red, and a clump of it forms a showy feature in the garden for quite double the time that a corresponding mass of *L. umbellatum* does, though this last is very effective when first expanded. The second to mention for the persistence of its blossoms is the old Orange Lily (*L. croceum*), which is one of the cheapest of all Lilies, and for blooming out of doors one of the very best. A clump of this with me flowered from the middle of June to the end of July despite the trying season. I have never had so poor a display of *L. Szovitzianum*, even established bulbs failing to flower in a satisfactory manner. The best examples of this Lily that have come under my observation during the present year were grown in a stiff loamy soil in a rather moist spot. Of *L. testaceum*, which follows closely on the early-flowering Lilies, I have seen many fine examples, though in nearly every case the plants were dwarfer than usual; indeed, this seems characteristic of all Lilies, owing to the hot, dry weather. *L. longiflorum* in its different forms is undoubtedly grown to a greater extent than any other Lily, and its flowering season also extends over a very lengthened period, for I saw some beautifully flowered examples of the variety *Harrisi* quite early in February, and cut half-a-dozen good flowers from secondary stems in the open ground as late as October 5. *L. Harrisi* is so generally grown in pots for flowering under glass, that its great beauty when planted out of doors is apt to be overlooked. Still, for such a purpose I do not consider it the best of the *longiflorum* group, as my choice would be the Japanese form, which by some is called *L. longiflorum grandiflorum*. Large quantities of this section are sent here from Japan, but the forms are not always of equal merit, though the majority consist of the superior type indicated above. As a rule the flowers of this differ from those of *Harrisi* from Bermuda in the tube being somewhat broader and the segments not so much reflexed, but these are only geographical variations, and grown under the same conditions for a year or two it is impossible to distinguish the one from the other. When grown out of doors the varieties of *L. longiflorum* are very dwarf compared with their height under glass, and this season they have been shorter than usual, while another noticeable feature is that the blooms in most cases opened perfectly; they are apt if the weather is wet during the flowering season to split in the tube, and this, of course, destroys a good deal of their beauty. This feature I have noticed most pronounced when heavy rains alternate with hot sunshine. The importations of the Bermuda Lily have this season been very large, and they reached here in good condition.

THE TIGER LILIES mostly flowered beautifully, but as might be expected they were about three weeks earlier than usual. Another season's experience of them has only confirmed the opinion that by far the best form is the variety *splendens* or *Leonoldi*. Treading closely on the heels of the Tiger Lilies, we have the different members of the *speciosum* group, the first of which to bloom was the variety *punctatum*, after that the forms *album*, *rubrum*, and *roseum*, both from English grown

bulbs, and those imported from Holland. The very dark coloured forms that we get from Japan flower earlier after a season in this country than they do the first year. In this latter case a good deal depends upon the time the bulbs reach here and the condition they are in on arrival. These two points certainly play an important part in the flowering season, regarding which I will have a few more words to say in dealing with *L. Henryi* and *L. sulphureum*. This year has been especially favourable for the development of the blossoms of *L. speciosum* in the open ground, as the fine bright weather experienced during the flowering period caused the blooms to open cleanly and regularly, which is by no means the case when the weather is cold and wet. This Lily has a very good constitution, and owing principally to the numbers sent here from Japan every year it is now much commoner than was the case a few years ago. So generally grown is it, that I saw good flowering examples of it on a costermonger's barrow in the streets of London as early as the middle of July. These were, however, the produce of Dutch bulbs, and not the Japanese ones. The different varieties of *L. speciosum* have also been very fine at Kew and at the Earl's Court exhibition, while, associated with *L. longiflorum* and *L. auratum*, they formed a very showy feature at the large show of the Royal Horticultural Society held at the Agricultural Hall. In no Lily has the earliness of the season been more noticeable than in the *Neilgherry Lily* (*L. neilgherrense*), of which grown in a greenhouse we had flowering examples on the 1st of August, and whereas the latest blooms are in some seasons nearly as late as Christmas, they are this year just opening now (October 9).

NEW LILIES.—Of Lilies that must be regarded as strictly new, that is, flowered for the first time in this country, there is, I think, but one to mention, though there are several rare or uncommon kinds that have increased their reputation during the present year. The one that has proved to be quite new is that first shown at a meeting of the Royal Horticultural Society, held at Chiswick on July 11. It was shown by Messrs. Veitch under the name of *L. Ukeyuri*, and by Messrs. Wallace, of Colchester, as *L. Alexandrae*. Some bulbs of this Lily were disposed of at one of the auction sales last spring, and were then spoken of as a hybrid between *L. longiflorum* and *L. auratum*, but Mr. Baker, of Kew, to whom the flowering examples were submitted, regarded it as a variety of *L. japonicum*, to which he applied the varietal name of *Alexandrae*. For my own part, however, I am inclined to accept the hybrid origin, as the different examples of this Lily that I have seen are about midway between its reputed parents, though some individuals show a greater leaning to one and some to the other. The Lily in question reaches a height of about 18 inches, the stem being stout, erect and clothed with rather pale green leaves, which are about 5 inches or 6 inches long and three-quarters of an inch or so in width, but they widen out just at the upper part of the stem. The flowers are shorter than those of *L. longiflorum*, and less shallow than in *L. auratum*, though, as indicated above, they vary somewhat. The colour is a clear white shaded at the base of the flower both inside and out with green. The fragrance resembles that of *L. longiflorum*. Though the height of most of the specimens seen was about 1½ feet, it is probable that with increased strength it will grow taller. This Lily is now I see offered for sale by most of our leading nurserymen, and it is more than probable that a good many will be sent here from Japan during the coming winter.

Lilies of recent introduction, though not exactly new, are a very interesting class, and some of them are doubtless come to stay. A very promising one is *L. Henryi*. This Lily, which was illustrated by a coloured plate in THE GARDEN, November 7, 1891, first flowered under glass at Kew in the autumn of 1889, and the following year some bulbs of it were there planted in the open ground. They have proved to be quite hardy, and continue to gain vigour each succeeding year, so that this season's display of bloom has been a very fine one. On one of the strongest I counted

no less than thirty flowers and unopened buds, which shows at least that the conditions under which it is growing at Kew suit it well. On March 22 of the present year some bulbs of this Lily were offered for sale by Messrs. Protheroe and Morris. The bulbs, which were firm and in good condition, were of a mahogany colour, and not much unlike those of two other eastern Lilies—*L. nepalense* and *L. sulphureum*. The bulbs of *L. Henryi*, though potted directly and kept in the greenhouse, were some time before they started into growth, and the first flower did not open till two or three weeks after the last bloom on the Kew plants was over. This Lily was shown in pots at the Royal Horticultural Society's show about the end of August, and a week later Mr. Ware showed quite a group at the Westminster Aquarium on the occasion of the Dahlia and early Chrysanthemum exhibition. It is I see for the present winter season quoted at from one and a half guineas to two guineas each.

L. sulphureum is another Lily of recent introduction and a very beautiful one, but is, I think, more adapted for culture under glass than in the open ground. It was first named by Mr. Baker *L. Wallichianum superbum*, but that gentleman afterwards reconsidered his decision and bestowed upon it the specific title of *sulphureum*. The large funnel-shaped flowers of this are of a beautiful rich cream tint in the interior on expansion, but become somewhat paler afterwards. Judging by some specimens of this Lily that we have here it should take rank with the latest blooming kinds, but this feature is of course influenced by the mode of culture. Thus, the first time it was exhibited by Messrs. Low, its introducers, was on June 25, 1889, then a couple of established specimens we have here were this year out of bloom by the end of August, but a dozen plants above referred to are as yet, October 9, only in the bud state, and will in all probability not open for another ten days or a fortnight. They are from a late importation, having been sold on April 21, so that the late blooming is thus accounted for. At this season, however, they will be even more useful than if they flowered during the month of August. *Lilium nepalense*, another of Messrs. Low's introductions and one of the most distinct Lilies of recent years, was shown by them at the Royal Horticultural Society's meeting on September 26 and again on October 10. This is a difficult Lily to cultivate, and one that is always likely to remain scarce. Freshly imported bulbs if of sufficient strength flower without difficulty, but, as far as my experience extends, there are not many of them that bloom the second year, and still fewer the third. It is such a beautiful and distinct Lily, that a little additional pains may well be taken with it. *L. Lowi*, which was shown once or twice last season, was this year awarded a first-class certificate on July 11. It is a very distinct Lily, but is not likely to turn out so good a garden plant as some of the others. It is rather a slender growing species with narrow leaves, while the blossoms are bell-shaped, with a somewhat spreading mouth. They are about 3 inches in diameter, and the colour is white with just a suspicion of green. The three inner segments, especially on the basal half, are densely spotted with crimson. This is a very scarce Lily, as the price at which it is quoted in Mr. Ware's catalogue (twelve guineas) will show. *L. Grayi* continues to gain in vigour, but it is certainly very nearly related to *L. canadense*. *L. Dalhousii*, a very pretty and extremely interesting hybrid between *L. dalmaticum* and *L. Hansonii*, was figured in THE GARDEN as recently as September 16, and accompanying the plant was a valuable article by Mr. Powell, of Southborough, Tunbridge Wells, the raiser not only of this Lily, but also of the justly popular *Crinum Powellii*. H. P.

Magnolia pumila.—This and *Magnolia fuscata* are two of the least showy of all the *Magnolias*, yet as a set off their blossoms are very fragrant—so much so indeed, that a single bloom is sufficient to make its presence noticeable throughout a good-sized structure. Small plants of both are producing a few blossoms at the present time, though *M. fuscata* rarely flowers at this

season. On the other hand, *M. pumila* often bears a bloom or two during the winter. It is quite a dwarf-growing species, reaching a height of 1 foot to 18 inches, but the ovate leaves are rather large, being as much as 6 inches in length, and of a dark glossy green on the upper surface and slightly glaucous beneath. The flowers are 2 inches or more in diameter, and of an ivory-white tinged with green. The flowers do not last more than a couple of days. This *Magnolia* is said to be a native of Java, but it will succeed well in a greenhouse temperature.—H. P.

ORCHARD AND FRUIT GARDEN.

CULTIVATION OF THE BANANA.

MANY grow a few *Musas* for the sub-tropical garden, but only a very few are grown for fruit-

those of *M. Cavendishi*, but the bunch large and somewhat like that of the last-named variety in shape. I have on several occasions tasted this variety, and the flavour is excellent. As regards its habit of growth, I am unable to speak, not having seen plants growing, but I should strongly advise its culture for its good flavour. I would also draw attention to the flavour of a home-grown Banana, which is rich, juicy and refreshing; whereas many of the imported fruits are mealy and dry, especially those cut before the fruit is full sized. I am well aware there are serious objections to the cultivation of *Musas*, owing to their large size and the time the fruits take to ripen, but this objection does not hold good when the plants are also used for conservatory decoration. When a house is devoted to their culture, much space and a certain amount of patience are required. Considerable cost as regards fuel



A fruiting plant of *Musa Cavendishi*.

ing. Having of late been questioned as to the value of these plants for fruiting, I would state that from a market point of view they are about the last fruits which would pay the cultivator. We must not, however, look at it from a monetary point of view, but as a means of providing a varied dessert for those who can afford the luxury. One of the best for fruiting is *M. Cavendishi*, though I have several others on trial. There are many varieties of *Musas*, and they differ much in size of fruit, leaf, and bunch. Some of the largest growers produce small fruits. I will not go at length into varieties, but I would name one that appears to be first class. This is of recent introduction, and is grown by Mr. Fitt at Panshanger Gardens, Herts. It is called the Ladies' Fingers, the pods being smaller than

has to be incurred, as to get the best results, heat is one of the chief factors. It is important to have a drip-proof roof and plenty of piping. I do not mean that Bananas cannot be grown in an ordinary house, but to get the best results heat is indispensable. When grown in a high temperature abundance of moisture must be given, and if there is a constant dripping on to the leaves, the moisture is conveyed down the midrib into the centre of the plant, causing decay and total loss of plants and fruits.

Few plants thrive under the dense foliage of the *Musa*. I have been asked the best form of house to grow these plants in. I would advise a span roof, growing a tall kind, such as *Paradisica* or *sapientum*, down the centre and

Cavendishi at each side, with a walk round the two sides and end of house; if a lean-to, the height of house will determine the variety to plant, as Paradisiaca and sapientum grow 20 feet high, thus requiring a lot of head room, and Cavendishi only 6 feet to 7 feet. A walk around the sides of the house allows of head room for the foliage, and a side staging in front of the lights is useful for such crops as Beans, Melons, and Cucumbers. Beds raised, say, 2 feet above the ground level are best, as this allows of better drainage and checks the roots. The latter is necessary to get early fruit and to rest the plants. When beds are above the ground level they should be built in sections, allowing a certain space to each plant. I would also prefer the hot-water pipes running between the beds and covered over, not directly under the roots. A space of 18 inches may be allowed between the beds for the hot-water pipes, and in addition to these, two flow and return pipes will be required along the front of the house. This will give ample heat for a large house and prevent driving the fires too hard, as it is false economy to spare the piping. We cannot give our plants a house as described above, as our structures are not modern. We have a front row of the dwarfier sorts and a back row of taller kinds, devoting two large houses to the fruiting plants, growing several varieties for ornamental purposes in the conservatories. Musas may be fruited in twelve months if done well and large suckers planted. They like good stout loam and abundance of food. As soon as the fruit is formed we surface-dress with cow manure and mix Thomson's Vinemanure in the compost. Fish manure is also excellent. Musas are equally useful for pot or tub culture if fed and well cared for. For conservatory decoration *M. Paradisiaca* and *M. sapientum* are noble plants if sufficient head-room can be given them, but there are none equal to Cavendishi for fruiting in a short time. This last variety requires careful management in winter, as if full grown and the house too moist, the fruit decays in the stem and does not push up in the spring. It also requires to be closer to the light. I do not think the flavour of this variety can be compared to that of some, but it is one of the best for general use and a long way ahead of imported fruit. The temperature during growth is from 70° to 80°, the minimum at night and at this season when the plants are just kept moving, 60° to 70° during the day and 60° to 65° at night, keeping the plants as dry as possible, but not to check slight growth. Moisture in the house is essential, as thrips and red spider soon cripple the plants if a dry atmosphere is maintained. I prefer planting in the early spring, as often late-planted Musas are sickly growers and fail to fruit satisfactorily. Rapid growth is essential to success. Suckers of those kinds named are produced in abundance, and to get early fruit these must be removed as they appear, leaving one or two to produce plants as soon as the fruits begin to swell. If left too long they often prevent the fruit forming. After fruiting the old stem should be removed and the sucker detached, the border cleared out and filled with new soil, as the old soil will not be good enough for the young plants. Time is often saved by potting up suckers, as they appear to take the place of the fruiting plants as soon as the fruit is cut.

G. WYTHES.

The Fairy Crab.—The fruit of this is somewhat larger than that of other kinds. In shape and colour it resembles a Duchess of Gloucester Apple, being nearly as large, of a beautiful glowing red, and the flavour is very good. The trees this season were loaded with fruit. This is one of the

best varieties for bush culture, as it fruits so freely in a small state, and is also of neat growth. For shrubberies it is one of the very best; its only drawback is that birds soon pounce upon the fruits. The fruit remains on the tree a long time after it is ripe.—G. W.

PEACH BUDS DROPPING.

Two years ago I built a small Peach house, not heated, and planted in it three young trees and one some years older which I transplanted. All were planted in new soil from a pasture field without manure. The old tree gave a crop both last year and this. The other trees bloomed splendidly this spring, and appeared to be in perfect health, growing strongly and covered with leaves all the season. Some of the flowers at first appeared to set, but the fruits fell off one by one till only five remained. What can be the cause, and what remedy would you advise me to adopt?—JAMES SWEENEY.

* * When Peach and Nectarine trees grow very vigorously, as in this case, the majority of the flower buds are either malformed or drop off prematurely. Unless root-lifting and pruning are resorted to, this in some respects very unsatisfactory state of affairs may go on for four years or longer, especially if the top-growth is at all restricted. Allowing the young growths to spread considerably, the best placed of the side shoots from these being also laid in for fruiting, is sometimes a sufficient outlet for the exuberance of the tree, but even this is of no avail when the roots have free access to a mass of good fresh soil. In the case now before me I should advise root-lifting and pruning being carried out at once, and if this does not actually make the trees much more productive next season, it will of a certainty have this desired result in the following year. The undermining and root-pruning ought not to be overdone, or to the extent of badly crippling the trees, but should be sufficiently thorough to admit of all deep running roots being reached and cut through by way of a preventive of injuriously deep root-action. A trench 15 inches wide and to the full depth of the made border should be opened about 4 feet from the stem of each tree, the soil being then gradually and carefully forked away from the roots to within 15 inches or rather less of the stem, this reserved ball of soil being further undermined till only a pedestal capable of supporting, with the assistance of the trees fastened to the wires overhead, the mass of soil and roots. All deep running roots, as before hinted, should be shortened and eventually brought nearer the surface, or if too stiff for that, be cut cleanly back. If it is found that the trees have sunk considerably since being planted, or to the extent of burying the collars 3 inches or more below the surface, take this opportunity of raising them to slightly above the level, thereby anticipating evils that would otherwise have to be contended with sooner or later. In any case go over all the roots found, cutting out all that are badly bruised and lightly shortening the rest, making an upward cut in all cases, cleanly-made wounds healing much more surely and quickly than do those that are jagged and broken. Seeing that the soil is comparatively fresh and good, this may well be used again, a fairly liberal addition of burn-bake and old mortar rubbish being made with very probable advantage. Relay the roots thinly and evenly in the soil, keeping them well up to the surface, as they will not be long before they strike downwards again. The soil should be made moderately firm by trampling, and should the old ball of soil and roots be at all dry, give it a good watering prior to finally levelling over the surface. The older tree that has done well should not be interfered with at present, but in the course of another year or two may be all the better for having its roots lifted, lightly pruned, and a little fresh loamy compost given.—W. I.

The weather in West Herts.—Another cold week. There was, however, one day of unseason-

able warmth—Friday, when the shade temperature rose to 56°. On the coldest night the exposed thermometer showed 8° of frost. Since the early part of the month the temperature of the ground at 2 feet deep has fallen 6°, and at 1 foot deep 8°. During the six days ending Sunday rather more than 1½ inches of rain and melted snow were measured. On Sunday morning the ground was covered with snow to the average depth of 2 inches, but before the evening of that day the greater part had been melted by rain. Throughout Saturday evening and night the wind continued very high, the average velocity for the twelve hours ending 5 a.m. on Sunday amounting to twenty miles an hour, direction N.W. At times the individual gusts reached the force of a gale. During the last nine days only about five hours of clear sunshine have been altogether recorded.—E. M., *Berkhamsted*.

ORCHIDS.

ANGRÆCUM CAUDATUM AND A. CHAILLUNUM.

I RECENTLY received a flower of *A. caudatum* from a friend in Scotland. I think it is the only time that I ever had a bloom of this species sent to me. I used to grow it some forty years ago. The same friend also sent me some months ago *A. Chaillunum* for a name, and I then promised I would make a few remarks upon this, and as the plants are both natives of Western Africa, I will refer to both. *A. caudatum* was introduced by the Messrs. Loddiges from Sierra Leone, in West Africa, in 1832, and for some years afterwards it was grown in many collections, but at the present time it is rather rare. I hope when the West Coast of Africa becomes more opened up this plant may again be introduced, and that it may become more generally grown. Bate, when attached to Dr. Barker's Niger expedition, sent home many species, but all small and inconspicuous kinds. Gustav Mann found the fine plant known as *A. Chaillunum* on the Nun River. The plants sent by M. Chaillu from the river Gaboon flowered first in the country, and were named in compliment to their finder. This proves that we have two very fine species from the West Coast of Africa, so that we may yet hope to find some others. Whether the species with coloured flowers which rumour records is to be found in this district exists or not remains to be seen. This last-named plant was called *A. arcuatum* by Lindley from Mann's dried specimens, but when the plant flowered in this country it was found to be abundantly distinct from the South African plant *A. arcuatum*.

A. CAUDATUM is a plant with an erect stem, having numerous distichous leaves, each about 9 inches long and about 1 inch broad. The spike is axillary and pendent, bearing from three to eight or more large flowers, having a spur measuring about 9 inches in length. The sepals and petals, which are spreading and nearly equal, are olive-green, and the large clawed lip is pure white, serrated at the edges.

A. CHAILLUNUM is a far prettier plant, having a similar habit of growth, the leaves being of a rich deep green. The spike is drooping, bearing many flowers of the purest white, having a spur to the lip, which is straight and about 6 inches in length.

These two fine plants, coming from one of the hottest parts of the world and one of the very dampest, require to be grown in the warmest house we have. They also like abundance of moisture in the air all the year round, although much less is necessary through the dull

months of winter than in the summer months. The pots or baskets in which they are grown should be well drained, for the plants like a good supply of water to their roots through the growing season; but care should be taken that none is allowed to lie about them in a stagnant condition. Sweet and clean Sphagnum Moss is all they require to be potted in, and it should not be allowed to get stale or rotten. These plants do not like full sunshine, so that if they are grown in hanging baskets with a good exposure to the light, a thin shading should always be in readiness to put over them during the hottest and brightest part of the day. During the winter season I have found them thrive well with the temperature never below 65°, but in the summer the glass may rise to any height, provided there is ample moisture in the atmosphere.

WM. HUGH GOWER.

Cattleya labiata.—Some very fine coloured flowers of this species come to hand from Mr. R. B. White, of Arddarroch, and he tells me that he has about 130 blooms now open. Among the Cattleyas sent is a light coloured variety, which is white saving the front lobe of the lip, which is rosy purple. This is the form known as *C. labiata Sanderae*. This, although rare, appears to be cropping up in sundry places, and I congratulate Mr. White in having one among his fine lot of Cattleyas.—W. H. G.

Angræcum eburneum.—"J. D." sends me a flower asking if it is not *A. superbum*. All the plants I have seen in cultivation under the name of *superbum* have proved to be *A. eburneum*, and I cannot see the slightest difference in your flower. The plant is a very bold grower—in fact quite a giant among Orchids. *A. eburneum virens*, which I used to grow, but have not now seen for a long time, is nearly as large in its growth; the foliage is of a deep green, but the flowers are, however, much smaller, and the ivory-white lip is tinted with pale green.—W. H. G.

Orchid flowers from Cheltenham.—Mr. Cypher, of the Queen's Road Nursery, sends me some choice flowers. First is a fine bloom of *Cattleya aurea*, the sepals and petals of which are of a pleasing shade of lemon, the lip marked in front with deep crimson-magenta, the side lobes heavily streaked with the same rich colour upon a yellow ground. A flower of the splendid form of *Cypripedium insigne* called *punctatum violaceum*, with its massive dorsal sepal broadly bordered with pearly white, and which was figured in THE GARDEN, XXI., t. 444; a distinct form of *C. insigne*, very prettily marked, but far inferior in beauty to the one already named; a twin-flowered peduncle of *C. Spicerianum*; a magnificent form of that fine old hybrid *C. Arthurianum*, large, and well coloured, and also a very good form of *C. polystigmaticum*, a cross between *C. venustum* and *C. Spicerianum*, and which has the dorsal sepal quite like the last named, the petals broad, tipped with purple with numerous dotted lines of black, and the lip as in *C. venustum*, were also included. Nice forms of *C. Sedeni candidulum*, *C. cardinale*, and flowers of *Dendrobium album*, the finest that I have seen, were also sent.—W. H. G.

Calanthe Veitchi.—This hybrid, raised by the Messrs. Veitch close upon forty years ago, is one of the very best winter-blooming Orchids we have at the present time. A fine spike of this in full beauty is now to hand from "T. H." The spike bears thirty-eight flowers; some of the upper ones are buds only yet and not open, whilst some of the lower ones have dropped off. The flowers are of a rich rosy carmine with a pure white eye. These plants are usually deciduous, but sometimes some of the leaves do remain until after the flowers are past; this, however, does not add by any means to the beauty of the plants. It is by far the best plan to dry the bulbs before flowering sufficiently to cause all the leaves to fall away, and if they have not all fallen they should be cut away. The plants like a short rest after flowering, and may be stored away upon a shelf in

a cooler house. As soon as potted, water must be applied cautiously for some little time. Some people give them liquid manure once or twice a week for the last half of the growing season, but I do not like this, and if it is practised for several years the bulbs will be weakened, and in the end probably die.—W. H.

ORCHIDS AT EAST SHEEN.

ONE of the finest collections of Orchids in the west of London is at Clare Lawn, East Sheen, the residence of Mr. Wigan. The plants comprise many rare species and varieties. When there a few days ago we made note of several interesting things in flower, but, as in other places near the metropolis, fogs are injurious, especially to the *Phalænopsis*, which are quickly spoilt.

In various houses *Cypripedium*s were blooming freely, and a fine mass of *C. insigne* in variety was brightening a grotto-like ferrery, quite cool, the large specimens arranged with Ferns and other fine-foliaged plants. *C. insigne* varies greatly and pleasingly in colour, some of the better forms we noticed being *albo-marginatum*, *Chantini*, *Maulei*, and *punctatum violaceum*, but really the difference between many of them is one of degree only. *Cymbidium Lowianum* and *C. giganteum* were also showing many sturdy spikes. They are in the same cool structure, heated just sufficiently, we should say, to keep out frost, but under such conditions they thrive to perfection. The most interesting Orchid in beauty now is *Barkeria Lindleyana*, a lovely thing, which many seem to find difficult to grow well. A small space between two houses is allotted a group of specimens, providing a warm moist corner. The plants are in small pans, suspended not far from the glass, and are a mass of roots, tall slender spikes being produced in profusion. It is one of the most elegant of Orchids, and the flowers are varied and rich in colour, but usually of a warm rose-purple, deepening in the lip. This position is very warm, and all through the last hot summer, with the exception of a very light shading, no protection whatever from the sun's rays has been afforded. The result is examples furnished with an abundance of the long white roots, and we may say to those who have found some difficulty in growing it that plenty of water is given during the growing season, but from now to March only sufficient to keep the bulbs from shrivelling. That troublesome genus to grow well, the *Phalænopsis*, is in excellent condition, and one house is practically devoted to it. *Phalænopsis amabilis*, *P. Schilleriana*, represented by many fine plants pushing up sturdy spikes, *P. Stuartiana*, *P. Aphrodite* var. *casta*, *P. A. leucorhoda*, and *P. speciosa Imperatrix*, besides many others, were of note. Of the last mentioned, one of the best plants in the country, is here, and when at Clare Lawn last year it was in full bloom. We remember that at a meeting of the Royal Horticultural Society on May 21, 1891, Mr. Young showed it, the plant bearing a spike of eight flowers. *P. casta* is an interesting supposed hybrid between *P. Aphrodite* and *P. Schilleriana*. As regards leafage, one sees a resemblance to *Aphrodite*, whilst the flowers are white, crimson dots appearing at the base of the lip, set off with a suffusion of yellow.

In this house is blooming one of the most charming of all *Cypripedium*s, whether hybrid or otherwise. This is *C. Niobe*, of which a coloured plate was given in THE GARDEN, May 23, 1891. It is no exaggeration to say that this is the most beautiful hybrid Lady's Slipper that has appeared, having first flowered in the year 1889, when it was exhibited and at once given a first-class certificate at the Royal Horticultural Society's meeting. A very good form of *C. Harrisianum*,—and there are few finer kinds,—also *C. Haynaldianum*, a species from the Philippine Islands, and very attractive when represented by a good variety, as here, were in flower. A batch of *C. barbatum*, a very useful species, was planted out and succeeding remarkably well. We noticed the beauty of splendid masses of *C. Lawrenceanum*. Even when out of bloom this is very beautiful for the fine and distinct variegation of the foliage.

The *Cattleya* and *Lælia* house is a large structure and crowded with good species and varieties. *L. anceps* was in bloom, and in a large collection one gets fine shades of colour, the flowers of one form being remarkably rich, especially the lip—intense crimson-purple, with rose-purple sepals and petals. *L. autumnalis* was of note, and its beautiful variety *alba* pushing up spikes. Amongst *Cattleyas*, *C. Warocqueana* was noteworthy, and very bright in this house were masses of *Pleione Wallichiana*, a lovely species at this time of year and grown here very successfully, the plants, it may be useful to mention, being potted every year. This *Pleione* should be grown largely, and nothing is brighter in the Orchid house at this season and the flowers do not lose much by the absence of leaves, as they smother the pan. They are individually of good size, useful to cut for a button-hole or decoration and rose in colour. It is strange that the *Pleiones* are not made more of in gardens, being free, showy and not difficult to grow. *Sophranitis grandiflora* was bright, the flowers varying from intense scarlet to paler shades.

In another house the fine old *Phaius grandifolius* is sending up several of its strong spikes. It is a splendid evergreen species and is in beauty in the winter and spring. It is one of the few Orchids that do not suffer greatly when used for decoration, and the bold brown and white flowers last long in beauty. Hard by *Cypripedium Spicerianum* was flowering freely, and in spite of many new hybrids and species, this vigorous and free-blooming kind remains one of the most useful. A very interesting Orchid is *Arundia bambusæfolia*, a native of India and Burmah and a *Sobralia*-like plant of much interest. The flowers are pleasing in colour, the sepals and petals soft rose-pink and the lip rich purple, whilst the habit of growth is exceedingly graceful. It is worth growing almost for this alone.

Much interest is taken in the *Masdevallias*, of which there is a very good collection, *Restrepias*, *Cirrhopetalums*, and similar genera. If not so useful as *Cattleyas* and such like, they are quaint and in many cases beautiful. Amongst the *Masdevallias* most conspicuous was *M. tovarensis*, a remarkably useful Orchid, the plants when in full bloom being of great use in choice decorations, and the flowers individually pleasing when cut. It should be grown by all amateurs, and is not difficult to manage. *M. bella* and *M. rosea* were flowering freely. An interesting Orchid is *Restrepia antennifera*, an elegant species none too often seen. The flowers are curious in form and beautifully coloured. Amongst *Cælogynes*, splendid masses of *C. cristata* in variety promise well, and a pleasing species in bloom is *C. barbata*, the flowers very attractive in colour, sepals and petals white, the lip rich brown. Lycastes of many kinds will soon be in beauty, *L. Skinneri* and its variety *alba* showing sturdy spikes, and *L. plana* is in bloom. Its flowers are quiet in colour, but pleasing.

A very pretty and sweetly-scented *Oncidium* in bloom was *O. cheirophorum*. It is very free, and the small yellow flowers make a bright show, lasting a considerable time in perfection. Later on *Dendrobiums* will be a feature of interest, *D. Wardianum* in particular.

SHORT NOTES.—ORCHIDS.

Oncidium cucullatum (W. W.).—The flowers you send are all varieties of this species. Many people confound this and *O. Phalænopsis*. No. 3 is a very fine variety, the lip of a rich deep plum colour. It is quite an alpine plant.—W. H. G.

Cælogyne cristata.—"Anon" says that "nearly every year some of the flower-spikes damp off." I suppose this is brought about through too great an amount of moisture in the air. Try them in a house with less moisture, but do not subject them to a dry atmosphere or the spikes may shrivel up.—W. H. G.

Lælia Dormaniana (H. W.).—This is about the first time I have ever seen any difference in the colour of the flowers of this. In the flowers sent the front lobe of the lip is of a rich rose colour instead of the usual purplish crimson, which gives it a quite

different appearance. It is worth preserving, and you should mark it to see if it comes of the same colour next season.—W.

Sophranitis grandiflora.—I have a fine lot of varieties of this flower sent me with no sender's name. They are exceedingly bright and of good size, but they are not so large as those of the variety that I saw upon several occasions in the late Mr. Southgate's collection when it was under the charge of Mr. Salter. They have the same round appearance, only varying in colour.—H. G.

Miltonia vexillaria rubella (G. T. S.).—This appears to be the variety you send. I do not remember having seen it bloom so late, nor do I recollect seeing such a small flower. I should think it was from a very small plant and one that had been starved. It is about the brightest coloured form that has come under my notice, being of a deep rich rose colour.—G.

Masdevallia macrura.—John Edden asks if "he should put this plant into warmer quarters for the winter months." To this I should answer no. You may move it to the warm end of the Odontoglossum house, but warmer than this I should not keep it. This plant grows at 6000 feet and 7000 feet elevation in the same country as the Odontoglossums and succeeds well under the same treatment.—W. G.

Maxillaria venusta (J. Hill).—This appears to be your plant. It may be distinguished from *M. grandiflora*, with which you have confounded it, by having always a nodding flower instead of an erect one; the segments are also more pointed. This is a plant that succeeds well grown in the cold house with the Odontoglossums, and I have had it bloom twice a year in such a place. It likes plenty of shade.—W.

Spathoglottis (C. Hearn).—These plants now should have lost their leaves and be dormant. During this time the soil should be kept nearly dry and the plants be removed to quite a cool house and the soil kept in a nice friable condition, which will have the effect of resting the corns better than keeping them dry and in the heat of the East Indian house, into which they may be moved when they again start into growth.—W. H. G.

Dendrobium nobile (J. S.).—Your flowers represent ordinary varieties of this old species, and I should have thought they had been produced by newly-imported plants if you had not told me otherwise. You say these four or five plants have for several years produced their flowers at this season. The flowers now will be a great acquisition, making a nice variety whether for cutting or for general purposes of decoration. I should value the plants much and try to work up a stock of them.—W. H. G.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

A LARGELY attended and very interesting meeting of the floral committee of this society was held at the Royal Aquarium on Wednesday last, Mr. G. Gordon occupying the chair. The November floral meetings are usually busy ones, but this year the number and character of the exhibits have been beyond all precedent, and it is a question whether the committee should not meet weekly in the height of the season instead of fortnightly, as hitherto. Mr. Robert Owen, of Maidenhead, was awarded the society's silver medal for a collection of new varieties, which contained some very meritorious flowers of his own raising, besides some high-class American novelties. M. Ernest Calvat, of Grenoble, staged twenty-four of his new seedling varieties of the present year, and a remarkably fine lot they were. He certainly seems determined to maintain the high position amongst Chrysanthemum raisers which he has already attained, and the committee thought so highly of his exhibit, as to award him a silver medal for the collection. M. Calvat may be congratulated on being the recipient of an award which no other French exhibitor at this society has yet succeeded in gaining, and which is a far more difficult one to obtain than in his own country, where medals are usually distributed in the same way as money prizes are in this country.

Messrs. Cannell and Sons, of Swanley, sent some fine examples of cultural skill, but many of the

flowers were already known to the committee; a bronze medal was therefore deemed a suitable recompense in their case. Before referring to the certificates and commendations granted, it is needful to point out to intending exhibitors that a certain standard of excellence must be arrived at before any new varieties are sent to the committee for certificates. A variety must not only be new, but must be staged in presentable form; otherwise it is sure to be passed over, and the time of the committee, which can ill be spared, is wasted. Several remarks were made on this subject by men whose time is valuable in the middle of the day.

The following were awarded first-class certificates:—

WILLIAM TUNNINGTON.—A very large, perfectly formed incurved variety of the true type; the florets are very regularly disposed and are of a deep golden bronze, with crimson interior. Shown by Mr. R. Owen.

MRS. T. DENNE.—A strikingly effective large Japanese incurved bloom, with very long rosy purple florets; the reverse is very little lighter in colour than the inside of the florets. This, too, was shown by Mr. R. Owen.

PRINCE DU BOIS.—A big yellow Japanese. It has narrow curly florets, the bloom is heavily built and of very globular form. Also from Mr. R. Owen.

GOLDEN GATE.—This is a Japanese of American origin. It is a large spreading flower of a deep rich bronze-yellow, with very long florets. Shown by Mr. R. Owen.

CECIL RAY.—An English-raised flower of the Japanese type; long, flat florets of good width, colour a clear rich yellow. Mr. E. Beckett was the exhibitor of this.

MME. CARNOT.—One of the largest Japanese in existence, a very full flower of the purest white with fine curly florets slightly grooved. Raised by M. Ernest Calvat, who also exhibited it.

PROFESSOR LACKMAN.—Another French seedling of the Japanese section. The petals incurve rather boldly and are of good breadth, the colour inside being purple-amaranth with a rosy reverse. M. Calvat was the exhibitor.

Several good blooms were commended, and chief among them were Deuil de Jules Ferry, a Japanese of a beautiful tone of rosy amaranth, with large incurved florets, and President Leon Say, a large Japanese of chestnut-bronze with a golden reverse, both of which also came from M. Calvat. Niveum, an American white Japanese, C. L. Jamieson, a bright crimson one, both from Mr. Owen, also received commendations. M. P. Martignac, a pretty yellow incurved, staged by Mr. E. Beckett, was treated in the same way. There were some other good flowers worthy of mention, such as Richard Dean, a large Japanese, crimson and gold; Celtic, an Anemone of very fine shape, a self-coloured chocolate-rose which the committee desired to see again. Colonel J. C. Bourne, a deep rosy wine-coloured Japanese with fine spreading florets, was well received, as was Mr. E. Whittle, a large, pale blush flower of the same type.

An ingenious tube for staging three exhibition pompons was shown by Mr. Rowbottom, and highly commended. The meeting was held in the organ gallery, and, as is only too often unfortunately the case, the light was so bad during the latter part of the meeting, that it was a most difficult matter to distinguish the colours.

— On Monday evening last the general committee of this society met at Anderson's Hotel. Mr. R. Ballantine, who occupied the chair, announced that the recent show had proved to be an unqualified success in every respect, and that the quality of the blooms staged and the attendance of the public during the three days were all that could be desired. The arbitration committee having awarded to certain exhibitors at that show silver-gilt, silver, and bronze medals, the same were confirmed. Mr. R. Dean, the secretary, reported on the financial position, by which it appears that income to the extent of £525 has been received to date, the principal items being members' subscriptions, donations, and affiliated societies' fees. During the ensuing year it is proposed to hold four shows corresponding with those held in 1893.

Some remarks were made concerning a new home for the society, but the chairman pointed out that the Aquarium Company, besides providing £275 towards the prize list this year, also supplied all the tables, the bills and bill posting, and advertised the shows in the daily press, and he thought it was not possible to obtain better terms anywhere else, and he did not know of any building in London more suitable for the purpose. Mr. Cannell referred to a show held over thirty years ago in the Agricultural Hall, and deprecated any attempt to imitate that. The Guildhall was suggested, but as the civic authorities would allow no gate money to be taken, that place was consequently out of the question. The matter, therefore, fell through. New members and Fellows were elected, making a large addition to the roll for the year. In the unavoidable absence of Mr. C. E. Shea from ill-health, it was resolved that the paper which he was to have read should stand over until he could attend. The paper, which was stated to be a remarkably interesting one on "Judging," could not be fairly discussed in the absence of the writer, and therefore was deferred so as to give Mr. Shea an opportunity of replying to any criticism that might arise. A vote of sympathy was accorded to Mr. Shea on account of his indisposition. Several suggestions having reference to alterations in the new schedule were read from members and exhibitors, all of which were referred to the schedule sub-committee to deal with later on.

Royal Horticultural Society.—The next fruit and floral meeting of the society will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, November 28, when special prizes will be offered for groups of Chrysanthemums naturally grown. At 3 o'clock Mr. T. Crasp, F.R.H.S., will deliver a lecture on "Late-keeping Grapes."

NOTES OF THE WEEK.

Carnation Duke of York.—Mr. May, Edmonton, sends us some blooms of this rich, boldly-formed Carnation, which is certainly a very fine variety. He also sends us other kinds, but the Duke of York is by far the best, although the flowers are not so double as those of some of the others.

Single Chrysanthemums out of doors.—It is worth recording that even now (November 22) several plants of the following single varieties are very fine at Kew in the open: Le Mout, rose-purple, yellow centre; Gus Harris, rose-lilac, a very free kind; and Miss Rose, rose; also the pompon Golden St. Thais, which makes a bright mass of colour.

Zygopetalum Gautieri is one of the most interesting species in bloom at Kew. It is an exquisite flower, not often seen, but worth a place in the choicest collections. The flowers are rich in colour, the sepals and petals green, barred with deep chocolate-brown, and the lip pale blue in front, but of an intense violet-blue at the base. *Z. Gautieri* is more elegant than the other species, and is a native of Brazil.

Statice puberula.—This fine Statice is in bloom in the temperate house at Kew, and it is worth growing more in private gardens. It was introduced in 1830, and is a useful plant for a cool house. The leaves are bold, of a glaucous shade of colour, and have quite a satiny sheen, whilst the rich violet-blue flowers are crowded together on the sturdy stems. It remains in bloom over a long season, and is welcome at this time of year.

Reinwardtia tetragyna.—This is a very bright, showy plant during the dull months of the year. It wants a warm greenhouse or stove, and should be more seen in private gardens, succeeding well in a lower temperature than is required by *Reinwardtia trigyna*, known also as *Linum trigynum*. The flowers of *R. tetragyna* are of a yellow or pale orange shade, and the plant is

of neat growth. Both are well worth growing in gardens, and may be readily propagated by cuttings in the spring months. If grown on freely in the summer, a bright show of bloom will be the result in winter.

Notes from Baden-Baden.—*Morina Coulteriana*, not Coulteri, has narrower leaves than *longifolia* and the flowers are yellow. *M. Wallichiana* is distinct from *longifolia* by its considerably longer flower-tubes and more spiny leaves. *Aster alpinus speciosus* is a native of Russian Central Asia and has been named by Dr. von Regel. It is not botanically distinct from *Aster alpinus*, but it has much larger flowers. Seedlings vary a little, but as yet I have not been able to produce a marked variety.—MAX LEICHTLIN, *Baden-Baden*.

Destruction of ornamental timber in Scotland.—The parks of noblemen's seats in Scotland have suffered greatly from the recent storm. A two-mile avenue at Drummond Castle, which belongs to the Earl of Ancaster, has been virtually destroyed, Oaks and Beeches, centuries old, being either broken or uprooted. At Dunrobin Castle, Kennet House, Banff House, Alloa Park, and Langholm Lodge the parks have been wrecked. Throughout Scotland plantations have suffered greatly.

Two good Chrysanthemums for the greenhouse are *La Nympe* and *Mrs. James Carter*. The former belongs to the Japanese class, and we recently saw two fine specimens bearing a splendid lot of flowers of very distinct expression, the florets narrower than is usually the case, and delicate rose and white in colour. The other is not much to look at, but the flowers are very useful for cutting. They remind one of a *Centaurea*, the narrow thread-like florets pale yellow in colour. They are very pretty by gaslight arranged with Fern or similar foliage.

Ipomœa ternata is a stove climber one does not often see in gardens. A specimen in the stove at Kew is now very attractive. The flowers, unfortunately, last only about a day in beauty, and are at their best early in the morning, but a succession is produced, so that a continuous display is maintained. They are quite waxy in texture, very pure, and like a beautiful white *Convolvulus*, whilst the plant is of robust, free growth, the leaves leathery and deep green. We should like to see such a climber in other than botanic gardens, and there is certainly need of a little variety in most places.

Saxifraga Mertensiana.—J. Wood, Kirkstall, in his notes of November 11, p. 436, appears to be very unfortunate with the lovely *Saxifraga Mertensiana*, which has flowered annually in the frames at Kew since 1886. He has changed it about, but gives no indication of the treatment he has adopted. Let Mr. Wood try a moist, shady spot, and I have no doubt he will succeed. It has always done well at Kew, and was greatly admired in the alpine house on account of its pretty, though small flowers, and the abundance of bulbils formed in the axils of the branches. It is a native of America.—D. DEWAR, *Bot. Gardens, Glasgow*.

Orchids at Kew.—The Orchid house at Kew is of much interest just now, many rare species and varieties being in bloom. *Cypripediums* are a feature, especially a mass of the old but still useful *C. insignis* and its forms. *C. Spicerianum*, unlike the majority of the genus, is not proof against fogs, the flowers being much injured, whilst those of *C. Meirax*, *C. Sedeni*, and *C. venustum* are untouched. Quite a number of *Oncidium*s are in beauty, including *O. ornithorrhynchum*, a delightful sweet-scented free-blooming species, the yellow-flowered *O. cheiroporum*, *O. Jonesianum*, *O. varicosum*, *O. tigrinum*, *O. Forbesi*, and *O. Gravesianum*. One of the most beautiful of the *Lælias* is *L. furfuracea*, recently described in THE GARDEN, one variety in particular having very deep-coloured flowers. *Angreæums* are numerous, comprising *A. O'Brienianum*, producing a pendent raceme of white long-spurred flowers, reminding one of *A. Sanderianum*, the greenish-flowered *A. Hildebrandti* and *A. pellucidum*. A wealth of colour is produced by the fine plants of *Calanthe Veitchi* and *C. vestita rubra oculata*, also *Cattleya labiata*, *C. Bowringiana*, and *Odonto-*

glossum grande. Note may also be made of the beautiful *Cyperorchis Mastersi*, *Platyclinis Cobbiana*, producing graceful pendent racemes of yellowish-white flowers, *Epidendrum æmulum*, and *Scuticaria Steeli*.

Morina Coulteriana.—In reply to Mr. Wood, this species, as Mr. Wood indicates, is distinct from *M. longifolia* even in the leaves, which are always longer, narrower, and with longer spines. The flowers are yellow instead of being deep rose-coloured, as in *M. longifolia*. The bracts are narrower, and the calyx is mucronate instead of being obtuse, as in the other species. It is not such a handsome plant as *M. longifolia*, but it is very distinct, and well worth growing in addition to that species. It was first cultivated by Mr. Anderson-Henry, who flowered it in 1880. It was also raised at Kew from seeds sent home by Dr. Aitchison from Afghanistan, and flowered on the rockery there in August, 1883. Another species of nearly equal importance is *M. betonicoides*, which was raised from seeds sent from the Calcutta Botanic Gardens. Both these species flowered annually at Kew, *M. Coulteriana* in the herbaceous grounds and *M. betonicoides* in a peat bed in the rock garden.—D. DEWAR, *Bot. Gardens, Glasgow*.

FUEL AND BOILERS.

THE relative merits of anthracite coal and coke have been so often discussed in THE GARDEN, that it seems almost superfluous to again refer to the matter were it not that the present condition of the market renders anything pertaining to the consumption of fuel a very pertinent and opportune question. It may be clearly stated at the outset in reply to "G. H. B." (p. 450) that, weight for weight, at a fairly level price anthracite coal is decidedly the cheaper fuel, given suitable boilers and a careful and economical stoker. Also it may be added that the coal, if possible, should be purchased in cobble form; if received in very large lumps the loss of time spent in breaking it up adds materially to the cost. On the other hand, while recognising from a stoking standpoint the superiority of the coal both in cleanliness and in amount of labour required, if good coke (and there is considerable difference in the quality) can be purchased at a much lower figure per ton, there is certainly nothing to be gained economically by the substitution of coal. In ordinary seasons, for instance, if coke can be delivered from the nearest gas-works at say 17s. per ton, and the anthracite, including cost of transit from station, will be nearly 24s., the difference of 7s. would be more than the superior heating and lasting properties of the coal would cover. I should be prepared to give 3s. per ton more for anthracite; beyond that, to say 5s., there would be little to choose between them in the matter of economy, whilst a wider margin would be decidedly in favour of coke. The qualifying statement in connection with anthracite is made above—"given suitable boilers and an economical stoker," and these are very important factors. It cannot be too strongly impressed upon the stoker that a much less body of fire of anthracite is required to keep up a given heat, also that it must be left to do its work without poking or raking, to replenish at rare intervals being about the only operation necessary. Again, arising indirectly from one of the points under consideration, "that in the case of the anthracite a smaller body of fire will do an equal amount of work," it is obvious, reasoning from this, that a smaller boiler will be desirable; or, to put it more plainly, that whereas with coke as the sole heating power for, say, 1500 feet of 4-inch pipe, a 60-inch plain saddle would be as useful as a 48-inch Chatsworth or Cornish boiler, with anthracite the smaller-sized boiler would be decidedly preferable. Another matter worth careful consideration in any large scheme of heating apparatus is the desirability of working all or nearly all from a given centre. I know this is generally deemed advisable, but it does not always lead to satisfactory results, especially if there is a considerable amount of space between the different structures and the pipes employed in the connections cannot be utilised for any practical purpose.

Here we have a considerable amount of piping serving no useful end, a large amount of heat in an underground trench, much longer time is requisite to get the warmth into the respective houses, and it is no new experience to find that the sockets in such places have not been properly packed. If a socket happens to go wrong, the chances are that it is in the underground trench. Great improvements have been made in boilers of late years, but yet some few of a bygone generation that remain testify to the fact that they were well and truly made. We have one of Sylvester's cog boilers heating 600 feet of 3-inch pipes in a *Camellia* house that was put in its present place over forty years ago and is still doing its work remarkably well, everything pertaining to boiler and pipes being to all appearance as firm and sound as it was when the work was finished. It is a decidedly economical boiler, requiring for its size but a small amount of fuel. In this case small cobble anthracite is a great boon, it being fed from the bottom, and in the original setting not much space was allowed between the lower rim of the boiler and the furnace bars. E. BURRELL.

Claremont.

Death of Mr. John Waterer.—Just as we are going to press we learn with regret of the death, at the age of 67, of Mr. John Waterer, which took place at Bagshot on the 21st inst.

Orchid Grower's Manual.—Messrs. B. S. Williams and Son, Holloway, inform us that they have now in the press a new and much enlarged edition of this work, containing many additional illustrations. It will be issued early in the new year.

BOOKS RECEIVED.

"Chapters in Modern Botany." By Patrick Geddes, Professor of Botany, University College, Dundee. London: John Murray.

"Bulbs and Tuberous-rooted Plants: their history, description, propagation, &c." Illustrated. By C. L. Allen. London: Kegan Paul, Trench, Trübner and Co., Limited.

Names of plants.—*J. Henley*.—1, *Lepicystis squamata*; 2, *Adiantum Wilesianum*; 3, *Asplenium præmorsum*; 4, *Doryopteris palmata*.—*W. Diddam*.—1, *Doodia caudata*; 2, *Blechnum occidentale*; 3, *Doodia aspera*; 4, send again when fertile; 5, *Doodia media*; the others next week.—*G. Oldham*.—1, *Lycaste Skinneri*, light form; 2, *Sophranitis violacea*; 3, *Pilumnus fragrans*.—*J. M. B.*—1, *Phymatodes vulgaris*; 2, *Phymatodes pustulata*; 3, *Asplenium canariense*; 4, *Blechnum lævigatum*; 5, *Doodia lunulata*.—*Eustace F. Clarke*.—1, send in flower; 2, *Enothera odorata*.—*J. T. C. I.*—*Bucklandia populnea*.—*R. Macleod*.—Impossible to name from one leaf only.

Names of fruit.—*J. C. Tallack*.—1, *Colmar d'Arenberg*; 2, *Aromatic Russet*; 3, *Court Pendu Plat*; 4, *Baldwin* (?); 5, *Rosemary Russet*; 6, *Flower of Kent*.—*T. A. Selway*.—1, *Pear rotten*; 2, *Bergamote d'Esperen*; 3, *Beurré Rance*; 4, *Easter Beurré*; 5, *Beurré Rance*; 6, *Apple Beauty of Kent*.

"The Garden" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are best preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1892, forty-two vols., price, cloth, £30 12s.

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All of our readers who are interested in the improvement of cottage homes are invited to help us to make *Cottage Gardening* known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, E.C.

No. 1150. SATURDAY, December 2, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

ORCHARD AND FRUIT GARDEN.

GRAPES KEEPING BADLY.

From various quarters the report comes that Grapes are keeping very badly indeed, and there is every likelihood of their being comparatively scarce by mid-winter, at any rate as far as many private and some few market growers are concerned. Towards the end of October so many Grapes were rushed into the markets, that fruiterers in provincial towns lost a lot, and had to wire to senders to hold back their supplies. Unfortunately, holding back the Grapes meant a heavy loss to the growers, in many cases decay being very rapid after once it sets in. Owing to the great heat of the past summer, Grapes, in common with all other fruits, ripened earlier and more rapidly than often happens, but this in the case of late Grapes would presumably have been in favour of long keeping rather than otherwise. The advice to have late Grapes well coloured and ripened in September is frequently given, and is sound enough. Unless they are ripened largely by the aid of sunshine, assisted by artificial heat during the nights generally, and in the daytime when there is little or no sunshine registered, late black Grapes may colour well, and yet be mere bags of sugar and water. In some cases the water may be plentiful enough and the sugar be conspicuous by its absence, too, little heat being responsible for the want of solidity and richness of flavour. Imperfectly ripened Grapes are very difficult to keep for any length of time, but I cannot believe that the other extreme or over-ripeness is the cause of the early decay of many Grapes this season. It is far more likely that economising fuel has been responsible for numerous failures, and very doubtful economy it has proved accordingly.

During October, and again once or twice in November, we had very changeable weather, but it was during the very warm muggy weather when the mischief was done among hanging Grapes in variety. Everything seemed to be dripping with water, and in vineries where the hot-water pipes were not well heated, and both front and top ventilators opened a few inches, the berries became heavily dewed over for hours together. If the house could have been closely shut, being also well glazed and also heavily shaded, then the atmosphere might have remained fairly dry and no harm been done. Or, again, if the bunches had been cut and placed in bottles of water suspended in a cool, closely-shut dark room, they would have escaped the moisture and kept better accordingly. I tried the experiment of keeping a house with a few bunches hanging in it shut close, but a short partial burst of sunshine so quickly raised the temperature of the house, that moisture collected badly on the berries before air could be given. Unless the berries can be kept dry they will not keep long. If drip reaches them, or they are allowed to remain dewed over for an hour or two, the bloom is destroyed, the skins are softened, and wholesale decay is the sure consequence. Once the skins have been softened, and they are very susceptible of injury, no amount of fire-heat will long stave off decay.

Cracking of berries also took place in some cases, Gros Colman, Alicante, and Lady Downe's all behaving badly in this respect. Too little air, not necessarily quite dry, was the cause of this. Some that I had nearly opposite end ventilators that were kept constantly open did not crack in the least, yet no fire-heat was turned on. It would also appear that the bunches on Vines partially or wholly rooting in outside borders behaved the worst, this being attributed to the heavy rainfall following upon a long spell of very dry weather, but may have been prevented by a freer use of fire-heat. My contention is that the pipes in a house of Grapes should be kept moderately hot during the night-time, or sufficiently so to keep up a good circulation of air, this entering the front ventilators and passing out at the top of the house, the ventilators being set open about 6 inches in each instance. If the atmosphere is dry in the daytime, little or no fire-heat is needed, but it must be turned on freely if at all damp, while during cold frosty nights a good heat should be kept up in the pipes, not, however, because low night temperatures are actually injurious to ripe Grapes, but rather with a view to preventing the berries and house generally from becoming very cold. This may at first sight seem a little contradictory, and I will endeavour, therefore, to make my meaning clearer. When the berries, leaves, and walls become very cold during the night, or, as not unfrequently happens during a spell of very wintry weather, a sudden change to muggy weather often takes place, and moisture condenses on everything cold accordingly, nothing short of hard firing with front and top ventilators open will prevent this in most cases, and prevention would have been safer and better in every way.

When the bunches are cut and placed in bottles of water suspended in properly constructed Grape rooms, it is a comparatively easy matter to keep them perfectly dry and never much above or much below 45°, and no great difficulty is experienced in keeping such varieties as Alicante, Lady Downe's, Mrs. Pince's Muscat, Gros Colman, Mrs. Pearson, Golden Queen, Muscat of Alexandria, Gros Guillaume and West's St. Peter's. The case, however, is very different in makeshift storing places. It has never fallen to my lot to have a Grape room, but few gardeners, probably, have tried to keep Grapes in a greater variety of makeshift places. Fruit rooms, packing sheds, offices, lofts, and spare bedrooms have all been tried with varying success. All things considered, a spare bedroom facing north and with a fire place in it answered better than any place I have yet tried. Fire-heat was kept up only during the prevalence of very sharp frosts, injurious fluctuations of temperature being prevented by the aid of shutters for the window and fire-place and by keeping the door constantly closed. If we allow the surroundings and the berries to become very cold and then set the doors and windows wide open directly the change to warmer weather takes place and before the walls become warmer, we must not be surprised to find the moisture running down the walls and a heavy dew on the berries. It is a state of affairs we wish to avoid, but go the right way to bring about.—M. H. F.

—Grapes may be coloured perfectly and yet not be ripened up sufficiently to ensure their keeping well through the winter. But why some varieties of Grapes should shrivel more than others under apparently the same conditions is, I must admit, rather a puzzle, and it is principally with Muscat of Alexandria and to a lesser degree Mrs.

Pince. Whether there is anything in "Vitis's" theory of shortening the fruit-bearing laterals, time alone will tell. It is, however, not surprising that "Northern's" Grapes should shrivel, seeing that he turned off the heat at the time stated, and their subsequent treatment. At the present time I have perfectly coloured bunches of Mrs. Pince, also Alicante and Lady Downe's without blemish of any kind, and yet a little warmth was kept continually in the pipes during the night, but always with a little ventilation both at the front and top of the house. One bunch of Mrs. Pince has shrivelled. This had the least colour, and was not ripened so well as the others. In another house wholly devoted to Muscats and which were fit for cutting the first week in September, there are bunches now hanging perfectly plump and fresh, and others shrivelled on the same vine. At an exhibition I attended last week three perfectly coloured bunches of Mrs. Pince were exhibited. I have known the Vines now for some years that these Grapes were cut from, and the Grapes are always the same. These Vines are also subjected to a little warmth continually in the pipes during the night. Why some bunches of Muscat of Alexandria should shrivel and others not, though growing on the same Vine, is a mystery. On some other bunches a berry is shrivelled here and there. Upon examining these I find the stones are not so perfect as in those not shrivelled. It may be that the stoning is not perfect on those bunches which shrivel generally. It is also observed that the berries of Muscats that are fully exposed to the sun through having the leaves removed—a very questionable practice, however—are often the first to shrivel.

When living in Herefordshire I had a vinery wholly devoted to Muscats, and shrivelling never caused any anxiety. I daresay that the cause of the Muscats shrivelling in many vineries this season has been solely on account of their not being ripened up satisfactorily. This, it must be understood, I do not put forward as the sole cause of shrivelling, for as I have previously pointed out this sometimes takes place with Grapes that are apparently well ripened in every respect. The ripening may be arrested from other causes than the want of warmth, such as scalded leaves and also perhaps on account of red spider and thrips. Partially coloured berries will also shrivel more quickly than others perfectly coloured. To the keeping of any kind of Grape in good condition after being fully ripe, or until cut or bottled, I am certain that the practice of turning off the heat during the night is not conducive. Fixed temperatures I do not believe in, but the slightest warmth should be maintained in the pipes continually with a little air both on the top and bottom ventilators during the night and on dull days, increasing it more or less on fine days.—A. YOUNG
Abberley Hall Gardens, Stourport.

Strawberry Stirling Castle.—Seasons have always more or less effect on the Strawberry crop; still some varieties are less influenced than others, and Stirling Castle is one of the best of that class. In wet or dry seasons it always proves satisfactory, and as a fruit for jam-making it is second to none. A large grower informed me that he had marketed 130 tons of it this year, and for its general excellence he found no other variety to equal it.—W.

Raspberry Norwich Wonder.—This is one of the best varieties that can be grown for market, as the canes are strong, healthy and less affected by drought than those of any other kind that I am acquainted with. Its cropping qualities are also first-class. During the past season, which has been a most trying one for Raspberries, it has produced by far the heaviest crop of any, and also made the finest canes for next year. A variety named Victoria so much resembles Norwich Wonder in every point, that I fail to see any difference.—W.

Home versus foreign fruit.—If any doubt existed about the home-grown Apples being inferior to any received from abroad, the doubter

has only got to visit some of our leading hardy fruit exhibitions to see that we can hold our own and surpass the best importations. This season has been remarkable for fruit keeping badly, yet in spite of that there was held at Hereford on the 15th, 16th, and 17th of last month a magnificent show of Apples, Pears, &c. The fruit was larger, of better colour, and in far greater quantities than last year at the same place, and the farmers' classes particularly indicated a most decided improvement. The Kent fruit exhibited by Mr. Bunyard was very fine, but there was a very close competitor to him in Mr. J. Watkins in the 100 dish class; in fact many thought the latter had the finest fruit and I think it only a question of time when the Herefordshire Apples will be second to none. Amongst other large exhibitors Mr. C. Lee Campbell, Glewston Court, Ross, Mrs. Evans, Moreton Court, Hereford, Sir J. Pulley, Lower Eaton, and Lady Emily Foley, Stoke Edith, put up splendid fruit that would compare favourably with any from any quarter of the globe. Last year I requested one of the largest Apple importers to send me samples of the best Canadian and American Apples to compare with some of the finest home-grown ones; he kindly sent me about a dozen samples, six fruits of each, but they were inferior in both size and quality to our own. If growers would only produce in bulk such fruit as shown at Hereford, the foreigner would soon be excluded from our markets.—W. G. C.

FRUIT GROWING.

I GRATEFULLY acknowledge the compliment of "Stirling" (p. 452), and quite agree with what he says on fruit growing. He truly says, "there is much yet to be accomplished both in Kent and Worcestershire." He also infers that progress is more nominal than real, which is true to a certain extent only, for, notwithstanding such discouraging views, there are many distinct signs of real progress and work rightly done. In the first place, it is an acknowledged fact that we are producing better quality fruit year by year, and it has, moreover, been publicly stated repeatedly this season by experienced salesmen that English grown fruit is well able to hold its own against that of foreign importation. That I take to mean as long as the English-grown Apple crop holds out. This information from such a source is at least encouraging, but, however, in common fairness, on the other hand, it should be mentioned that the foreign crops this year are by some means somewhat inferior. At all events, there is at the present time a demand for good home-grown fruit at fair prices, viz., 12s. per cwt. and upwards, a demand which I do not think can be met and sustained. As a rule one sees the best results obtained by men with small holdings, and I have repeatedly seen these men place on the exhibition tables of small local shows better samples of home-grown fruit grown under ordinary, but diligent cultivation than those seen at metropolitan or provincial shows of greater pretensions. This, too, is evidence that the soil is suitable, the climate favourable, and that only intelligence and enterprise are required to bring about the success we are striving to secure for the depressed British farmer in suitable districts. Unfortunately, there is no class of men individually so prejudiced against new methods of utilising the land, nor any so slow to put modern safe principles into practice as the average British farmer, and I believe it will take him a generation to learn the practical lesson of fruit growing and to properly market the same, for although corn and cattle farming are at a very low ebb, he yet waits and hopes on, "Micawber-like," that something will turn up. It is pretty certain he has already sunk a

large proportion of his available capital with little chance of realising; therefore, if willing, he finds he cannot stand the first few years of light returns from fruit farming, which is possibly the greatest drawback. Anyhow, whatever planting he does, he only does in a half-hearted sort of way, lacking the necessary enthusiasm to command success, although in our case the very best kinds and well-rooted trees are supplied him free of cost, but for which some are not particularly grateful; on the contrary, ask to have them planted, staked, fenced or pruned for them. In some cases this even has been done, but there are many notable exceptions; in fact, personally, I think under the circumstances it would be well to plant and take the trees in hand for the first few years, for the reason that the foundation of well-furnished permanent trees would be secured. Probably this would lead to the proper thinning of the fruit, when possibly friction would arise. The average farmer is so conservative in his notions, that he prefers replacing with young trees the old ones blown down or decayed, instead of the infinitely better plan of breaking fresh ground and planting an entirely new orchard. The greatest success is found where the farmer happens to be planting a new hop yard and where he can be persuaded to plant trees to succeed the Hops. The cultivation and manures thought necessary for the Hops are available for the trees, and good permanent growth is secured. There has hitherto been a general desire to plant Ecklinville Seedling on account of its early and precocious bearing qualities, but now it is found to be one of the worst Apples for travelling on account of its thin skin and soft flesh coming out damaged and discoloured. On this estate experiments have been carried on so as to find out the best kinds for tenant farmers' market purposes, and upwards of 200 kinds are under trial, whilst stocks of those kinds are annually worked up according to their respective merits. We think very highly of Newton Wonder, Bramley's Seedling, Bismarck and Gascoigne's Scarlet Seedling for standard orchard trees; Lane's Prince Albert, Lord Grosvenor and Pott's Seedling for bush trees. American Mother, Lady Sudeley, Beauty of Bath and May Queen have been added to the dessert section and will be grafted in quantity.

Undoubtedly the best Apples for market are those having fairly thick skins and plenty of colour, preference being given to those which remain dry if slightly bruised. The most promising young orchards we have are to be found on farms that have fallen into the owners' hands during the past ten years and where the trees have been properly attended to. Some are planted with all choice Apples, others with Pears, and some with Plums, both on turf and on arable or Hop land. W. CRUMP.

Madresfield Court.

Forcing Peaches.—The early houses will in many gardens be now started, and the buds will be carefully inspected daily to see if that dreaded evil "falling buds" is likely to take place. While not attempting to give any of the numerous causes of bud-dropping, I believe that the lack of potash on light soils has much to answer for in that respect. Nearly all light land is deficient in potash, and when we consider how much of that element is extracted from the soil annually by the fruit alone, containing, as it does, so large a percentage of potash, it will at once be apparent how necessary to good health and production of fine fruit is the return of potash to the soil in rather a copious manner, otherwise the annual loss will become greater, until the trees, crops, &c., are all in a stunted and unsatisfactory state, and the trees

and borders have to be cleared out and a fresh start made. I know that many gardeners are heavily handicapped in the way of manures, particularly chemical manures, but if employers would only give this matter some consideration, they would at once see how much it is to their own interests to supply their gardeners with means to produce fruit in quantity and of the highest quality. Having to deal with a very light sandy soil, I have found chemical manures of immense value in fruit growing, especially Peaches, for which I use muriate of potash, applying 1 oz. to the square yard just before starting the trees, a similar dressing at the stoning period, and again as soon as all the fruit is gathered. The earliest house is always started about the middle of November, and though planted principally with a variety (Early Alexander) noted for casting its buds, I have had very little to complain of in that respect, and I would suggest a trial of the above-named manure to those who have been troubled with bud-falling on a light soil. I may add that before I used the muriate of potash, neither trees nor fruit was satisfactory; now, after six years' use, both have kept on improving.—W.

Apple Byford Wonder.—At the recent fruit and root show held at Gloucester a grand dish of the above was exhibited in the class for any cooking variety not named in the schedule. The competition was keen, and many good dishes of Apples were staged, but the variety mentioned was an easy first, owing to its immense size, heavy weight and attractive appearance. The fruit, I understand, will keep sound and plump until March, and as a cooking variety it is unequalled. In addition to these good points the tree is a most abundant bearer, and should prove a valuable acquisition to the list of late Apples, not only for amateurs, but also for market work. I would suggest that a dish be sent to one of the Royal Horticultural Society's meetings, as I believe it to be quite distinct and well worth distributing.—W. G. C.

Pear Josephine de Malines.—This is certainly one of the grandest winter Pears in cultivation, being of most delicious flavour. This latter characteristic, however, is developed according to the soil and position in which it is grown. Given a warm soil and favourable aspect, then fine flavour is assured. The late Mr. A. Barker, when gardener at Hindlip in this county, used to have it in perfection; in fact, nowhere have I seen it so good. Instead of being of a dull green when gathered, it had quite a pale yellow cast with a tinge of colour on the sunny side, the fruits also being large for the variety. Possibly there may be instances of its having ripened satisfactorily on trees growing in the open in favourable soils and districts during the past season, but the proper position for it is a south or west wall, preferably the former, as then success is more assured. I have had it excellent both from cordons and fan-trained trees on the Quince, and from this latter form also on the Pear. I have also noticed that those fruits which ripen the quickest are from trees on the Quince. As a cordon or even under other forms Josephine de Malines is rather slow in coming into bearing, but this to some extent may be remedied by lifting the trees after they have reached a fair size. During some seasons again the flavour is improved and ripening hastened by placing the fruits in a warm house for a few days. In this case the process is more perfect and the colour more pleasing if the fruits are placed in a single layer in a shallow box with a layer of wadding above and below the fruit.—Y. A. II.

Fish heads for Vine borders.—Fish heads are doubtless a good manure for Vines provided they are well prepared by incorporation with turfy loam and allowed to remain unused for some time. If mixed in the proportion of 2 cwt. of fish heads to one load of soil in the autumn, and allowed to stand unmoved all winter, then in spring turned over several times, adding thereto a goodly portion of old mortar or lime rubbish, it will form a good top-dressing, over which should be placed a shallow covering of sweet horse droppings. The

most luxuriant and fruitful lot of Vines in the midlands had a large percentage of fish manure mixed up with the compost when the borders were made, but evidently there was a lack of preparation previously, as the Vines for several years did not progress satisfactorily; after this date, however, they made headway. I once remarked to Mr. William Thomson, of Clovenfords, that Mr. Dowding, of Oak Hill, near London, many years ago formed his Vine borders, which grew such celebrated Grapes, partly of carrion, and asked how it was if this article was so injurious to the roots of Vines, as many contended, that such good results followed Mr. Dowding's use of it. He replied, and, I think, rightly too, "that the Vines grew splendid Grapes, not on account of the presence of carrion, but in spite of it, adding that no doubt when once it was reduced to its kindred dust it would add to the richness of the border, but until then the roots were better without it. Doubtless all flesh manures are better for being mixed with some absorbing material, or much harm may follow their use.—J. CRAWFORD, *Cod-dington Hall*.

MARKET FRUIT GROWING.

It is many years since such a crop of fruit has been gathered in this country, for all parts of the kingdom appear to have been equally favoured. As the land under fruit crops has of late years increased at a rapid rate, the quantity grown has been very great in the aggregate. Whether such heavy crops are an advantage from a market grower's point of view I very much question, as I think many will find by the end of the season that, although their crops have been much heavier than usual, their profits have not been equal to those from much more moderate crops, as the extra expenses of gathering, marketing, &c., combined with the very low prices, have left but little for the grower. It is very difficult to arrive at a correct estimate of what the average prices have been, and, as far as I can gather, the growers who have found a market for their produce within a few miles of their homestead have little to complain of, while those who have to send their goods by rail have fared badly, and it is not surprising that we hear of many despairing of fruit culture and talking of grubbing up their trees. A little sober reflection will, I think, make them think twice before they act on such a hasty resolution. Grubbing up is the right course to adopt, I do not deny, in the case of a good many of the fruit trees grown, but only the inferior sorts the fruit of which fails to meet a ready sale even in years of scarcity, and which in a year like the present can hardly be given away, ought to be destroyed.

When I speak of good market kinds of fruit, I mean a kind that catches the salesman's eye, and is not shunned by fruiterers. Some of the very best fruits for private use are not to be recommended for market. For instance, Ecklinville Apple is a really fine variety, but I hear from many that it is condemned as a market sort. I would advise those who are in doubt about what to do with their fruit gardens to weed out all the varieties that they find do not find favour with buyers and to fill up with those that do.

Fruit, like all other perishable goods that must be sold at once, will always be liable to glut the market, and the prices realised then do not pay working expenses. The demand for fruit increases enormously, but the means of getting it conveyed to where it is wanted is one of the greatest drawbacks to its being sold at a price within the reach of all; consequently growers at long distances from market have a real difficulty in disposing of their goods to ad-

vantage. Railway rates are excessive, and local rates appear levied on land as if it were the only thing in the country that yielded any profit at all. Much could be done to aid the fruit grower by a readjustment of taxation, and much more can be done by the growers themselves learning how to dispose of as well as how to grow their fruit. We are yet very much behind the foreigner in the art of packing and grading our fruit; all the improvement has been in growing fruit.

I suppose there never was a finer crop of Pears than this year, not only as regards quantity, but also size and quality. Although our home-grown fruit was so good and cheap, many fruiterers have given a higher price for French or Channel Island Pears, for the simple reason that the boxes contained so many fruits all of equal size, while the home-grown mostly came to hand in sieves or bushels with several sizes mixed together. This is only one of the things that tend to keep down the price of the home grown fruit.

In storing fruit there is also much room for improvement. Apples like Blenheim Orange, Wellington, &c., have been gathered and rushed on the market and sold for about half what they would be worth in December. Surely if it is worth growing good fruit it is worth taking a little trouble to store it and sell in the best market.

The present outlook as regards planting fruit trees may possibly have received a slight check, owing to the low market prices, but I think if more care in selection of varieties were taken by those who know not only that the varieties are suited for market, but suited to their own locality, they would still find fruit tree planting by no means a poor investment. Beware of very soft or light Apples that look very well on an exhibition table, as, for instance, a good dish of Emperor Alexander. Pears are even more capricious, and the list of varieties suited to a market grower is not at all large, although there are hundreds of sorts to select from.

Happily, there is one thing that ought to cheer any that are inclined to despond, viz., the splendid rains and mild weather that have filled up the buds and invigorated trees and bushes after the heavy strain they have borne for months. Where trees have been carefully cultivated, there is no reason why a good crop should not be borne next year.

Gosport.

JAMES GROOM.

THREE GOOD NEW STRAWBERRIES.

A CONSIDERABLE number of new varieties of Strawberries has been raised and distributed of late years, but it is to those raised by Mr. Allan, Guntun Park, that I would particularly draw attention. If some of our old favourites are ever displaced it will be by the Guntun trio, these possessing every requisite that goes to make a Strawberry popular. Varieties that require extra good culture to keep them in a profitable state, and those in particular that are somewhat fickle as to soils and localities, inevitably die out, no matter how good the quality of the fruit. In this category I must include both British Queen and Sir Charles Napier, both of which are considered by connoisseurs to be of exceptionally good flavour, though perhaps the latter is somewhat too acid for all palates. In this neighbourhood both quickly die out, the foliage not being proof against a moisture laden atmosphere accompanied by severe frosts at times. The nearest approach to Sir C. Napier in productiveness, size, rich colour, and brisk flavour that I have yet tried is to be found in Countess, and the latter is also robust and hardy. When, therefore, Mr. Allan commenced experimenting with a view to raising varieties of

superior flavour without the concomitant of a weakly habit of growth, he could not possibly have selected anything better than British Queen and Countess for the purpose of effecting valuable crosses. Other crosses in which British Queen figured prominently did not prove at all satisfactory, the whole of the seedlings thus raised by Mr. Allan being discarded in favour of those resulting from British Queen and Countess crosses. Of these latter there are three very distinct varieties now being generally distributed, large numbers of plants being already well established in numerous private gardens. The first to be described, because most favoured by those who have tasted fruit of all the trio, is named

LORD SUFFIELD. Each time I had an opportunity of tasting this excellent Strawberry its superior quality was unmistakable. The fruits are long, comparatively thin, and tapering, reminding me somewhat of the old Rivers' Eliza grown to its full size, but the colour is quite distinct, being of a dark glossy crimson, or nearly as much so as Waterloo, the flesh being firm, rich and sweet in flavour, without, however, cloying the palate, while the seeds are well on the surface. In

EMPRESS OF INDIA we have a variety possessing the full rich flavour of British Queen and none of the latter's weak points. The fruits are fairly large, of good conical form, bright glossy scarlet in colour, the flesh being firm and the seeds well on the surface, this constituting it a good traveller Of

GUNTUN PARK, the other variety to be noticed, it is said by those who ought to be good authorities that it is likely to become the "market Strawberry of Strawberries," and, according to my experience, this prophecy bids fair to become realised before very long. In this instance the fruits more nearly approach the shape of Countess, being flat or cockscomb-shaped, but of greater depth near the stalk. Personally I have formed a high opinion of the quality of Guntun Park, the flavour being a happy mixture of British Queen and Countess, and no fault can be found with either the colour, firmness of flesh or good travelling and keeping properties of this fine Strawberry.

The first time I tasted fruit of these three varieties it had been gathered from forced plants, and though nearly two days travelling before it reached me, yet in each case it was in excellent condition. Others gathered from the open ground were equally good and travelled remarkably well.

Those who have procured plants of these Strawberries will bear me out in the assertion that there are no signs of a weak constitution about them—quite the contrary, in fact. We have also had very good proof that all succeed well under pot culture, and, seeing that Mr. Allan has frequently pitted them against all other varieties in open competition, both collectively and in single dishes, winning premier honours in each instance—including those where the flavour test was applied—there is every probability of their becoming popular among exhibitors as well as those who rightly place rich flavour before great size. All, apparently, are main-crop varieties. It is very much to the credit of Mr. Allan that he should be able to raise three varieties of Strawberries each deemed worthy of receiving a first-class certificate from the Royal Horticultural Society.

W. IGGULDEN.

Raspberries in Norfolk.—Mr. English, a farmer at Garboldisham, near East Harling, Thetford, picked the enclosed Raspberries from his garden this afternoon, and gave them to me as I was walking past his garden. I send them to you, as it may be of interest.—G. J. COOKSON, Nov. 17.

Amsden June Peach for open walls.—Probably after the hot summer of 1893 many will be inclined to replant, at least to some extent, their Peach walls in the open air, and surely the stout well-matured wood visible in all trees occupying such positions this autumn will warrant such a course. To all intending planters I would strongly recommend the variety Amsden June. Several years ago it was favourably mentioned in THE GARDEN by Mr. Coleman, Eastnor Castle, and, acting upon his advice, I immediately planted it in the half

standard form, which I prefer to all others, as the union with the stock, always a more or less tender part, is thus elevated beyond the chilling effects of frost and damp, and the bottom portion of the wall can always be furnished by training the branches downwards. The tree bore heavily the second season after planting, and has never failed since. The fruit is large, carries a fine colour, and is, moreover, of good flavour. Although this is, I believe, an American variety, I am inclined to try it under glass, as if it would retain its flower-buds in spring it would prove a worthy substitute for the capricious Alexander and Waterloo.—J. CRAWFORD.

Pear Triomphe de Jodoigne.—I cannot agree with Mr. E. Burrell as to the above variety of Pear being at all a satisfactory one to recommend for planting. True, it makes a fine looking tree, is prolific, and the fruits grow to a large size, but the flavour is coarse in the extreme. It certainly might have come of better quality this past season, but I discarded it long ago. My opinion is not singular, as I have heard several people speak of it in the same terms as myself.—Y. A. H.

KITCHEN GARDEN.

SEED PEAS.

It would be folly after the past season's experience not to anticipate an enhanced price for Peas during the coming year. The drought of the past summer simply prevented the development of the crops, so that in many places there was either a miserable crop or literally none to harvest. Of course we are not entirely dependent on home-grown Peas; if we were, it would go very hard with us often, and especially now. Still with all the world to find us seed, there were such universal losses from drought, that crops are almost as short on the Continent as here, and seedsmen have found it very difficult to get their requirements supplied. All the same, it must be expected that some old seeds will be sent out in the spring, and some that, if new, will be hard and imperfectly matured. So much is inevitable, especially among wrinkled Peas, because these seem to have suffered everywhere, the shrinkage in seed-produce being almost without precedent. Under these circumstances it will be well if gardeners or others using seed Peas should try and meet the seedsmen half way. Almost everybody sows Peas too thickly. There is no feature in gardening more common than this, and whilst no gardener could afford to have fewer Peas to gather, it does seem as if all that is needed could be furnished with one-half the usual quantity of seed. It may be pleaded, however, that it is just when seed is of doubtful germinating quality that thicker sowing is needful. That may be true in some cases, although it is not an absolute necessity. But in the case of Peas, and especially of the later or wrinkled varieties, how much might be done to counteract the evil arising from immature or old seed if the plants be raised singly in small pots for once, and being helped by the warmer temperature of a frame, there is far better prospect of inducing imperfect seeds to make pretty good growth than is likely to follow when the seed is sown in the open ground. If two hundred, or even double that number of small pots be sown with the best selected seed Peas, it is pretty certain that 80 per cent. would grow, and some 100 single plants only turned out of pots when but 4 inches in height would make at but 3 inches apart a grand row 40 feet long. Plants so raised and put out would, if the ground had been previously well prepared, make

fine growth. The distance apart might be increased with advantage. But just such sowings made once every ten days during the summer would give a considerable saving of seed, and it would ensure that the plants throughout the row were perfectly equal. Even were raising in this way thought to be too much trouble, hard selection of the best seeds and dibbling them out thinly into the drills would prove a saving method. Then it will be very wise, not merely in the case of Peas, but in relation to some other seeds, not to sow too early. A week or so later when the ground is warmer may make a great difference in favour of germination. There are few garden seeds in fact with respect to which it may not be assumed that because of the untoward drought of last summer they may lack much of the ordinary vitality. Market growers will probably feel the pinch most, for a few shillings more per bushel is never recouped by a higher price for their pod produce, as that is governed by other considerations. A. D.

Flavour in Brussels Sprouts.—I am well aware a great deal depends upon the cooking, more especially at certain seasons. In a season with abundant rainfall there should be no complaints as to vegetables being strongly flavoured. Some may say that such weather does not add to flavour, but promotes size. I object to size, and do not plant those kinds which are noted for mere size. In vegetables quality should be first, and there is no loss, as more plants can be grown in the same space as the coarser varieties take up. Of late I have noticed a decided leaning to quality in judging vegetables. This is a step in the right direction, and one that should be encouraged, as anyone who grows vegetables in quantity and studies their quality knows that in nine cases out of ten those vegetables which are not coarse are the best flavoured and also resist changes of weather. The flavour of a good type of Rosette Colewort at this season cannot well be improved upon. This shows that quick growth tends to good flavour. I prefer a dwarf early Brussels Sprout for various reasons. The sprouts can be boiled and served whole. When cut they are not yellow inside like an overgrown Cabbage; the green portion is always the best flavoured. This is retained in a medium-sized sprout, whereas in a larger one a great portion of the green leaves is cut away in preparation. It may be said that even dwarf kinds get large if planted early, but the sprouts do not if the strain is good, and those who have to provide a long succession would do well to make two sowings, one in frames early in the year, and the second in the open early in April. From these two sowings three plantings are obtained, and firm, green, bullet-like sprouts from the end of September till March. After making a trial of many varieties I prefer the Paris Market. I would add just one note as to cooking. Abundance of water is necessary, and, with strong vegetables, two lots of water, boiling water being used to put the sprouts into the second time. The sprouts should be boiled gently, then drained through a sieve and dished up whole.—G. WYTHES.

Protecting Globe Artichokes.—It is now high time the stools of this somewhat tender vegetable were mulched as a protection against severe frosts, should such occur. During the last two or three years rows of these have perished either through being left to take care of themselves, or from being surrounded by half-rotten manure. I think of these two evils the latter is the worst, as the material holds the moisture and is afterwards frozen into a solid mass, frequently destroying the roots altogether, or weakening the plants beyond recovery. The best way is to surround the stools with a good quantity of stable litter, working it well in amongst the crowns with the hand. This, while excluding frost, allows all superfluous moisture to pass away. Where it is found necessary to renew the stock, obtain offsets from a good

strain, as seedlings are generally worthless, producing small and, in many cases, useless heads. Of the green and purple-headed varieties, perhaps the former is the more popular.—JOHN CRAWFORD.

THE TOMATO SEASON.

THIS has been an ideal season for Tomatoes in the open air, the growth being hardy, fruitful, and free from disease of any kind. If we could depend upon Tomatoes succeeding generally as they have done this year, we should soon see an increase of cultivators, especially amongst amateurs, and in small gardens where they cannot be grown under glass. Although the season has been so favourable, yet the success which has followed must not be wholly attributed to the weather, as even in a season like the present success has been much more apparent when close attention has been given to all important details connected with open-air culture. Not the least is the importance of putting out good strong plants as early in the season as possible, that is compatible with safety. Weakly plants lead to failure, as the greater part of the most favourable weather is past before a satisfactory growth is formed, and by the time this gains strength to produce fruit, it is too late for this to become ripened. With strong well-furnished plants there is no loss of time, as they keep on making satisfactory growth, which in its turn produces fertile trusses of bloom, to be followed quickly by fruit. When fruit is formed late in the season, the short and moister days of autumn are upon us before the ripening process is finished.

It must be generally admitted that we have secured within the past two or three years varieties which are more amenable to outside culture, being altogether more fruitful and not so gross in growth. It is the gross growing varieties which produce large and ugly fruits, and very few of these to a plant. The variety which I have proved to be the best for open-air culture is

EARLY RUBY.—This is an excellent Tomato for early fruiting, but it is not one that I should select to depend upon exclusively throughout the season, as it does not possess sufficient stamina, and the fruit also comes too much corrugated. But earliness and free fruiting are great points in its favour, and these must be considered. I also notice that the fruits are not so corrugated earlier in the season. It is not at all a strong grower, but ripe fruit, and this of good quality, was produced much earlier than on others growing alongside. I have also formed a good opinion of

LADYBIRD as being a variety well adapted for open-air culture. In growth it is only moderately strong, but very fruitful, several fruits to a truss, these ripening up continuously and well. These small-fruited sorts will be found to ripen up much quicker than larger varieties. Other two varieties which I am especially pleased with are **Challenger** and **Conference**.

Planted against a low wall, all the above varieties have produced an abundance of fruit.

A. Y. A.

A running kidney Bean.—On page 472 of THE GARDEN of November 11 we notice Mr. W. Iggulden's remarks concerning a running kidney Bean. We think that Mr. Iggulden cannot be acquainted with our climbing Bean, Sutton's Tender and True, which we introduced in the year 1892. It is exactly what he describes as having seen at Longford Castle, a climbing Bean about 4 feet high, with long, straight pods that cannot be distinguished from those of Canadian Wonder. The seeds are also exactly alike; in fact it was selected from this variety. Our Tender and True was awarded a first-class certificate by the Royal Horticultural Society, and nearly all the horticultural papers have spoken in its praise. During the two years that we have distributed it to our customers, we have had an immense number of testimonials from them saying what a great acquisition it is, having all the advantages of a large-cropping, continuous-bearing runner Bean with the delicate flavour of the dwarf.—SUTTON AND SONS.

FERNS.

POLYPODIUMS.

Among the Ferns most valuable for decoration, Polypodiums occupy a prominent position. The genus is very extensive and comprises plants of small, medium and large dimensions, adapted either for growing in suspended baskets, for pot culture, for planting out in the open-air fernery, or as edgings for the rock garden. The geographical distribution of the genus is such that it may safely be said that Polypodiums of one section or another are found in nearly every part of the globe. Besides the common Polypody (*P. vulgare*), which makes for itself a congenial home in the mossy bark of old trees or on the tops and in the crevices of old walls, or which we find clothing the sloping sides of our hedge-banks, where it frequently forms a dense mass of undergrowth among the roots of the hedges themselves, the most remarkable species

which are distinguished from each other by their mode of venation or of fructification. These are *Campyloneuron*, *Cyrtomiphlebium*, *Dictyopteris*, *Dipteris*, *Drynaria*, *Goniophlebium*, *Goniopteris*, *Grammitis*, *Nipholobolus*, *Phegopteris*, *Phlebodium* and *Phymatodes*. All the foregoing, and more than forty other names which have now become obsolete, are Polypodiums, inasmuch as they have round or roundish sori (spore masses), which are naked or without indusium or covering and composed of sporangia (spore cases) with an incomplete vertical ring. With few exceptions Polypodiums are provided with rhizomes or decumbent stems from which their fronds are produced. In some species the fronds have their stalk adhering to and continuous with the rhizome, and are of an evergreen nature; but by far the greater number of Polypodiums have their frond-stalks articulated to the rhizomes and are either wholly deciduous, like our own Oak and Beech Ferns, or partly so like our common Polypody, the beautifully purple-

plenty of height to allow the fronds space to hang, a specimen with numerous fronds each 10 feet to 12 feet long is a sight not easily forgotten." The same author also indicates another use for this plant when he says: "This Fern can with great advantage be utilised for covering dead trunks of Tree Ferns; in such positions it makes a very beautiful object and grows apace, as it delights in sending its roots and rhizomes into partly decayed vegetable matter."

Among the strong-growing kinds of either erect or semi-drooping habit which show themselves to greater advantage by being planted out in the rockery I may mention the glaucous *P. aureum* and its variety *sporadocarpum*, *Billardieri*, *fraxinifolium*, *heracleum*, *irioides*, *musaeifolium*, *ornatum*, *Phyllitidis*, *subpetiolatum*, &c. Among the species of medium growth particularly attractive through either the singular shape or the pleasing nature of their foliage, the most distinct are *P. angustatum*, *appendiculatum*, *clunodes*, *drepanum*, *fossium*, *heteractis*, *lingua* and its crested and contorted form *corymbiferum*, *Meyenianum*, *platyphyllum*, *vulgare cambrieum*, *elegantissimum* and *pulecherrimum*, and also the very singular *P. xiphias*. Of the dwarf-growing Polypodiums best known in gardens, the most useful and attractive are *P. accedens*, *acrostichoides*, *adnescens*, *alpestre flexile*, *Dryopteris*, *hexagonopterum*, *glaucophyllum*, *lycopodioides* and its variety *salicifolium*, *piloselloides*, *Phegopteris*, *reptans*, *rustre*, *tricuspe*, *stigmaticum* *vaccinifolium*, and the beautifully marked *venosum*, most of which make very handsome objects when grown on a pyramid of turfy peat.

A small number of Polypodiums, such as our Oak and Beech Ferns, are provided with rhizomes of a slender nature, which delight in running underground in partly decayed vegetable matter, but in the majority of cases the rhizomes of either a fleshy or of a woody nature prefer being kept above or close to the ground to which they have the faculty of adhering very firmly. The Polypodiums best adapted for pot culture are those in which the fronds are produced from a central crown, although those provided with underground rhizomes may be managed equally well in pots or planted, according to their native habitats, either in the stove, cool rockery or outdoor fernery. The soil which suits these best is a compost of one part leaf-mould or fibrous peat, two parts fibrous loam and one part silver sand. For those species which are provided with rhizomes of a more or less woody nature, which keep near, or even on the surface of the soil, a material of a different nature is required, and they have been observed to grow more luxuriantly in a mixture in which good fibrous peat or half-decayed leaf-mould predominates and with a small portion of fibrous loam. In their case no silver sand is required. The propagation of the species provided with rhizomes may take place almost at any time of the year by division, while the others are most rapidly increased by means of spores, which in the majority of cases germinate freely when sown in heat and soon after they are ripe. It is worthy of notice that the plants raised from seed are usually of better shape than those of the same species produced by division of the rhizomes.

A FERN LOVER.



Polypodium nigrescens. Engraved for THE GARDEN from a photograph sent by Mr. G. J. Anson, Clapton.

native of Great Britain are the Oak Fern (*P. Dryopteris*), the Beech Fern (*P. Phegopteris*) and the Limestone Polypody (*P. calcareum* or *Robertianum*), all well known to Fern lovers. But even these species, although indigenous to this country, are of a very cosmopolitan character, the range of their habitat extending to North America and Japan. There are a few species native of Australia and a few native of Japan, while a certain number of very distinct species are found throughout India, and a few others are native of the United States of North America and Canada. It is in Central and South America, however, that Polypodiums are most abundant and also most varied in form and in the texture of their fronds. An idea of the importance of the genus may be gathered from the fact that Nicholson, in his "Dictionary of Gardening," vol. iii., p. 186, states that "the genus Polypodium comprises upwards of 460 species," and also from the numerous sub-divisions to which it has been subjected by various authors. There are still a dozen of these sub-genera retained by Hooker and Baker in their "Synopsis Filicum," all of

veined *P. appendiculatum* and the deservedly popular *P. aureum* and *P. nigrescens*, the former of which is illustrated in THE GARDEN of February, 21, 1885, while the latter forms the subject of to-day's illustration. *Polypodium nigrescens*, native of Samoa, Fiji and the Malay Islands, is also found in several localities in Southern India. It is a strong-growing species of very distinct appearance, interesting through the very conspicuous and ornamental nature of its spore masses, which, being sunk in a deep cavity, are prominent on the upper surface, a character which is shared by several other species of robust growth, principally *P. subauriculatum* and *P. verrucosum*. All these and other kindred species thrive in a minimum temperature of 55° in winter, and in a lofty structure, where room can be afforded, nothing can be more beautiful than a hanging basket of *P. subauriculatum*. Speaking of this handsome species, native of Malaysia and the Philippine Islands, Schneider, in his "Book of Choice Ferns," vol. iii., p. 220, states that "in the centre of a warm conservatory it surpasses all other Ferns in elegance, and where there is

Primula capitata (Roylei).—I am sending you a bloom of this fine species and a photograph of the plant from which it is taken. The plant is growing in a little alpine house in my nursery here, and the bloom is one of eleven on the same plant all out together. I suppose there is scarcely

a month in the year in which I have not bloomed this plant, notably in the winter months, and with the shelter of an unbeated house or frame it has been a fine spot of colour. The plant is so far more commonly seen of a quality in many respects inferior to this, that I have the impression that I may have become possessed of a distinct and superior strain worthy a distinct name. The superb character of the purple will be noted, and I believe I am right in stating that the individual blooms (and not merely the blooming season) endure for many months if sheltered from the worst weather. The strain, too, is here quite hardy and long-lived. From all accounts this latter quality is not a common one with this species.—H. SELFE-LEONARD, *Guildford*.

FLOWER GARDEN.

CAMPANULA GARGANICA.

ON page 454 of THE GARDEN there is a note headed "Campanula muralis (Bavarian variety)." Before speaking of any particular species or variety I should like to say a few words about the nomenclature, and especially the nursery nomenclature, of the genus Campanula. The best botanical catalogues enumerate nearly 100 European species of Campanula, besides at least as many more synonyms and varietal names, giving rise to endless cross naming. About half the species have a very limited area, many being confined to Greece or its islands, some to Crete, or to a single island in the Greek Archipelago. A large proportion of these have never been, and are never likely to be in general cultivation in England, and if we include the annuals and biennials of the genus, I cannot count more than about thirty good perennial species known to English gardens. I am aware that a collation of nursery catalogues would supply many more names than this. Some years ago I collected a Campanula of every name I could find offered. Then came the difficult process of verification. With the help of the Kew herbarium I reduced nearly a dozen names to the two species *C. garganica* and *C. Portenschlagiana*, and at least as many more to the one variable species *C. rotundifolia*. I was warned at Kew to exclude the name *C. muralis* of Portenschlag, which has been eliminated from authentic botanical catalogues for at least half a century. If anyone asks why the name survives, I can tell them one reason which I discovered whilst trying during several years to improve the very confused nomenclature of hardy plants in nursery catalogues. Some of the nurserymen readily adopted my corrections, but one eminent firm in the north replied that they knew many of their names were wrong, but if they changed them to right, they might be accused of the (unpardonable?) offence of selling an old plant under a new name. I presume that this is one of the few nurseries at which, as we are told, *C. muralis* may be bought true.

Now for *C. Portenschlagiana*. The botanist Portenschlag published a "Flora of Dalmatia" at Vienna in 1824. Amongst the plants he described was a Campanula, to which he gave the name of muralis. When his plants were examined by other experts it was found that he had included two species under this name, one new to botany, the other already known as *C. garganica*. Therefore the name muralis was dropped, and the new species was called Portenschlagiana in honour of the discoverer. This name first occurs in the botanical work of Reimer and Schultes, which was completed in

1835, so that the amended name is nearly sixty years old. The obvious distinctions for gardeners to notice between *C. Portenschlagiana* and *C. garganica* consist in the form of the flower and in the habit of growth. The former has reflexed divisions, which if cut off would be almost equilateral triangles, the cutting descending less than half the length of the corolla, which retains the form of a bell, whilst the flower of *C. garganica* is split up into five narrow lanceolate segments, the division reaching nearly to its base. The habit of *C. Portenschlagiana* is to spread fast, forming rooted tufts as it extends, with short upright stems, whilst the stems of *C. garganica* are prostrate and long, and all proceed from one central tuft, which increases slowly. Now for a few words about the Bavarian variety. I know the plant so called, and had it from Mr. Paul's nursery at Broxbourne several years ago. I consider it a great advance on the older and smaller type, of which it has all the virtues, and is twice as large in all respects; but I do not know what claim it has to be called Bavarian. It is perhaps a large development of the type raised from garden seed in the same way as those large forms of *Aster alpinus* we are now getting from Continental nurseries. It may have come from M. Sundermann's nursery at Lindau, in Bavaria, from which many good alpinines—not Bavarian—have been distributed, but I can find no record of the species as a Bavarian plant. Its native area beyond Dalmatia is very limited, not extending to the north beyond the coast of the Adriatic.

Little room is left to speak of *C. garganica*. It was named by the botanist Tenore from the famous Italian mountain on which it was first discovered. Gargano is a huge mass of limestone mountain covering several hundred square miles and rising to a greater height than anything in Britain. It forms the only conspicuous projection from the Italian coast into the Adriatic, and is celebrated in Latin poetry for the roaring of its Oak forests in the north winds, as well as for the myriads of bees which were attracted by the fragrant flowers of its slopes. This was the only known home of the very pretty Bellflower which bears its name until Portenschlag found it on the opposite coast of the Adriatic. It is a charming plant for rockeries, creeping amongst the crevices with its long slender branches and not rising more than an inch above the stones. I have had several varieties, one of them with flowers pretending to be white; another—the most robust, but not the prettiest—with soft hairy leaves. The form generally sold as muralis is more compact and has a more upright growth, but it is certainly no improvement on the type. Perhaps it is a Dalmatian form of the plant. The species in general is not nearly so robust as *C. Portenschlagiana*, which may at any time be divided and transplanted with a trowel. *C. garganica* requires more care in division and takes longer to form a new plant. I have never tried to raise either species from seed.

Edge Hall, Malpas.

C. WOLLEY DOD.

P.S.—Since writing the above I observe under "Notes from Baden-Baden" on p. 500 of THE GARDEN that M. Max Leichtlin mentions the history of *Aster alpinus speciosus*, about which I was mistaken. I have heard, however, that there are more than one large-flowered variety, and two or three bearing different varietal names have come to me from continental nurseries, but I have not yet been able to compare the flowers. I hope some reader may be able to tell us the history of the double-sized *C. Portenschlagiana*, which I have tried in vain to learn.

AQUATIC PLANTS AND THEIR CULTURE.

THE following interesting article by Mr. L. W. Goodell, Pausy Park, Dwight, appeared in Part I., 1893, of The Transactions of the Massachusetts Horticultural Society.

No class of plants is attracting more attention at the present time than the aquatic. The great interest that has been awakened in them is chiefly due to the fine displays that have been made in the public parks and at the shows of our own and other horticultural societies during the past few years. They are now grown in the parks of nearly all the large and many of the smaller cities of the country, and always attract the attention of crowds of people. Boston seems to be the only large city without aquatic plants in its parks. I am informed by Superintendent Doogue that the conditions here are unfavourable for their culture. It would be interesting to know what there is in the water or soil of Boston injurious to them. No more attractive feature can be added to any public park or private place than a water garden. There are thousands of natural ponds scattered all over the country in which the many beautiful hardy Water Lilies would grow to perfection, and take care of themselves if once introduced. Nearly all kinds can be grown with success in large tubs, or cemented tanks of any size desired; and that large class of flower lovers who cannot afford a large and expensive water garden, can cultivate and enjoy them in this way with little expense. On many places there are small streams of water running through rich meadows where an artificial pond can easily be made. The earth for the bottom of such a pond, if not already rich, must be made so by the addition of thoroughly decayed manure. One of the most important points in the cultivation of aquatic plants, especially the tender varieties, is warm water, and in selecting a site for an artificial pond, whether it is to be large or small, it should be where it will get as much sun as possible, at least for six or eight hours during the day, and, if possible, where it will be sheltered from the cold north winds by trees or buildings. If the water garden is to be of small size, it is best to make it in some regular form, like a circle, oval, or parallelogram; but if large, an irregular outline, like a natural pond, is more pleasing. If the water supply comes through pipes and is limited, it is necessary to cover the bottom and sides with a coating of cement. The soil should be excavated to a depth of 2½ feet, and the bottom, after being shaped, should be pounded down as hard as possible. It should be gradually sloped to the top, from a line within 4 feet or 5 feet of the edge, or it can be made of the full depth to the edge, and an 8-inch brick wall laid for the sides. This is the most common way, but it adds considerably to the expense and is not necessary, except in soils that heave badly with frost in winter. But if the edge is well protected with leaves or straw and boards—as the edge of all cemented ponds ought to be—there is not much danger of injury in any soil. A small pipe should be laid upon the bottom to some lower part of the grounds for the purpose of drawing off the water when necessary for planting or cleaning the pond. A fountain can be added if desired, but if the tender aquatics are cultivated, it should not be allowed to play except on special occasions, or when necessary to keep the pond full; otherwise the cool water would lower the temperature too much. Aquatic plants are hearty feeders, and the soil for them should be of the richest

possible nature. Good turfy loam and at least one-third part of thoroughly decayed stable manure should be used, and the addition of some good, high-grade, commercial manure, at the rate of three or four pounds to each cubic yard of soil, will cause a more rapid growth. The soil should be spread to the depth of a foot over the bottom and pounded down as hard as possible; then spread on 2 inches of sand or fine gravel to hold the soil down and prevent it from mixing with the water. To ensure success in growing the tender *Nymphaeas* without artificial heat, shallow water is one of the most important points, as the sun heats it up much better than deep water. During the early part of the season 4 inches or 5 inches is enough, which may be increased to 1 foot as the season advances. The best season for planting all kinds of aquatics is the spring, and the 1st of June is early enough, in this latitude, for the tender varieties. When ready to plant, draw off nearly all the water, set stakes where the plants are to grow, and set them out just as you would set plants on dry land. The large, tender *Nymphaeas* should be set from 8 feet to 15 feet apart, and the hardy varieties from 4 feet to 8 feet. In planting large artificial or natural ponds, do not, above all things, set the *Nymphaeas* in regular rows at equal distances apart, as though it was an agricultural crop needing cultivation with a horse hoe. This I once saw done in a pretentious public park. Conceal the artificial, and imitate Nature as closely as possible. Let the planting be done in irregular groups around the margin. Give some of the plants plenty of room for full development, with here and there a scattered plant to partially connect some of the groups, but leave plenty of open water between and in the middle of the pond. The attractiveness of a water garden is greatly increased by harmonious surroundings, and there is no more appropriate place for the cultivation of sub-tropical plants, such as *Cannas*, *Musas*, *Caladiums*, *Castor Beans*, and the like, than in a border on the north or back side. To grow the large, tender Water Lilies to full size and perfection, artificial heating of the water is necessary. This is usually done by running over the bottom of the pond coils of pipes from a conveniently located greenhouse boiler. Instead of covering the entire bottom of the pond or tank with soil, it is better to put it in boxes a foot deep and 3 feet or 4 feet square, and a depth of at least 2 feet of water over the crowns of the plants is best. In beginning a list of aquatics, the grandest of all, that truly royal plant,

VICTORIA REGIA, should stand at the head. To grow this magnificent plant in the open air to full size, with flowers from 12 inches to 15 inches across and leaves from 6 feet to 8 feet, requires a tank 30 feet or more across and artificial heat, all of which involves considerable expense. But it can be grown and flowered without artificial heat with good success even in cold New England with little expense. I have flowered it in this way for three years. The most important point to ensure success is to get a strong growth early in the season. To accomplish this, I set out a good plant about the 1st of June, and then made a frame around it of planks 10 feet or 12 feet square and wide enough to come 5 inches or 6 inches above the surface of the water and covered it with hot-bed sash; this gave nearly all the advantages of artificial heat; the temperature of the water and soil often rose to 100°, which caused very rapid growth, soon filling the frame with leaves. Both sash and frame were then removed to give the plant more room. My plants made leaves 5 feet across and were in flower for a month. The variety experimented with was the crimson-flowered *Victoria Randi*. This differs from the typical

Victoria in having the vertical rims of the leaves much higher, and the flowers turn to a deeper red when they fade. It also flowers earlier, and the plants do not grow so large.

EURYALE FEROX is an East Indian Water Lily resembling the *Victoria regia* in its general appearance, but its leaves are only 2 feet across, and they do not turn up at the edge; its flowers are small and of a deep violet colour. It is much hardier and more easily grown.

The most attractive and popular of all aquatic plants are the *Nymphaeas*, and there is nothing in the floral world more gorgeous than some of the tropical varieties. These are divided for the sake of convenience into day-blooming and night-blooming species. The day-bloomers open their flowers early in the morning and close about the middle of the afternoon. The night-blooming varieties open after sunset and do not close until nearly noon of the next day if the weather is cool or cloudy. Each flower opens four times. The following are day-blooming varieties:—

NYMPHÆA ZANZIBARENSIS is one of the most beautiful and the most easily grown of the tropical Water Lilies. Its flowers are of a rich deep blue, and when well grown will measure fully 10 inches in diameter.

N. ZANZIBARENSIS AZUREA is like the preceding in everything except colour, which is of a lighter shade.

N. ZANZIBARENSIS ROSEA varies in colour from a pale rose to deep rose, almost crimson in some specimens. All of the above varieties are very free-blooming, beginning when the plants are quite small and continuing until frozen up in the autumn. They are so hardy, that they will stand a good deal of cold weather without material injury.

N. SCUTIFOLIA is also very easily grown, and bears an abundance of flowers all summer. These are from 4 inches to 6 inches across and of a light blue, shading to white in the centre. It is a native of the Cape of Good Hope, and is hardy south of Washington, D.C.

N. STELLATA, from tropical Africa, is a free-blooming and desirable species, with large, bright blue flowers.

N. GIGANTEA is a native of Australia, and is considered by many to be the finest of all. Its flowers are of the largest size, with numerous petals of a beautiful purplish blue, shading to white at the base, and it has a mass of golden stamens. This species when well started grows freely and produces flowers in abundance, but is one of the most difficult of all to manage in the younger stages of its growth. The young plants have a disagreeable habit of losing their foliage, and the tubers then go to rest for an indefinite length of time. I have had tubers remain dormant two years, in spite of all efforts to start them into growth.

N. ELEGANS is a pretty species from New Mexico and Texas, with small white flowers tinted with pale blue.

N. GRACILIS, from Mexico, has large white flowers resembling those of *N. dentata*, but the plant is of smaller growth.

N. FLAVA, from Florida, has small, golden yellow flowers, but is of little value for northern culture in the open air, as it seldom blooms here.

N. MEXICANA is a new species from Mexico, which was thought at first to be identical with *N. flava*, but it is quite distinct. The plant is of stronger growth, the foliage larger, and it also flowers quite freely in the open air here. Both of these species must be kept during winter in a greenhouse in growing condition.

The following are night-blooming varieties:—

N. DEVONIENSIS, a hybrid between *N. Lotus* and *N. rubra*, raised many years ago by the Duke of Devonshire, is one of the most gorgeous varieties in cultivation. The flowers are of a brilliant rosy red, from 10 inches to 12 inches across, and borne in abundance, a dozen or more often being open on a plant at one time.

N. RUBRA is a native of the East Indies; it resembles *N. Devoniensis*, but the flowers are more cup-shaped and of a lighter colour.

N. STURTEVANTI is a hybrid of American origin and a magnificent variety, but a poor bloomer. It resembles *N. rubra* in colour, but the petals are broader and the foliage is quite distinct.

N. LOTUS is a native of the tropics of the Old World. It grows in abundance in lower Egypt, and is the true Sacred Lotus of the ancient Egyptians and was sometimes engraved on their coins. The seeds and roots when dried and ground were made into bread by them. The flowers are 6 inches to 8 inches across, with broad, white petals.

N. DENTATA is the largest of all white Water Lilies, the flowers being from 10 inches to 14 inches across and of a pure paper-white. It blooms very freely through the season, and is one of the easiest of the tropical *Nymphaeas* to grow.

HARDY NYMPHÆAS.

Water Lilies that will endure the winter in the Northern States are called hardy. The books tell us, and it is generally believed, that no Water Lily will bear actual freezing of the roots, and that they must be planted in water deep enough to be below the reach of frost. But my experience during the past winter has convinced me that this is an error, which, while easily disproved, nobody seems to have hitherto detected. One of my artificial ponds is supplied with water by a small stream which was frozen up during the severe weather of January, and the pond dried up, freezing to the bottom. This pond contained my stock of *Nymphaea odorata rosea*, *N. alba candidissima*, and *N. Marliacea Chromatella*. Being very anxious as to their condition, I had large blocks of ice cut out. The roots were frozen solid in the soil to a depth of 6 inches and had to be cut out with an axe. Several of each variety were thrown under a greenhouse bench to thaw out, when it was found that not a single bud on them was injured in the least, and they are now making good growth in a tank of water. It is very likely that other varieties will also stand freezing of the roots, but this can only be determined by actual tests, as some varieties may be more susceptible than others.

NYMPHÆA ODORATA is our own well-known fragrant Water Lily, and is considered by many the most beautiful of hardy varieties.

N. ODORATA ROSEA has beautiful rose-coloured flowers, and is known as the Cape Cod Pink Water Lily, because it was first discovered there many years ago. It is now extensively cultivated and is generally considered the most lovely of hardy varieties.

N. ODORATA SUPERBA is a fine variety with larger flowers than the type.

N. ODORATA MINOR is a variety having flowers only about one-half the size of the common one, and is very pretty. It grows in abundance in the ponds of New Jersey.

N. ODORATA SULPHUREA is a new variety with yellow flowers and will no doubt become a great favourite. Its foliage is mottled with reddish purple and brown spots.

N. ODORATA EXQUISITA is a new variety with rosy carmine flowers of a deeper shade than those of *N. odorata rosea*.

N. ODORATA GIGANTEA is a native of Florida, where it was discovered two or three years ago. Both flowers and foliage are larger than in the type. The flowers are more cup-shaped and are produced later in the season and it is a freer bloomer. The leaves are very large and thick, often measuring over 1 foot in diameter, and sometimes nearly 2 feet; their edges are ruffled and sometimes turned up, forming a slight rim after the manner of the *Victoria regia*.

N. ODORATA CAROLINIANA is the largest and finest of all the *odorata* varieties. It is supposed to be a cross between *N. odorata rosea* and *N. alba candidissima*, and was raised by Dr. H. T.

Bahnsen, of North Carolina. It has the vigorous habit and free-flowering qualities of the latter variety. The flowers are quite fragrant, from 4 inches to 6 inches across, and of a delicate salmon-rose colour, deeper in some specimens than in others.

N. ALBA is the common white Water Lily of Europe, the flowers larger and more freely produced than those of our common variety, but without fragrance.

N. ALBA ROSEA is a pretty pink variety of the preceding, but neither so deep in colour as our Cape Cod pink variety nor so desirable, as it is a poor bloomer.

N. ALBA CANDIDISSIMA is the largest and best of all hardy white Water Lilies. The flowers are pure white, the petals very broad, and much more waxy than those of *N. odorata*. It begins to bloom in May, and continues to bear its superb flowers in abundance until frozen up in autumn. With good treatment the flowers measure from 5 inches to 7 inches across, and I have counted as many as twenty-two open at one time on a strong plant.

N. TUBEROSA is the common native species of the Western States. It has large white flowers, but does not bloom well in cultivation.

N. PYGMÆA is the smallest Water Lily known, and is a little gem. It is a native of China and Siberia. Its flowers are white and about the size of a silver half-dollar, opening at noon and closing at night. It is a free bloomer, being the first to flower in the spring and the last in autumn.

N. PYGMÆA HELVEOLA is a good variety with light yellow flowers about 2 inches in diameter.

N. MARLIACEA CHROMATELLA is one of the very choicest and best of the hardy varieties. The plant has the vigorous habit of *N. alba candidissima*, and it flowers freely from May to October. The flowers are from 4 inches to 6 inches across, with broad petals of a beautiful light yellow and bright orange stamens. This variety should be grown in water 2 feet or more deep. If grown in shallow water its abundant foliage grows in a bunch so thickly as to hide the flowers, while in deep water its leaves spread out and float on the surface.

N. MARLIACEA ALBIDA has medium-sized flowers of a pure paper-white, resembling those of *N. alba*.

N. MARLIACEA CARNEA is of a delicate blush or flesh colour, and a charming variety that will become popular.

N. MARLIACEA ROSEA is of a delicate rose colour, deeper than the preceding, and a great acquisition.

N. LAYDEKERI ROSEA is the newest and one of the finest of the small varieties. Its flowers, which are freely produced and about 2 inches across, are of a peculiar rosy purple colour in the centre, shading to white at the tips of the petals.

Nymphæas cross with each other very readily, but the raising of new varieties in this way is yet in its infancy, and the possibilities in this direction have only just begun to be realised. The time is not far distant when varieties will be much more numerous than now. *M. Marliac*, the French grower to whom we are already indebted for some of the choicest varieties, has two superb novelties which will be flowered for the first time in this country at the Chicago Columbian Exposition. One of these has been named *N. Laydekeri rubra punctata*, and has large flowers variegated with brilliant red. The other, named *N. Marliacea flammea*, has flowers of an amaranth-red with orange-red stamens. Several American growers are also doing good work in this line. Benjamin Grey has a beautiful new variety which has been named *N. Greyæ*, it is a cross between *N. gracilis* and *scutifolia*. In habit it resembles the latter, but the flowers are of a bright rose-pink, are larger than those of *N. zanzibarensis*, and borne on stout stems from 15 inches to 18 inches above the water. It is a great acquisition. William Tricker, of Staten Island, has a new variety, not yet named. It is a seedling of *N.*

dentata, supposed to be crossed with *N. zanzibarensis rosea*. The petals are wider than those of *N. rubra*, and more like those of *N. Sturtevantii*. They are white at the base, shaded to rosy carmine at the tips. Some varieties of Water Lilies are easily grown from seeds, and it is exceedingly interesting to watch their development from the seeds to flowering plants. The easiest to raise from seeds are the *Nymphæa zanzibarensis* varieties, *N. scutifolia*, *N. cœrulea*, and *N. dentata*. The seeds should be sown in February or March in small pots of good soil well firmed down. Scatter the seeds on the surface and cover with an eighth of an inch of fine sand. Then they should be immersed in a pan of water deep enough to cover the tops an inch or two. The water should be kept at a temperature of from 75° to 80° until they germinate, which will be in from six to ten days. If the temperature is much less than that named they will not germinate at all, or only after a long time. The seeds of *N. dentata* require about three weeks. Before the plants get crowded they should be transplanted to 3-inch pots, and be shifted to 4-inch, if necessary, before the time to plant them out in June. Those who have no greenhouse can start the seeds near a stove in the dwelling-house where the water will keep at the right temperature, moving them to a hotbed, cold frame, or a warm, sunny window when up. The little plants grow with astonishing rapidity under proper conditions, and begin to bloom in about 100 days. I have had the Zanzibar varieties begin to flower in sixty-five days from seeds started in June. These varieties are particularly well adapted to tub culture. The Victoria regia is always propagated from seeds, which should have the little caps or shells that cover the germs carefully removed before sowing. Plant in 5 inch pots in February, covering them with an inch of soil. The water should be kept at a temperature of about 90°. They germinate in from fifteen to twenty days, but are always more or less uncertain about coming up even with the best of care. The Nuphars are interesting plants, resembling the Nymphæas. They have yellow flowers borne on stems above the surface of the water. *N. advena* is our common native species. *N. pumilum* is a pretty species of smaller growth. *N. japonicum* is a new species from Japan. *N. luteum* is a European species. The

LOTUS, OR NELUMBUM,

is one of the most magnificent of aquatic plants. Its grand circular foliage (sometimes 2 feet or more in diameter) and gorgeous flowers rise 4 feet or 5 feet above the surface of the water. Its flowers are produced freely from June to September, each flower opening four times. At first they are cup-shaped, but on the last day they expand to a diameter of from 6 inches to 12 inches. There are two species and several varieties, all of which are hardy here, having endured four or five winters where ice formed a foot or more thick over the roots. They can be grown in any warm pond with a rich, muddy bottom, in water not more than 2 feet or 3 feet deep. There is no reason why Lotus ponds should not become as common in this country as they are in Japan. The plants spread rapidly by means of runners beneath the surface of the mud, these runners often travelling several rods in a season. Thick tubers are formed deep in the pond during the latter part of summer, which live over winter. The best time to move and plant them is in the spring, when they are just starting into growth, which is the latter part of May in this latitude. The tubers should be covered 6 inches or more with soil. The Lotus can be easily grown in large

tubs, which should be moved to a cellar in winter, or cemented basins can be made in the lawn, where it would do still better. If grown in a water garden with other aquatics the roots must be confined in compartments to prevent them from injuring other things. Make partitions of bricks, set on edge in cement, and high enough to come a little above the surface of the soil. The soil should be very rich and not less than a foot deep.

NELUMBUM LUTEUM is the American Lotus, a native of the Southern and some of the Western States. Its flowers are of a sulphur-yellow colour.

N. SPECIOSUM is commonly called the Egyptian Lotus, and is the Sacred Lotus of the Hindus. Its flowers are creamy white, shading to pink at the tips of the petals. This does best in a rich clay soil.

N. SPECIOSUM ROSEUM has flowers of a bright pink, shading to bright rose at the tips of the petals. This variety makes a stronger growth with me than *N. speciosum*, and is in every way superior to it.

N. SPECIOSUM ALBUM GRANDIFLORUM has large, pure white flowers.

N. SPECIOSUM ALBUM STRIATUM is white, splashed and marked with crimson on the edges of the petal, and is a superb variety.

LIMNOCHARIS HUMBOLDTI is a showy plant bearing an abundance of lemon-yellow flowers all summer. It is commonly called the Water Poppy, from the resemblance of the flowers to those of the California Poppy. It has oval floating leaves, and multiplies by means of runners which creep about in shallow water. It succeeds best in water not more than 6 inches or 8 inches deep. It is half-hardy, but must be wintered in a house.

L. PLUMERI is a fine, tender species 1 foot or more tall, with rich, velvety green leaves and spikes of small lemon-yellow flowers.

EICHORNIA CRASSIPES MAJOR, which has been given the appropriate common name of Water Hyacinth, is of very easy culture and great beauty. Its glossy, dark green leaves have thick, bulb-like leaf-stalks filled with air, causing the plants to float on the water. It bears large spikes of delicately coloured flowers resembling in form a spike of Hyacinth blooms. Each flower is 2 inches in diameter and of a soft lilac-rose colour, with a blue blotch near the centre, enclosing a golden yellow spot. It will grow and flower if left floating on the surface of the water, but grows and flowers much better if set on the edge of a pond, where it can grow in the soil. Here it will soon spread and form a large mass of plants, and bloom freely for several months. It can be grown in the house in winter in a tub, pan, or anything that will hold a little rich soil and water. It makes a very interesting window plant, and would be well worth growing even if it had no flowers.

E. AZUREA is a very choice and beautiful species from Brazil. Its flowers resemble those of *E. crassipes major*, but they are light blue with a deep indigo-blue centre. Its manner of growth is entirely different; it branches freely and creeps about on the surface of the water very much like a Verbena on dry land, each plant covering a space from 3 feet to 5 feet in diameter, and it keeps in bloom all summer.

PONTERDERIA CORDATA, our native Pickerel Weed, has spikes of blue flowers, and is well worth growing on the margin of an aquatic garden. There is a fine white variety of this species which was sent me from New Hampshire last year.

LIMNANTHEMUM INDICUM—the East Indian Water Snowflake—is an exceedingly pretty and interesting aquatic recently introduced. The plant throws up leaves to the surface like a Water Lily, and the flowers are borne in clusters on the petioles near the blade; roots are also emitted at the same place, forming a new plant. The flowers are pure white, an inch or more across, and thickly covered with a growth of hairs, like the Mrs. Alpheus Hardy Chrysanthemum, but much more numerous. In a tub or shallow pond it will flower all summer, and all winter in a warm room or greenhouse. It

will stand considerable freezing without injury, but must be wintered in a house.

L. NYMPHEOIDES is the European Floating Heart, with pretty golden yellow flowers. It is perfectly hardy, and should be introduced with caution in an aquatic garden, as it spreads very rapidly and is liable to become a nuisance unless care is taken to keep it in check.

L. LACUNOSUM, the native species, is pretty and interesting with its clusters of white flowers.

L. TRACHYSPERMUM is a native of the Southern States, and resembles *L. indicum*, but does not have the hairy growth.

MYRIOPHYLLUM PROSERPINACOIDES is a native of Brazil, and has been given the common name of Parrot's Feather, on account of its beautiful pinnate leaves. It grows in shallow water, and is one of the prettiest plants that can be imagined for a water-tight hanging basket, vase, or tub, containing some rich soil, and kept filled with water. Several plants should be set around the edge, and they will soon trail over the edge several feet in the most graceful manner, completely covering the vase or basket with the most beautiful foliage. It is not quite hardy.

SAGITTARIA JAPONICA FLORE PLENO is a very choice double-flowered Arrowhead from Japan, and is perfectly hardy. The flowers are white, nearly as large and double as a Balsam. It grows best in water not more than 6 inches deep.

S. MONTEVIDIENSIS is a very large tender species, growing 3 feet or 4 feet high, bearing spikes of large white flowers with a crimson spot at the base of each petal. It is easily grown from seeds, and should be treated as an annual.

OUVIRANDRA PENESTRALIS, the Lace-leaf Plant, is one of the curiosities of the vegetable kingdom. It is a native of Madagascar, and has long, narrow leaves, which spread out horizontally beneath the surface of the water. They are of a dark green colour, and are merely a network resembling a skeletonised leaf or a piece of lace. It can be grown in a warm house in pots of rich soil immersed in a pan or tub of water kept at a temperature of about 70°.

CYPERUS PAPYRUS is the Egyptian Paper Plant, and should be in all collections of aquatics. It has triangular stalks from 5 feet to 8 feet tall, supporting at the top an umbel of long narrow leaves. It grows best in rich soil and shallow water, and is tender.

C. ALTERNIFOLIUS resembles the preceding, but is of smaller growth with wider leaves.

C. STRICTUS is also a desirable species. It grows 6 feet or 7 feet high.

ZIZANIA AQUATICA is a highly ornamental annual Grass from 6 feet to 10 feet tall, which grows in abundance in the lakes and rivers of the Western States, where it is known as Indian Rice. It has been introduced, and is now naturalised in some places in the Eastern States, growing in shallow water. Care should be taken not to allow the seeds to scatter about, or it may become a nuisance in a water garden.

AZOLLA CAROLINIANA is a pretty Moss-like plant which floats on the surface of water, covering it like a carpet. When grown in the shade it is of a beautiful green, but is tinged with red in the sun. Patches of it here and there have a very pretty effect. It increases very rapidly, and soon becomes so abundant, as to be unsightly if too freely introduced.

PISTIA STRATIOTES, or Water Lettuce, is a native of Florida. It forms a rosette of beautiful velvety yellowish green leaves, and floats on the surface of the water, or takes root in the mud in shallow places. It needs a warm, shady place in the house.

SALVINIA NATANS is a little floating plant with soft, green, hairy leaves.

APONOGETON DISTACHYON from South Africa—sometimes called Cape Pond Weed—is a very fine tuberous-rooted plant, with oval floating leaves and forked spikes of very fragrant white flowers. It is hardy if planted below the reach of frost, or it may be grown in a tub in a greenhouse in good rich soil.

There are many other species and varieties of aquatics, some of them natives of this country, which are interesting and could be easily introduced into a water garden, but the above list contains the most valuable of those in cultivation at the present time.

THE VENICE MALLOW.

(*HIBISCUS TRIONUM*.)

WHEN seen at its best, few annuals are more admired or more worthy of careful cultivation than that represented in the accompanying engraving. Those who are well acquainted with the typical *H. Trionum* as commonly found in old-established mixed borders, beds, &c., and rarely absent from good collections, will at once see the immense improvement in the present



The Venice Mallow (*Hibiscus Trionum*).

plant. *H. Trionum* appears to be an extremely variable species, and little wonder, seeing the length of time it has been cultivated in gardens, and also the fact of its being so widely scattered over all the warm regions of the Old World. It is usually described as a common sub-tropical weed, found plentifully in cultivated fields in Afghanistan. Specimens of it, which, however, were very small-flowered—indeed, not so large as what we look upon as those of the type in gardens—were collected near Khorassan by Dr. Aitchison, of the Afghan Delimitation Commission. It is found in several places in China, and is a very common weed in waste garden ground and rich damp soil throughout the Cape Colony. It has given rise to almost innumerable varieties, a few of which are so distinct as to have at one time been considered species.

The present plant was introduced by the Royal Gardens, Kew, seeds having been re-

ceived in 1888 from the Orange Free State and Zululand, but chiefly from the Spitzkop Mountain, 11,000 feet high, and Drakensberg, 8000 feet high. It is probably a cultivated form, as none of the dried specimens from any other part of the Cape quite agree with it in size of flowers, &c. The great objection to the type (figured in the *Botanical Magazine*, tab. 209) is the short-lived flowers, which Gerard says open at eight in the morning and close at nine, and which supposed fact gave rise to the curious appellations, "Flower of an hour," "Good night at noon," or "Good night at nine."

In the plant figured, however, this objection is quite done away with, the flowers opening in the morning, and, on bright days, remaining so until late in the afternoon. Individual flowers do not last very long, but there is such a succession on a well-grown plant as to always ensure plenty of blooms open at one time, and these are so large and beautiful as to entitle the plant to a place in the greenhouse, its effectiveness in pots having been already proved. It is for open-air culture I would, however, most strongly recommend the above variety. It is quite as hardy as the one usually grown, seeds as freely, and withal is so much more striking and beautiful, that the effect of large clumps of it would certainly not fail to attract admirers. Like other hardy annuals, it needs no care in sowing in spring—simply scattering the seeds in the open on the spots where they are intended to grow, thinning, where too close together, to 6 inches or 1 foot apart, and leaving the sun, &c., to do the rest. It will even sow itself, the seeds coming up in plenty the following spring if the winter has not been unusually severe, but sowings should be made at different periods to ensure bloom all through the summer and autumn. There are, I believe, several annual species of *Hibiscus* found at the Cape, but this is the only one, I think, in cultivation, although the others are said to be equally beautiful. D. K.

Hardy Cyclamens.—I am glad to see the attention of your readers called to these beautiful plants. They are charming things for the wild garden. By far the best is *Cyclamen hederæfolium*. I have grown this species in a wood for a long time. It thrives anywhere under trees, even where nothing else flourishes, although it is, like everything else, much finer in good soil. The corms increase in size year by year; some of those I have must bear at least twenty-five or thirty flowers at a time. *C. hederæfolium* blooms late in the year, but the leaves, which are most beautiful, remain until summer comes round again. It produces seed in abundance, but the seeds do not ripen with me before the winter, and then the birds get them. It is very easy, however, to ripen the seeds artificially, and there is no difficulty in raising young plants in a cool house. I remember seeing this plant in a garden at Caen, in Normandy, and it was there seeding about all over the place, but I have never known it to seed naturally at Cringleford. Some years ago I brought some roots from Algeria of a plant which the Algerian botanists call *C. africanum*. It seemed to me the same as *C. hederæfolium*, but none of my specimens sur-

vived the following winter, so that I could not compare the two forms. Plants which are called *C. græcum* and *C. neapolitanum* are nearly allied to *C. hederæfolium*, but I do not know much about them. I brought some roots of the *C. neapolitanum* from Italy some years ago, but they did not grow. *Cyclamen europeum* is quite a different plant and not nearly so pretty. It is not uncommon in some parts of Switzerland, and where it does grow it is very abundant. Near Ragatz there is a large forest as full of it as a Norfolk wood often is of Primroses. *Cyclamen coum*, which resembles *C. europeum*, is very charming in the early spring, and should be largely grown by those who enjoy wild gardening. I do not know any hardy plants which give less trouble or more pleasure than do these hardy *Cyclamens*.—F. W. HARMER, *Oakland House, Cringleford, Norwich*.

FLOWER GARDEN NOTES.

WORK in connection with the flower garden for the past week has been the final clearing of all mixed borders, the late visitation of rather severe frost having settled almost everything in the way of flowers, except occasional blooms of *Violas*. This removal of dead and dying vegetation requires a considerable amount of care this year, as many bulbs are already pushing through. As the work progresses, any herbaceous plants that may be in a weakly state should be removed and their places filled either at once by division of other things, or later with young plants that have been wintered in frames. If the invalids are special favourites and the stock is rather limited, they may be placed on a border to be, if possible, nursed back to health. It sometimes happens that things are placed in the hurry of planting in unsuitable soil, and a change to a more congenial compost is all that may be required to bring them into a healthy state. It may be well to remind those who contemplate the introduction of herbaceous plants into their flower gardens that the selection of these things in variety should depend greatly on the purpose for which they are required; thus many things that would commend themselves to the plant lover as rare and choice specimens in their different species would be of little use where two principal requirements are, general effect on the several borders and plenty of cut blooms. Accuracy of judgment in such matters is not gained in one or two seasons, but has to be acquired by careful study, first of the species, then of the many varieties that are often available, their heights, time, and duration of flowering season. Any time from now until the end of the year before work presses heavily in the houses may be devoted to the preparation of several plants that may be required for special flower garden work another year.

Cuttings of *Francoa ramosa* if not already in should be inserted at once singly in 2½-inch pots in a good open compost, and, in common with old plants that can be shaken out and repotted if they are likely to be required, will stand well on the back shelf of a vinery or Peach house. Good large bulbs of *Galtonia candicans* may be potted singly in 8-inch pots and stood in a cold frame from which frost can just be excluded, and nice clumps of *Funkia grandiflora* in pots, pans, or small tubs may occupy a similar position. There are few things that cover more quickly or effectually as summer climbers than *Cobæa scandens* and the variegated variety, and if there is a supply of old plants, they can be cut back and potted up from their outdoor quarters. Seed of the *Cobæa* does not always come away kindly in the early year, and if a number of plants are required, the old stuff is likely to be very handy. Specimen plants of such things as *Aloysia*, *Heliotropes*, scented *Pelargoniums*, &c., that are now inside may have all dead and decaying matter in the way of flowers and leaves promptly removed and be lightly tied in to render them presentable in their winter quarters.

BEDDING BEGONIAS—I am sorry if any remark in these notes conveyed the impression of an altogether unfavourable opinion of the above as sum-

mer bedders; on the contrary, I have always regarded them as among the very best plants for the purpose, with, it must be understood, certain reservations. So far as the past summer was concerned, for instance, in all gardens with a naturally dry light soil and possessing no facilities for watering thoroughly and repeatedly, they have certainly not done well. True, the showers early in September and a short spell of dull cloudy weather set them up for the remainder of the season, but that hardly made up for the indifferent display earlier in the summer. Again, I cannot admire in the flower garden those varieties with heavy drooping flowers; even when planted very thinly on a dwarf carpet one can see little of their true character, whilst for a mass of glowing colour they cannot compare with *Henry Jacoby*, *King of Bedders*, or *Beckwith's pink Pelargoniums*. The erect and semi-erect flowering section is, however, a different matter; they may take rank in the majority of seasons with the best things in the flower garden. Among later things in *Begonias* for a similar purpose is the fibrous-rooted *semperflorens atropurpurea*, and those readers who have not already given it a trial should not fail to order a packet of seed. Sow with the tuberous-rooted section at the end of January or early in February, and grow on quickly. Mistakes in planting this charming novelty are not easily made; it looks well mixed with silvery *Centaureas* and *Cinerarias* on a carpet of *Mangiesi Pelargonium* or *Koniga variegata*, or associated with other things in ribbon borders, although this last is the least satisfactory. It would also make a fine vase plant, especially for large vases where a good mass of flower and foliage is required with an edging of a light-flowered Ivy-leaf or *Gnaphalium lanatum*.

Claremont.

E. BURRELL.

NOTES ON HARDY PLANTS.

Lithospermum fruticosum.—Latterly we have been told that this is identical with *L. prostratum*. Is it really so? *L. fruticosum* of Linnaeus is a very different plant to *L. prostratum* (Lois.). The latter plant is much more herbaceous, so to speak, and has longer stems, with leaves more distant, and these stems are prostrate all their length; in other words, the growth has more the tendency to spring from the ground line or plant collar. *L. fruticosum*, as I grow it, and which agrees perfectly with the Linnaean description, has at first a more erect habit and then the growth is short and twiggy, always so, and the young twigs soon assume a woody texture; in fact, in harmony with its specific name it is much the more shrubby form. With all these distinctions it is not impossible that one may be a variety of the other, for have we not the authority of Lehmann that Linnaeus' *fruticosum* is a variable species. I would not have troubled the reader about this matter only that it becomes important that we should recognise the different forms for practical gardening purposes. *Lithospermum prostratum* as generally recognised is a favourite plant. It is also a fact that in many places it fails to survive a cold winter, and it is precisely because I believe (indeed, have proved) that the Linnaean plant *fruticosum* is much hardier than the true *prostratum*, that I draw attention to the point; and as the two forms indiscriminately go under the one name *prostratum*, it may be worth our while to try to get the true Linnaean form *fruticosum*. Some plants of this have almost the habit of miniature standards, but apart from that feature the plant could be readily recognised when side by side with *prostratum* by its shorter and stiffer twigs and shorter and more bristly leaves, which have also a slightly incurved habit. Besides being the hardier plant, it is of closer growth and does not make an inconveniently large patch in one season of 2 feet to 3 feet, like the more sprawling and true *prostratum*.

Salix amplexicaulis.—I have had but very slight experience of this Willow, yet for two reasons I pen this short note. One is to say that it is as beautiful as other bright-barked varieties, but its effect is most distinct by reason of the habit of

the beautiful glaucous foliage. In the common acceptance of the term *amplexicaulis* the leaves are not so, but being almost erect with the stems and incurved in relation to the midrib of each leaf, the leaves have the effect of enfolding the stem, especially as seen at a short distance. When the leaves fall the bark is of a shining reddish yellow. The other reason for this note is that I wish to inquire of anyone who had tried it for one or two years to what stature it attains. I confess that the best information that I can expect must be imperfect on this point, as I think the plant is quite new. I have somehow got an impression that it will be a lively and charming object for the rock garden, but I may be wrong if it grows too strongly, only there is no plant or shrub that can be beheaded or pollarded with more impunity than Willows.

Galanthus robustus (Baker).—It is evident already that this Snowdrop is distinct. It is already bursting into flower, which is anything but desirable; still it shows at least some of its distinct qualities. On the matter of earliness it may not be much to say that the flowers are already appearing, because I believe all the bulbs as yet in this country are newly-imported ones, and we know that bulbs from certain warm climates often prove abnormally early (for us) the first and even the second year.

Gentiana acaulis.—I believe in most gardens the *Gentianella* is fitful in its blooming habit, and it is no uncommon thing to see a sprinkling of flowers all the summer after the main crop, and even in winter, but it is not given to us every year to see the flowers so fresh and fair and large as we see them now in mid-November. Whilst speaking of a *Gentian*, and especially of the species most noted for going to extremes as regards flowering in different gardens, I may say I have given Dr. Clark's theory of counter irritation at the roots by means of sharp edged particles a good trial, and in the second year I must say that I have experienced a welcome difference and improvement where this plant used formerly to scarcely ever flower at all. I do not think that there is much in the theory of very cold water drenchings in summer—at any rate, in the case of this species—because it is well known that the buds are nearly a whole year in forming, and I know of a garden where the *Gentianella* flowered with greater freedom than ever I saw it anywhere else, and it was exposed fully to the south, the long, broad edging of it fronted by stones standing at least 1 foot above the walk surface on the south side, so that, so to speak, the sunshine could play on the surface of two sides of the square.

Sweet Violets.—I am induced to pen this note because a variety of Sweet Violet which has been grown here for the past eight years, and nameless, as it reached me from a German nobleman, never fails to yield an abundance of flowers without either special protection or special culture. It simply grows in a broad dense mass, and at all reasonable seasons it is full of leaf, and scarcely ever, except in the direst winter season, flowerless. I am sure it is not because of any peculiarity of position, as it came to me specially recommended as a perpetual bloomer, and others who have taken a few roots into their gardens have a similar experience of it to my own. Indeed, it was in a friend's garden the other day that I saw his plants (set last summer) almost blue with bloom. I have no doubt that with liberal treatment it would do even better, because the outer runners taking possession of the fresher soil are always the most liberally flowered. I can see no difference in the plant or the flowers from the ordinary sweet, single, dark blue kind, and my reasons for believing it to be a distinct variety are based on what I was told, and which I find to be correct, that it blooms with a persistency and freedom found in no other Violet.

Aster grandiflorus.—Several plants pass under this name. That is not saying much for an *Aster*, as many species have had fictitious representatives. But the wonder in this case is that it could be so, the true form having several

peculiarities. All this, however, would not matter much were not the true plant worth possessing. It is a stately Aster, and produces heads of great beauty and richness. It is perhaps one of, if not the bluest of all the Michaelmas Daisies. It has a bold and pleasing habit, with foliage of a distinct type. I am not going to try to describe it; it should be seen, and seen in flower. In ordinary summers it might not flower in the open garden. This is a drawback, but for all that it should be grown. It is worth growing for stock and potting in the spring, to be flowered in the cool conservatory in the Chrysanthemum season. It has, however, flowered well in the open air this year, but we do not get many summers like 1893.

Gentiana Saponaria.—There are three authorised plants under this name, but though the Linnean plant is what we may term the true and certainly the more fully authenticated one, the other plants bother us. For instance, *G. Saponaria* (Frac.) is the well known Andrews, and *G. Saponaria* (Walt.) is identical with *G. ochroleuca*, odd as that may seem. *G. Saponaria* (L.) is also the *G. Saponaria virginiana* folis of Moris, and *Pneumonanthe Saponaria* of Schm.

Campanula muralis (Bavarian variety).—Mr. Arnott (p. 454) does me the honour to read and take exception to what I have said about this beautiful variety, and his remarks may possibly deter some growers of the dwarf or alpine *Campanula* from taking this in hand. That would be an injustice to the plant. May I ask if he grows the plant, or has he watched its summer-long habit? If he has, I can only express my surprise that he has had anything but praise for the plant; and if he has not grown it for at least a summer, if he will excuse me saying so, he has insufficient ground for the opinion he has given. My remarks about the plant were very brief (p. 436), and all embraced in six lines. I sought to emphasise more the showier flowers and their remarkable succession, and I may add to what I then said, that even yet, after three severe nips of frost, it affords one of the best bits of blue in the garden. I agree with Mr. Arnott that it would not be desirable to increase the vigour of many plants, but I scarcely think this is one of them, being naturally a small species with flowers scarcely in proportion to its herbage, so that in this case, if the little extra vigour yields more blossom in size, quantity, and succession, I think it is a case in which most people would consider these features a gain.

Chelone Lyoni.—It is true that this and other species of Tortoise Flower, or what our American friends know by the name of Snake's-head, are rarely seen perfectly happy. If I may make such a bold statement, I believe that the general cultivation of this genus has never yet been what it should be. The usual stature of this species of about 2 feet to 3 feet, the crowded spikes of bloom, and the brown pointed foliage occurring before the plants have arrived at maturity, are all proofs that the plants are not cultivated up to their capabilities. It is all explained in a word. *Chelone* is naturally a bog plant. Grown as such, it attains a stature of 4 feet. The flower-spikes are then longer, the flowers bigger and brighter, and the whole plant has a more verdant aspect. As we are used to seeing it, it is not worth having, but well grown in boggy vegetable soil, it is a noble plant, keeping bright for many weeks. The root habit of the plant indicates a want of annual mulch, such as we may reasonably conclude that it receives in its boggy habitat in a natural way. We often see it in borders with its roots in matted form visible on the surface, and consequently soon dried up. Its new roots spring from a higher part of the stem every year.

The German Iris.—Many would not think it possible to kill this Iris by untimely transplanting, but it is if you divide it in winter and do not have behind the leading growths of the old rhizome. From spring to mid-autumn the roots are very active, but in very cold weather the more sappy tissues of rhizome are apt to rot after rupture by frost in the damp soil. You may plant either shall-

low or 3 inches to 4 inches deep, but as a rule you will find that the flowers will be scarce until the plants have developed the root-stock or rhizome on the surface. A mulch in spring will be useful, but there should be nothing like a permanent top-dressing attempted that would keep the rhizomes covered; their function is to receive the light and sunshine.

J. WOOD.
Woodville, Kirkstall.

Campanula muralis.—In answer to Mr. S. Arnott's note in THE GARDEN of November 18, will you allow me to state that *Campanula muralis* (Portensch.) and *Campanula Portenschlagiana* (Roem. and Schult.) are synonymous. Portenschlag found it in 1830 in the mountains of Dalmatia, and labelled it in his herbarium as *C. muralis*; but meanwhile Roemer and Schult. published the same plant under the name of the founder, so that that name, according to de Candolle's "Lois de la Nomenclature Botanique," must be considered as the right one. However, as the name *muralis* is much more correct and able to give the character of the plant, I, in the *Jardin Alpin d'Acclimation* in Geneva, as well as in the botanic garden of the Linnaea, give that name to this *Campanula*, and we sell under the name of *muralis* the *C. Portenschlagiana*. I cannot understand, as the plant does not grow at all in Bavaria, why it is spoken of as a Bavarian variety. Is the quite different, although nearly allied, and Italian *C. garganica* confused with it?—H. CORREVON, Geneva.

Carnations and Roses at Farnham Castle.—The keep around the castle was till recently a fruit garden, and as such not at all in keeping with the surroundings. It is now devoted to Roses and Carnations—a happy combination. The beds are in keeping with the surrounding building. A grand old vase and fountains occupy the centre or round bed, and around this is a series of square and round beds, the latter being small and filled with choice Carnations, which do splendidly. This garden has only been recently formed by Mr. Dowding, and it is a great addition to the castle. The work was carried out under great difficulties, as being so high above the other portions of the garden, every bit of turf, gravel, and soil had to be wound up by a pulley. Creepers clothe the banks in all directions, trailing gracefully round the few low vases dotted here and there. These vases, which are of great age, are quite covered with Moss and Lichens. The approach to this beautiful spot is formed of rough steps.—G. WYTHES.

Eschscholtzias.—The late Mr. Charles Perry, when an amateur Rose cultivator at Birmingham, used to adopt the practice of growing *Eschscholtzias* among his standard Roses, and, as he always said, to his entire satisfaction. That he obtained brilliant effects was patent to all who saw his Rose garden when his favourite annuals were in bloom, and one saw large bushes with deep orange, yellow and lemon-coloured tulip-shaped flowers rising above the graceful foliage in thousands, growing high enough to hide a good portion of the naked stems of the Rose trees. Mr. Perry always held no harm was done to his plants or the bloom they carried; indeed, he considered that in summer on dry land the *Eschscholtzias* were beneficial, keeping the soil cool; and, as he said with some truth, if it is necessary to have such a covering, let it be something beautiful to look upon. Since Mr. Perry grew his *Eschscholtzias* several fine new varieties have been raised. In his day he had the lemon coloured *E. tenuifolia*, the yellow *E. californica* and the golden *E. crecen*. The varieties have since been extended by the introduction of the white form of *E. californica*, the rich, the pretty and distinct rosy carmine Rose Cardinal, which is regarded as a variety of *E. grandiflora*, and the rich deep orange *E. Mandarin*, which, though placed in seed lists as a variety of *E. crecen*, actually came from Rose Cardinal. Doubtless other annuals would serve the purpose of carpeting beds of standard Roses, but perhaps nothing more lasting, brilliant and graceful than the *Eschscholtzia*. Mr. Perry made a practice of sowing seeds in

his Rose beds in December, and by so doing he had the plants at their greatest beauty at the time the Roses were in bloom, and they continued to flower in good condition until September, when the plants were all pulled up in order that the soil should not be made sour for the autumn. Originally grown as a biennial, the *Eschscholtzia* blooms much better as an annual, and never, perhaps, so finely as when autumn-sown. I have seen in Mr. Waterer's nursery at Knap Hill plants of *Eschscholtzias* raised from seeds sown in late autumn that were marvellously fine, and it is not too much to say that the *Eschscholtzia* is among the hardiest of annuals. When the seeds are sown broadcast the plants come up thickly, and it is necessary they be thinned out 12 inches to 15 inches from each other, so as to afford ample room. They are much better sown in the open than when transplanted.—R. D.

THE HOLLYHOCK.

I LOOKED over a garden well furnished with hardy plants the other day. Amongst them was a number of Hollyhocks raised from seed, all of which were smothered with the deadly disease. The most remarkable part of the story is that they were raised from seed during the present year, and no other Hollyhocks of any kind were near them. Mallows carry the disease on the leaves, and Mallows are everywhere, but no diseased Mallows were known. Some seasons it does much mischief, destroying every green leaf before the flowers are developed. I have thought that soft soap and sulphur would kill it; Condy's fluid and other things have been tried, but they do not make a thorough clearance of the disease.

I grew about 150 plants this year in the garden at Great Gearies, and the disease appeared in the summer, but it did not in any way cripple the plants so that their flowering was prevented, and now they are growing clean and healthy from the base. The Hollyhock is a comparatively hardy plant, and established seedlings that have not flowered brave the severest winters unscathed. Not so the old plants that have flowered; they may be killed, and it is not safe to depend upon them passing through severe frosts. The gardener has, therefore, to do two things at this time of the year (November); he has to look to the safety of his old plants and prepare the ground for another year.

The Hollyhock needs a plentiful supply of rich food and deep soil to grow in, and it is well to trench the ground in time to allow of its being well exposed to the frosts of winter. Give a good dressing of rich manure, and if the ground has grown Hollyhocks previously, it should be freshened up by the addition of some good loam. When I was a young gardener in Scotland some thirty-five or forty years ago, the Hollyhock was one of the most popular of garden favourites, and the late Mr. William Thorn, of Newtondon, near Kelso, was one of the best growers. He grew the plants year after year on the same ground. In those days the Hollyhock disease was unknown in this country. Mr. Thorn used to trench the ground about 2 feet deep in November or December; a layer of manure was placed in the bottom of the trench and another layer 9 inches or a foot below the surface, but with the top layer was placed a good thick layer of loam from decayed turves, and at planting time in the spring some of this loam with the addition of a little manure was placed around the ball of roots and gave the plants a good start.

There are two classes of plants, *i.e.*, those raised from eyes or cuttings taken from the growing plants in the summer even before the flowers are expanded, and cuttings taken from the old plants in the early spring. An old stool will produce from three or four to a dozen growths or even more, and these if taken off with a heel attached in the spring will usually root well if planted in small flower-pots singly, the pots to be plunged in a gentle bottom-heat in the forcing house. The summer

propagated plants are usually wintered in cold frames and they are always well ahead of the spring-struck ones. The latter also flower later; there are two or three weeks between their time of flowering. This is important when the object is to obtain good single blooms or spikes for exhibition, for if the lower flowers are gone, they cannot do much good on the exhibition table. In order to obtain good cuttings in spring, the old stools must now be taken up and potted. I use 8-inch and 9 inch flower-pots and find these quite large enough. We are now taking them up to be potted, and the plants are placed on a shelf not far removed from the glass roof of a vinery or Peach house. The frost is merely excluded by a fire during sharp frosts. The disease if it is amongst the leaves does not spread much in winter, not until the cuttings are placed in heat, when it spreads rapidly. The single-flowered Hollyhock is not much admired, but I saw some fine tall plants lately in a cottage garden which seemed to be a perfect paradise for the humble-bees; the spikes were very tall and well flowered and had an excellent effect. The florist goes in for the largest, fullest flowers he can get and would not grow the single-flowered varieties. The single-flowered Dahlia is now very popular, so also are Roses with single flowers. One day single-flowered Hollyhocks may become popular, but we may admire both without favouring too much the one or the other.

J. DOUGLAS.

TRITONIA AUREA.

TO THE EDITOR OF THE GARDEN.

SIR,—It is, I fear, somewhat presumptuous in me to question advice over the initials "W. W.," but surely there is some mistake in that given at p. 462 to dry off the corms of *Tritonia aurea*. When lifted in October new growths of 6 inches or more in length, and looking like very strong Couch Grass, will already have started. These will soon perish in any process of drying, and though the corms will no doubt start again, yet the finest growths should be preserved as in every way the best. In North Notts, at any rate, *T. aurea* will not succeed altogether in the open. It is not the cold of winter (that may be met by covering), but our late spring which stands in the way; the plants making a late start find autumn upon them before they have completed their summer growth, and by degrees dwindle away. *Montbretia crocosmiflora* seems better able to stand our climate, and *M. Pottsi* is, I think, quite hardy. Neither of these, however, is to my mind equal to *Tritonia aurea* when at its best. I am without it now for want of proper winter and more especially spring quarters, but for some years I grew it very well under the following routine: The corms when lifted in October were at once potted in light sandy soil, the new growths being coiled (a little care is needed to prevent breakage) so as to bring the growing points just under the surface of the soil. During the winter the pots stood on the floor of an orchard house from which frost was barely excluded, and remained there until genial weather in April or May suggested their transference to summer quarters. These were a partially shaded spot in a light soil enriched with leaf-mould. During winter little or no water was given, just enough to prevent the soil becoming dust-dry, but when growth is active the plants like plenty of moisture with good drainage. A hot, dry position is not suitable, and soon shows its evil effects in red spider.

JAMES SNOW WHALL.

Worship.

Crocospia v. Tritonia.—The plants represented in the plate in THE GARDEN last week are *Crocospias*, and not *Tritonias*. *Crocospia* (not *Crocospia*, as it is sometimes spelt) is a monotypic genus founded in 1851 by Planchon, a French botanist, on *C. aurea*. This plant is figured in the *Botanical Magazine*, t. 4235, as *Tritonia aurea*. It is, of course, very near *Tritonia* proper, as is proved by the hybrids raised by M. Lemoine between *C.*

aurea and *T. Pottsi*. The genus *Montbretia* is still kept up, but it does not now include the plant generally known as *M. Pottsi*, which is a *Tritonia*. Mr. Wood and others interested in these plants will find their correct nomenclature in Mr. Baker's "Handbook of Irideae," 1892 (Bell and Sons). The plants figured in THE GARDEN last week are grown at Kew as *Crocospia aurea maculata* and *C. aurea imperialis*.—W. W.

—There is evidently an error—perhaps change of labels—in the description and figure of the varieties of this plant in THE GARDEN of November 18. The flowers of *C. aurea imperialis* are of a reddish fulvous orange, and have broad, imbricated massive segments, much broader and fuller than those of *maculata*. No. 2 of the figures might agree with this. No. 1 scarcely agrees with Mr. O'Brien's *maculata*, which on the average is better, but, of course, it is difficult to reproduce exactly. I have not imported *aurea imperialis*, but have raised it from seed saved after twelve years of careful selection. I sold the stock of it to M. W. Hans Herrnhut in 1887, under the name of *C. aurea macrantha*, which he thought proper to change into *imperialis*. I had for some years preserved a series of flowers to show the gradual development and increase of the size of the flowers during my experiment which would have convinced everyone of the truth of my statements, but ultimately have thrown them away. I have been so ill treated and the origin of the plant so much disputed, that this shall be my last word about it.—MAX LEICHTLIN, *Baden-Baden*.

Dictamnus giganteus.—I obtained this from Holland a few years ago, and, like J. Wood, I could see no difference from the type until I compared the flowers and leaves; those of *giganteus* were about twice the size of those of the old *D. Fraxinella*. The height of the two varieties was about the same.—J. W. THOMAS, *Belmont, Carlton*.

Nicotiana affinis in Ireland.—When well grown this is a beautiful plant, and possesses the additional charm of having an exquisite perfume. This perfume is only to be distinguished in the evening. The flowers close up during the day, and the whole plant seems drowsy while the sun is shining, but the moment that the shades of evening steal on, *Nicotiana affinis* opens wide its flowers and pours forth its fragrance far and near. I had a large number of plants this year. They were grown in the herbaceous border not only for their beauty and fragrance, but also on account of the attractive power that the flowers have for insects. In former years I have captured a number of the handsome *Sphinx convolvuli* on its blossoms. This is one of the largest of our hawk moths—indeed the largest, with the exception of *Acherontia atropos*, the death's-head. No *Sphinx convolvuli* appeared this year. My object, however, in writing this note is to mention that I have never seen finer specimens of *Nicotiana affinis* than I had in my garden this year. They were all, in fact, quite exceptional in their growth and the vast number of flowers they produced. One plant I measured was 4 feet 6 inches in height. It had seventeen flowering stems. One of these measured from the junction with the main stem 3 feet 8 inches. There were 328 flowers.—WILLIAM W. FLEMING, *Coolfin, Portlao, Co. Waterford*.

Primula Forbesi.—This, raised from seed in March, has been in bloom during the whole summer in my greenhouse. It may be considered an interesting rather than a showy plant, as the individual flowers are small, but growing in a mass, the slender intertwining silvery stems and lilac flowers attract attention. The crowns were reported a short time since and all flower-stalks and buds removed; but flowers are being produced nearly as fast now with only the shelter of glass, as in the heat of summer. It is a decided shade lover. Some plants in pans placed under a stage and overlooked were found to have flowers fully half as large again as those produced in full light, though carefully shaded from the hottest sunshine. A few seedlings put out in a sheltered border have also flowered continuously throughout the season and stood the first frosts very well, but the severer test

of the biting wind and frost of November 18 and 19 raises doubts of complete hardiness in our climate (Amman Valley, South Wales). It may be that the crowns will remain dormant throughout winter and start again in spring, in which case *P. Forbesi* will be a valuable addition to the plants suitable for a shady alpine garden. In spite of its exceptionally free-flowering habit, it has not ripened seed, to my knowledge, during the past season, perhaps owing to over-flowering; but it is very possible that seedlings may spring up, self-sown, as in other *Primulas*, e.g., *P. floribunda*.—K. L. D.

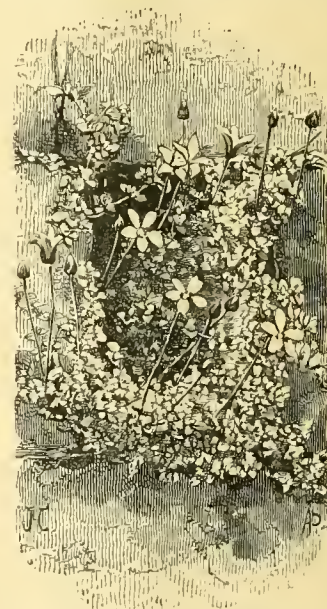
GARDEN FLORA.

PLATE 938.

THE MOUNTAIN SANDWORT.

(WITH A COLOURED PLATE OF ARENARIA MONTANA.*)

THE *Arenarias* are delightful rock plants in suitable positions in the garden. Mr. Moon made the coloured illustration from a dangling tuft of this species as growing in an elevated



The Balearic Sandwort (*Arenaria balearica*).

wall pocket in the College Gardens at Dublin in May of this year. As thus grown on the top of a low, half-shaded wall or on elevated rocks, the plant assumes quite a free and elegant habit, the masses of pure white blossoms drooping most gracefully, as shown in the plate. The plant is not so often seen as its freedom of growth and beauty would lead one to desire. It is readily increased by cuttings or by seed, which is very freely produced. The seed may be sown as soon as ripe in boxes of any light sandy soil to which old lime rubbish, in which these Sandworts generally delight, may be added with advantage. Cuttings taken off in April or May root quite freely, and by covering some of them with nodules of sandstone or other rock refuse, rooted plants can soon be obtained. Old straggling tufts and masses may be divided from time to time. As grown on the border or in ordinary low rockwork or amongst stones, the plant forms a

* Drawn for THE GARDEN by H. G. Moon in the College Gardens, Dublin, May 16, 1893. Lithographed and printed by Guillaume Severeys.



cushion-like mass, often so thickly covered with flowers that scarcely a leaf can be seen—in fact the plant has many phases of habit, according to the aspect and position in which it is grown. So far as I am aware, the best forms of *A. montana* are quite superior to all other Sandworts at present met with in our gardens, although nothing can well be daintier and more fairy-like than its relative *A. balearica*, which forms a dense Moss-like covering over moist sandstone, and is very lovely as seen thick set with its long-stalked pearl buds and white flowers. *A. montana* is a native of mountains in France and Spain, and is said to have been introduced as long ago as the year 1800. It is sometimes known in gardens under the name of *A. grandiflora*, which has, however, a shorter and more tufted habit of growth.

A. montana has appeared in lists of choice alpine and rock plants for the past ten years at least, along with other species and varieties, amongst which I need only mention *A. biflora*, *A. cespitosa*, *A. purpurascens*, *A. triquetra*, and *A. verna*. F. W. B.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

WINTER TOMATOES.—The ripening of winter Tomatoes will not be regular unless a warm, airy and buoyant atmosphere is maintained, and unless this is also regular the flavour also will be wanting. A minimum temperature of 58° or 60° is what must be aimed at, with a rise by day from sun-heat, this, of course, coupled with a little ventilation so as to keep the air moving. Anything approaching a close and moist atmosphere must be avoided. The soil will have to be kept fairly moist, this requiring more attention where the roots are wholly confined to pots than where these latter are stood so that the roots may work through into richer and warmer soil. Plants which are supporting good crops of fruit and also confined at the roots may have an occasional dose of tepid diluted liquid manure. In the case of plants in small pots a surface-dressing of richer material would be an advantage, using plenty of wood ashes in the compost. Keep all useless growths pinched out.

PROTECTING VEGETABLES FROM FROST.—Care will now have to be taken that Lettuce and Endive which are being preserved in frames are not injured by frost, as where these are of fairly large size decay sets in very rapidly if frost is allowed to reach them. In the case of severe weather the lights should have a thick covering of litter or Bracken placed upon them, and if the frost continues, allow it to remain on until this has passed away. The sides of the frames will also have to have some litter placed around. On the other hand, ventilation will have to be attended to on all fine days. Cauliflowers will also need protecting, but these must not be unduly coddled. Parsley will also require attention. This may be easily done if the plan I have frequently advised has been carried out. Once let Parsley become injured by a severe frost or beaten down by snow, decay will rapidly set in. Parsley must not upon any account be coddled, a free circulation of air being essential during damp or mild weather. Protection from frost and snow and a free circulation of air at other times are what is needed.

MANURE.—The preparation of manure goes a long way towards securing the best results from its use. The past season showed that what is termed solid manure obtained either from the stables, or, better still, from the cow-sheds, produces better crops when used in conjunction with artificial manure than where the latter only is used. Tree leaves form an excellent manure where they can be placed in yards to be trodden down by cattle, and this is what we are doing this season, straw being none too plentiful. Very often

the greater part of that which is obtained from stables is required for hotbeds, but, however this may be, it is necessary to well prepare the manure as it is obtained. Instead of carting it or wheeling it into a heap, it must be turned as often as necessary to ensure a regular decay, and be moistened with water if wholly composed of stable manure, that is, if at all dry. If it can be so stacked as to have a pit to catch the drainings which may be thrown over it, all the better.

SALADING.—The salading it is possible to maintain will to a certain extent depend upon the provision which has already been made. Where Endive is growing on the floors of vineries and Peach houses, care will have to be taken that the soil about the roots does not become too dry, or the quality will be poor. To prevent this, water must be applied, pouring it through a small-spouted watering-can between the plants. Even where transplanted into frames, Lettuces as well as Endive will also have to be treated likewise if at all dry. Round-leaved Batavian is the best Endive, and with well-grown plants very little aid to secure blanching has been necessary, merely covering or drawing the outer leaves up together and tying being all that have been needed. As long as Endive will blanch in this manner it need not be removed to darkened structures. Witloof may be taken up as required, cutting off the old foliage to within an inch of the crown and forcing similarly to Seakale. Take care that the soil about the roots is moist. Smaller succession Cabbage Lettuce must have the lights kept over them, when almost every leaf of the growth that is made will be fit for use. A. YOUNG.

FRUIT HOUSES.

FORCING POT VINES.—There is less need than formerly to resort to hard forcing with a view to having ripe Grapes in April, Lady Downe's and Mrs Pince's Muscat keeping well till May and even later. At the same time, if fresh Grapes are wanted extra early, a start ought to be made at once. In some instances forcing has already commenced, but it is a very doubtful gain starting much before December. Hard-forced Vines are of little further value after the crops are taken from them, and that and also because they can be more conveniently forced is why pot Vines are most generally preferred. The canes of the latter ought to be strong, short-jointed, well ripened and strongly rooted in 12-inch pots or rather less. If they have been exposed to the severe frosts already experienced, they will start all the more quickly and strongly and probably overtake others that were started earlier. There should be no pruning at this late date, and the greatest care should be taken not to break or damage the canes, or excessive bleeding will most probably result. No cleaning or dressing with insecticides ought to be necessary. They must have the benefit of a gentle heat and moist ammonia-charged atmosphere, and this ought to be largely created by means of a hotbed of stable manure, previously prepared, and fresh Oak or other leaves. Set the pots on piers formed with loose bricks and build the hotbed up sufficiently high to well cover the pots. At first, or till it is seen the heating material will not become dangerously hot, make it only moderately firm, packing it more solidly about the pots later on. Add fresh heating material occasionally. At the commencement and for some time afterwards water should be given somewhat sparingly, anything approaching saturation being most injurious, and the better to be able to judge when the water is needed, defer top-dressing till the roots are on the move, the canes at first being coiled round so as to bring their points well back to the pots, a more even break being brought about accordingly. Supposing the Vines are being forced in low, well-heated structures, the canes can be trained up the roof directly a good break has taken place. Syringe as often as needful to keep up a moisture-laden atmosphere, taking care that too much of the water does not trickle down into the pots. Commence with a night temperature of from 50°

to 55°, increasing from 5° to 10° in the daytime, and if even still higher figures are reached during bright days there will be no necessity to open the house.

FORCING PLANTED-OUT AND PERMANENT VINES.—Where two compartments in low forcing houses can be principally devoted to the growth of early Grapes, much better crops can be had than from pot Vines. In one the young Vines would have to be prepared for forcing the following season, one good crop being all that hard forced Vines are capable, as a rule, of producing. Planted in narrow borders with hot-water pipes underneath for affording bottom-heat, little or no difficulty ought to be experienced in securing heavy and early crops. Prior to starting, probe the border to a good depth and give a soaking of warm water if at all dry, liquid manure being substituted if the soil is well filled with roots. Treat the canes as advised in the case of pot Vines, the temperatures and other cultural details being also much the same. Vines permanently planted in inside borders may also be started at the present time, and may do well provided hard forcing is not resorted to. If they have been forced and have had a good rest since, they will start far more readily. At the same time, if there are any permanent Vines of Black Hamburgh, Madresfield Court, Foster's Seedling, and Buckland Sweetwater that are becoming less profitable than formerly, and it is thought desirable to replace them with a fresh set of Vines, these latter being given the benefit of a new border, a good early crop might be had from the condemned Vines in time for their being cleared out and others planted in May or very early in June. To be plain, by hard forcing old Vines and closely replacing these with young canes of the current year's growth, a loss of one season will be prevented. In all cases where permanent Vines are forced, these ought to be subjected to the softening, growth-promoting effects of a moist and ammonia-charged atmosphere. Not only should hotbeds of stable manure and leaves be formed in the house, but these ought to be partly turned every morning and frequently renewed so as to keep up the heat and vapour. Use the syringe rather freely about the well-coiled or bent-back rods and the house generally on bright days, the heating material giving off enough moisture in dull weather. Start with rather low figures, or say about 5° lower all round than in the case of any given the benefit of bottom heat. When the buds are bursting strongly increase the heat to 50° to 55° by night and 60° to 65° by day, and if sunshine raises the heat beyond these figures, so much the better. Not till the back buds are pushing strongly should the rods be straightened out, and the ends may well be depressed for some time longer. Stop the most forward shoots in all cases two leaves beyond the bunches directly the points can be got at, this greatly strengthening the later shoots.

FORCING PEACHES AND NECTARINES.—Trees in pots given the benefit of a moist bottom heat, and not forced too hard at the outset, are usually the first to produce ripe fruit. In most gardens, however, permanently planted trees are principally relied upon to produce ripe fruit in quantity in April and May, and in all such cases the start should be made not later than the first week in December, a still earlier commencement being desirable if such extra quick ripening varieties as Waterloo, Early Alexander, Hale's Early and Princess Beatrice Peaches are not grown. The trees have had a good rest and should start well. Examine them closely to see if there are any traces of scale left, and if necessary once more freely syringe the trees with the mixture of petroleum or paraffin and hot water. The latter should be heated to a temperature of 112°, and in every 3 gallons of this dissolve a lump of soft soap near the size of a hen's egg, and then add 6 oz. or three wineglassfuls of the oil. Syringing the trees freely with this should also destroy the eggs or progeny of black and green aphides, and thereby obviate the necessity for fumigating just before the flower-buds expand. If the borders are at all dry give a soaking of tepid water, liquid manure being substituted where the soil has not

been renewed for some time past. Commence with a night temperature of from 45° to 50°, increasing from 5° to 10° in the daytime. Syringe the trees every morning and again at mid-day, a generally moist atmosphere being maintained.

EARLY STRAWBERRIES.—Very early dishes of Strawberries are always appreciated, but it is doubtful if they pay for the trouble taken in producing them, especially seeing how many of the plants when hard forced fail to form fruit. If a commencement is made now, it ought to be possible to have fairly good fruit in February or the first week in March at the latest. All things considered, the best variety for early forcing is *Vicomtesse Héricart de Thury*. It is possible to have Noble, Princess of Prussia, John Ruskin and such like quite as early, but compared with *Vicomtesse* the quality is very poor indeed. A strong, dry heat, or say such as the plants would be subjected to on shelves in forcing houses, is not suitable. Strawberries in pots push up their flower-trusses more surely and strongly when plunged in a mild hotbed formed in a heated brick pit, the top-heat not often exceeding 60°. If the bottom-heat ranges from 70° to 75°, the top-heat ought to be quite 15° lower. Under these conditions the leaf growth is retarded and the root action accelerated, and there is also less likelihood of the foliage being infested by red spider and green fly; the pits to be made use of for starting the plants, shelves in forcing houses being the best place for them when coming into flower. If there is no choice in the matter, start the first batches in Peach houses and vineries being forced.

PRACTICAL.

PLANT HOUSES.

PLANT TYING.—What there is of this to be done should be attended to between row and the turn of the days. For home use I am no advocate for the formal training of plants, nor is it any special recommendation even for those grown for exhibition. Some amount of training is, however, necessary, otherwise in some instances really well balanced plants cannot be grown. Too free a use of sticks makes a plant look extremely unsightly, these being oftentimes more prominent than the plant itself. By using a smaller quantity and adopting the slinging process the work is really more effectually done. An expert at tying will do a lot of this instead of using so many sticks. To thrust sticks promiscuously into the roots of a hard-wooded plant will often be fatal to it if a number be used. None should be put into the inner part of the ball next the stem, unless it is into the holes out of which others have been taken. Tapering points are far better than blunt ones, and for choice plants sharp edges ought to be guarded against. For special purposes I prefer to buy what are termed double laths and make my own sticks therefrom. In splitting up the wood and making the sticks there will be various sizes; the slighter ones will do best for slender or thin growing plants, the stouter ones for those of dense and heavy growth. To add fresh sticks without removing the old ones is a mistake, being only a slovenly way of doing the work. No definite rule can be laid down for tying, but oftentimes a ring of sticks around the sides will suffice, with probably a central one as well. Some plants have a tendency to grow erect and close whilst still small. The *Epacris* is an example of this; the shoots thus become much crowded, but by using a few small sticks the sides may be brought out, and in a season or two the old wood left after pruning will become set. In this way a better groundwork is made to build up a shapely plant. *Ericas* in some cases have the same tendency; thus the plants become leggy and unsightly instead of dwarf and bushy. *Azaleas* under good management require but little staking. When the form of plant is determined on the treatment should accord with it; a dwarf bushy plant only needs the sides to be drawn out, a pyramidal one should be taken in hand whilst still of medium size with a central stick, and the outer shoots tied down with string

to the rim of the pot, around which a wire should have been previously fixed for the purpose.

A deal may be done by the regulation of the shoots in many kinds of greenhouse hard-wooded plants, so that shoots of extra vigour do not weaken other parts of the same plant. This can be effected by drawing the shoots downwards to a horizontal (or nearly so) position as well as by stopping. To allow a plant under pot culture to grow in quite a natural manner would shorten its existence; its treatment has to be modified to suit the case. Sometimes the sticks become rotten and a plant looks like falling to pieces, then perhaps a string is run round to bunch it up together again, the remedy being as bad or worse than the complaint. It is not by any means necessary to spend a lot of time on tying, but in any case sufficient attention should be given to it to keep the plants in a respectable condition. When tying these plants a permanent material should be used. *Raffia* is next to useless; the best things are either small green string about the size of carpet thread, this latter material being also very good, but I prefer the string. Small Bamboo sticks will do for some plants, but their use for the purposes now under consideration should not be countenanced. When the sticks are painted, which of course they should be, see that the paint is of nearly the same colour as the plants. A stick painted light green and used afterwards in a plant with dark green foliage makes a sort of display that is not desirable; on the whole a dark green stick is to be preferred.

WATERING, &c.—The watering in this department should now be proceeded with in a cautious manner. So far we have not had to use much fire-heat, thereby causing the plants to dry up somewhat more quickly. The weather on the whole has been favourable to hard-wooded plants, hence they will take rather more water than when it is dull, damp and sunless. The ventilation also has been maintained, this also tending to the good of the plants. But little water is needed when we are going through a spell of gloomy weather. It should be looked to early in the day with no useless stopping in the work. Plants that have been newly potted will take much less than those which are pot-bound, whilst if a plant be somewhat out of health additional caution is essential. Those which take the most water are small *Heaths* and *Epacris* that have been grown on quickly and are still in relatively small pots. Large specimens will, on the other hand, go for a week or a fortnight even without any. *Azaleas* should now be kept fairly on the dry side, not being allowed to suffer of course; if they have too much water during the winter the young growths come away too soon, being thus in advance of the flowers as well as weak. When the watering is done let it be thorough; just a little at a time is worse than none at all. See also that all the plants are kept upright, which in specimens is a most important matter. Use rain water or that which has been exposed in a tank in preference to drawing it straight from a tap or other source not congenial to plant culture.

JAMES HUDSON.

ORCHIDS.

It is of the utmost importance at this season that as much time as possible should be devoted to thoroughly cleaning the plants and woodwork of the houses. I noted also the tendency of many species of Orchids to do badly in some collections, while in others the plants will make good strong growth and flower well. Recently, too, I pointed out how important it is that no drip should be allowed to fall upon the plants or even in the compost wherein the plants are growing. Drip may get upon the plants in two ways, either by rain or snow water getting through the roof glass or by condensed water, which gathers inside the glass and runs down the rafters, dripping as it goes. One can well imagine the disastrous effects of drip upon Orchids at rest, such as *Dendrobiums*, *Cattleyas*, *Vanda teres*, *Chysis*, &c. They might start to grow before their time and all the calcula-

tions of the grower may be upset, besides the injury that may accrue to some plants by wet getting into the centre or damaging the young growths. It is easy to avoid it, and every good hot-house builder knows how to plan the sash-bars and rafters so that the water may be carried down to their base and outside into the gutters.

Many Orchids may already have passed through their period of rest and should now be started into growth again. In starting the plants into growth care must be taken not to place them too suddenly out of a quite cool house into an East Indian temperature. This may be the means of the growths starting away rapidly—too rapidly in fact, and some of the bloom-buds dying off instead of producing perfect flowers. A sufficient number of *Dendrobiums* of all the free-growing free-flowering deciduous species should be placed in heat. During recent years many of our plants have not been placed in the warmest house at all, as I found they flowered better in the *Cattleya* house; the intermediate temperature is brisk enough to cause the expansion of the flowers, but not enough to produce good strong growths. By not watching the plants carefully when at rest and treating them well, we weaken the constitution of many species and rare varieties, so that they do not retain their vigour. Of the *Dendrobiums* which I would recommend to start into growth in the *Cattleya* house at this season, none can be placed before *D. Wardianum*. The plants are easy to import, and every one will grow, and grow strongly, the first year, and stronger still the second, but in a few years the native vigour of the plants becomes exhausted, and the growths are year by year weaker and weaker until the plants are not worth growing. The same remarks apply to that beautiful species *D. Bensoniæ*. They are quite different in growth and require to be placed under different cultural conditions, yet they are the same when we come to take stock of the plants after six or eight years. The plants have hitherto been sold so cheaply that it has not been a great expense to renew the stock every two or three years, but all the same it is a sorrowful experience for an amateur who cares for his plants to see them gradually decline. In many collections a serious fault is the way in which the plants are crowded upon the stages and overshadowed with other plants hanging above them. Growth made under such conditions seldom produce flowers freely. Referring again to *Dendrobium Wardianum*, I bought a dozen plants from a collection of them that had been crowded. The growths they had made were much longer than some in our own collection, but when flowering time came a few blooms only were produced near the ends of these long rods; while our own with short jointed growths produced on plants near the roof-glass were well furnished with flowers almost from end to end. It does not matter much where the plants are placed before they come into flower and while they are in flower, but as soon as the blossoms pass away the plants should be placed where they are to make their growth at once, for in the case of *D. Wardianum* and some others, the young breaks have made considerable progress before the flowers are removed, and if re-potting or rebasketing is required, see to it at once. I believe *D. Wardianum* does best in baskets, and it should have new baskets every third year. It would not be the time to do this at present, but we have our earliest *Dendrobiums* in flower about the new year, and as soon as these pass out of bloom they will either be re-potted or surface-dressed.

Pleiones should also be re-potted as soon as the flowers fade. Some persons re-pot them annually—I have done this and approve of it—others once in two years. They have also done well in our collection with that treatment. I grow them in flower-pots in good peat and *Sphagnum Moss*. The method of potting, &c., has been described in previous numbers. I observe at this present moment two classes of *Odontoglossums* in the *Cattleya* house requiring quite different treatment for the winter—*O. vexillarium* and *O. citrosimum*. The latter are placed in the lightest part of the house, where they get all the sunlight available, and the

plants receive no water unless the pseudo-bulbs show a tendency to shrivel up too much, when a little is given. On the shady side of the house are the plants of *O. vexillarium* (Miltonia) and they are kept growing all through the winter. We keep them clean by dipping or the use of fumigating material, but it is easy to injure the growths of *O. vexillarium* with bad tobacco or bad tobacco paper. Yellow thrips, which are the desperate enemies of this *Miltonia*, can be destroyed by dipping the plants overhead in a solution of tobacco water and soft soapy water, 2 oz. to the gallon. Any other Orchids requiring dipping should be done at the same time. The water should be warm to dissolve the soap; add to it a gill of tobacco liquor. This mixture kills aphides easily, but even thrips cannot live after two dippings. Lay the plants on their sides after dipping them and sponge over the leaves with clean water. *Odontoglossum Roezli* in the warmest house should also be dipped at this time. Neither of the two can stand strong tobacco.

J. DOUGLAS.

CHRYSANTHEMUMS.

SHOWING CHRYSANTHEMUMS.

ONCE more the Chrysanthemum shows have come and gone, or at any rate they are all over as far as the midland and southern districts are concerned, and once more the recollections are not altogether of a satisfactory character. Each year we hear the same complaint of monotonous arrangements, more especially among the cut bloom classes, and if something is not done soon to vary the display, there is every likelihood of a serious falling off in the attendance of visitors to the shows. Enthusiasts or those conversant with the majority of the varieties can, provided they have an opportunity of getting near enough to the stands, see much to admire in the individual blooms, novelties serving to well sustain the interest. The case, however, is very different with the majority who attend these shows. They see little besides a solid mass of blooms extending probably down two or more long tables, and finish up their inspection not greatly gratified, and little, if any, the better or wiser for their trouble. Even if they wished to discover the names of the varieties it is scarcely possible for them to do so, not one exhibitor in a hundred displaying the names in a legible manner and where they can be seen. Introducing or tolerating larger boards has certainly improved the appearance of the larger varieties, but, as was prognosticated, it has also had the effect of excluding very many good varieties whose only fault is that they do not cover the boards sufficiently. The larger-sized boards make the medium sized to small blooms appear very small by comparison, and when none of the varieties shown are up to the standard set by leading exhibitors, full-sized stands are a glaring mistake. Owing to the necessity for carrying a considerable number of blooms in rather close quarters, any innovation in the direction of increasing the difficulties of what I may term travelling exhibitors will be strenuously opposed by these latter, but something ought to be done to break the monotony that prevails. The question is, ought the travelling cupboards to be remodelled in order to meet the demand for an improved method of exhibiting Chrysanthemums, or must the owners of these unsightly, but indispensable accessories be studied at the expense of the reputation of show Chrysanthemums generally? My contention is that something must be done to obviate the present monotonous methods of showing cut blooms

even if this does touch the pockets of the exhibitors. The latter may grumble at the altered conditions, but will not hesitate to meet them directly this becomes necessary.

What greatly detracts from the beauty of cut Chrysanthemums is the absence of live greenery of some kind. We, however, get rather too much of the green paint on the boards in the case of incurred varieties, this not obviating the painful neatness of the blooms in the least. What would greatly improve their appearance, viz., some of their own leaves, is supposed to be impossible of use, generally, owing to the necessity for cupping up the blooms. Where fine blooms perfectly filled up in the centre are cut and shown before they are in the least bit stale, it is surprising how well they will keep without any extraneous aid other than the easing and regulating of the florets according as they expand, but they open considerably after they have passed their prime. I shall, perhaps, be told that it is not possible to show incurred blooms in a condition fit to be seen without resorting to the old cupping-up tactics, but let me ask, has the attempt ever been fairly made other than on a small scale in isolated cases? Personally, I would rather see a few more "eyes" and more greenery than the stiff, unnatural lines of blooms that have found a place in so many exhibitions this autumn. Owing to the great length of peduncle in the case of the Princess of Wales family in particular, I would not insist that these or any other varieties should be shown exactly as grown, but would admit of a portion of their own wood and leaves being attached to each. This plan has been tried at Devizes, and in one instance a perfect lot of blooms, equal to what are usually shown in the orthodox manner, and which certainly were far more attractive in appearance, were put up. All that is necessary is to stipulate that not less than 4 inches of clear stem, accompanied by foliage of each variety, be shown, and the rest may be left to the exhibitor. The middle and back rows may be either cut with longer stems or raised slightly higher than the front row, and be improved in appearance accordingly.

Reflexed and Anemone-flowered varieties, again, frequently look quite lost on the show boards, being flatter, though scarcely so firm and formal as the incurred section, and these therefore should also be shown with their own foliage. Thanks to the efforts of innumerable raisers, extra large handsome Japanese varieties are being distributed wholesale, many of them being fully equal to covering their share of space on the enlarged boards; while on the older size (24 inches by 18 inches) they present quite a crowded appearance. But in order to see these at their best they ought to be accompanied by their own foliage, that is to say, be shown very much as I have advocated in the case of incurred varieties. This would necessitate allowing still more space for each bloom, though it does not follow that larger boards than those 28 inches by 21 inches need be made. Instead of twelve, twenty-four and thirty-six blooms being asked for, the numbers should be reduced to eleven, twenty-two and thirty-three respectively. Why not? There is nothing but past procedure to warrant the framers of schedules in sticking to any particular numbers, and if odd numbers best meet the case, the innovation ought to be made. If my numbers were acceptable, there would be no real necessity to greatly disturb existing arrangements, the middle line of holes only in the boards being reduced to three in number, and angling the blooms would have the effect of allowing rather more room and displaying it both the blooms and the foliage

to better advantage. Alterations on these lines would not add greatly to the expense of the exhibitors, the old cupboards at any rate being still available, only they would not be deep enough for so many stands or boards as formerly. Personally, I fail to see why travelling boxes should not be used, Chrysanthemums not being so fragile as not to bear contact with each other. If triplets could be shown clear of stands and either with their own foliage or interspersed among small Ferns and Lycopods, backed by small Palms, this would be a very great improvement on the present fashion of exhibiting Chrysanthemums. This excellent plan has, I believe, been repeatedly adopted by Mr. Wythes, of Syon House, Messrs. Cannell, and others, but it does not become at all general. At least three different secretaries have distinctly stated to me they intend introducing fresh classes for cut blooms with a view to rendering them still more attractive, but when the time comes for making these alterations, they (secretaries generally) are apt to shirk the responsibility of suggesting innovations. Since writing the foregoing I have read the short note on "Staging Chrysanthemum Flowers," which appeared on p. 454, and would like to be able to verify the statement to the effect that there are any signs of a marked improvement in the matter of staging blooms at the west of England shows. At present the signs, with the exceptions noted, are all the other way, and if it is allowed to rest with the exhibitors, it is very certain there will be no breaking away from the old monotonous style. The change must be initiated by the framers of prize lists. Let the prizes be worthy of the occasion, and exhibitors will soon be found to compete for them.—W. IGGULDEN.

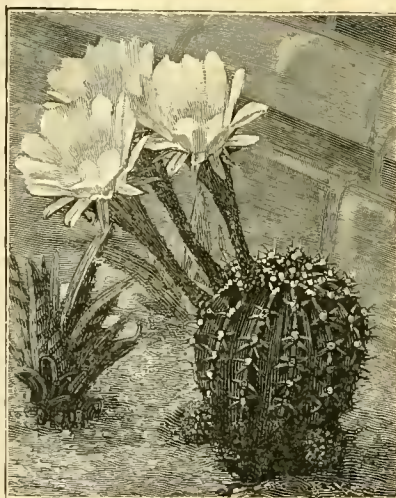
Any new departure from or variation in the monotonous arrangement of cut blooms is worthy of every encouragement. What is invariably lacking is foliage to tone down in a measure the excessive brightness of the flowers. When any attempt in this direction is made it should be taken note of as being suggestive of further improvement in the general effect of the Chrysanthemum exhibitions. At the recent show at Hult a new class was provided, which had for its object the more tasteful arrangement of cut blooms. The class in question was worded as follows: "Twenty-four blooms Japanese, distinct, arranged for effect and set up in any manner the exhibitor desires, with or without Chrysanthemum or other foliage, on a table, space not exceeding 6 feet in length by 2 feet 6 inches in width. N.B.—The object of this class is to introduce a more tasteful system of staging highly developed flowers; therefore first quality blooms are indispensable, and their merits will be estimated by points in the usual manner. At the same time artistic arrangement is essential, and will be fully considered by the judges and receive due weight in the adjudication." The moving spirits of the Hull show are to be congratulated on the enterprise they displayed in making this new departure, and, considering it was the first time, the result with respect to the first and second prize awards must be considered very satisfactory. The prizes, it should be noted, were very liberal, amounting to about £10, divided into first, second and third, so that one could afford to go to a little extra expense in providing the additional decorative material. The first prize, be it noted, went to Mr. G. W. Musk, Haverland Hall Gardens, Norwich, so that no excuse could be made that such a class would only find competitors in the immediate locality. Each prize was taken, but it is with the first and second that I wish to deal more particularly. The judges did quite right in awarding the prizes as they did. The first prize exhibit was an excellent one. The flowers, which were of first-class quality, were arranged in an informal manner upon a groundwork of small fine-foliaged plants and Moss, amongst which were interspersed here and there a few light Palms, Crotons and other

plants, all of what may be termed "table size," the front being finished in a graceful style with Panicum, &c. The one improvement which suggested itself to my mind was that of using green Hyacinth glasses in lieu of other receptacles for holding the flowers. These would be deeper, thus with more water in them would aid in keeping the flowers all the fresher, providing at the same time a firmer base for holding the blooms in position. These were cut with from 1 foot to 18 inches of stem, being arranged with their own foliage also. It was in all respects a most suggestive exhibit, and which might be copied with decided advantage in home arrangements. Take, for instance, a side-board or hall table of nearly the same dimensions as that specified in the schedule; it could hardly be put to a better use than for the display of such an exhibit as this. It had all the necessary elements to make such an arrangement both effective and imposing. Such decorations as these are frequently called for during the present season of the year, and that in question may be taken as an excellent pattern. The grouping of the foliage plants, with some in flower also, as dwarf Chrysanthemums, may oftentimes have been performed, but in this case we have finely-developed cut flowers instead grouped in a suitable manner. A few of the varieties used were Vivand Morel, Avalanche, Edwin Molyneux, Florence Davis, Sunflower, and G. C. Schwabe, all useful for the purpose, but neither of them what could be termed formal flowers. I should like myself to have seen another bloom or two of Sunflower, one of the finest of all the Japanese, but as it said "distinct," this could not be. It would have been possible, I think, to have added half-a-dozen more flowers on the space allotted without overcrowding; thus thirty blooms in eighteen distinct varieties would be a good proportion; this would allow of a few duplicates of such as Sunflower, Vivand Morel, and other decided colours. The space really occupied would be for the twenty-four blooms under this arrangement about one-third more than when upon the regulation size boards—not a vast increase considering the greater attractiveness in the eyes of visitors generally. In the second prize exhibit the flowers were arranged informally in threes, the colours in a measure being grouped; this also had a very good effect. It would, however, have looked better with a few more light foliaged plants, but it was a suggestive arrangement all the same. The meaning of the schedule did not in the other case appear to have been fully grasped. I hope further encouragement will be given to this new departure another year; a smaller class even might be provided for those who cannot conveniently manage the larger one. The secretaries of other societies would do well to consider the matter for their schedules another season. The chairman, Mr. Falconer Jameson, and the hon. secs., Messrs. Edward Harland and James Dixon, are certainly to be congratulated on this additional feature in their show to which they devote so much time and energy.—J. H.

—The Chrysanthemum show season may now be said to be at an end, and to all who have had opportunities of seeing many of the exhibitions which have been held throughout the country during the last few weeks, it must be obvious that some new departure will have to be made from the stereotyped methods of arrangement observed by one and all if these shows are to retain their hold on the general public. The average visitor sees no difference year after year in the long monotonous rows of big blooms, and the (usually) stiffly arranged banks of plants. Not being a connoisseur, he does not take any interest in the numerous novelties which may be shown. From the point of view of the general public the shows are all very much alike, and in consequence it has recently been found necessary in many places to supplement the flower show with a concert, a dance, a fancy fair or something of interest to draw the public who care not who has the champion incurved, and are blind to the charms of the latest hirsute variety. This is an artificial method of making Chrysanthemum shows an apparent success, which cannot but prove in the long run to be disadvan-

tageous to the object with which I presume these exhibitions were primarily instituted, viz., the improvement and popularising of the Chrysanthemum. As years go on the supplement, that is to say the concert or whatever it may be, will become the principal instead of the accessory institution. The reason of this I fancy will be the absolute want of variety in the flower shows.

How then is this to be remedied?—a difficult question I confess. I will at once admit that the present system of showing cut Chrysanthemums, unpleasant as it is to the eye, is the best possible one for displaying the different points of the flowers. Cut blooms are occasionally set up with long stems and the foliage as grown, but how do they look on the second day of the show? The wood as a rule is hard, and the water in which the ends of the stems are placed has no refreshing effect on the leaves and flowers, the consequence being a pitiable array of drooping leaves and petals. This was very noticeable in some cases at the recent show at the Westminster Aquarium. A suggestion made recently that in a certain class each competitor should be allotted so many square feet of table or benching, the first prize going to the man who filled the space most artistically, no restrictions beyond measurement being made, struck me as an excellent one, and I hope it will be generally adopted in next year's



Echinopsis oxygona var. *Zuccariniana* in flower in the open air. Engraved for THE GARDEN from a photo sent by O. Overbeck, Chantry House, Grimsby.

schedules. Beyond this idea there is not, I think, any field for originality in cut-bloom showing. The groups, however, sadly need changing. The only beauty to be seen, artistically speaking, in the groups at the Aquarium, for instance, was in the varied colours of the flowers. Leave the colours out, photograph it, and where is the beauty? Certainly not of form, merely a uniform bank of lumpy flowers. Of course, the lover of Chrysanthemums delights in the cultural skill apparent in the stont dark foliage and magnificent sized blooms, but still one could pass a builder's straight-edge over the whole group within an inch of any particular point and not touch a flower.

Why not offer prizes for groups of Chrysanthemums of one colour, or say shades of a colour, yellow, for instance? Competitors might be limited to one colour (of which different shades may be admitted into the group), but might be allowed to select that colour. In this way a number of floral monochromes, so to speak, might be obtained. Much good may, I think, be done by the N.C.S. next year offering a good prize for the best original suggestion, practically demonstrated, of exhibiting either plants or cut blooms, and we may thus possibly escape from the terrible sameness in Chrysanthemum exhibitions which at present prevails.—F. C. SMALE, *Torquay*.

GOOD OUTDOOR CHRYSANTHEMUMS.

It would be useful to get a complete list as far as possible of Chrysanthemums that bloom well in the open, and I have made notes of those of good distinct colours that are bright and free far into November. Whilst the indoor grown kinds are being shown at exhibitions throughout the length and breadth of England, a few varieties are flowering freely unprotected in the garden, and these are as important in their way as those produced at great labour and expense. The colours in the outdoor kinds are restricted, and one gets the same varieties repeated until the flowers become a little monotonous. It is astonishing what may be done towards brightening the garden in the autumn with Chrysanthemums, not the Mme. Desgrange type alone, but those that flower at this season. The great thing is to grow the plants entirely in the open, and not to let them remain from year to year until they get weakly and poor through want of a fresh place. I saw a few days ago a small garden in a suburban street one mass of Chrysanthemum flowers, and if such beautiful colours can be obtained in isolated instances, it can be by the majority. The large-flowered types are of little value, and the selection must be restricted to those bearing flowers that throw off the rains, such as the reflexed, the pompons, and some of the incurved. I give the names of a few of the best noticed, and it is to be hoped readers who have seen kinds doing well outdoors will record their names, so as to get a full and useful list.

COITAGE PINK, probably the same as Emperor of China, is one of the best. It seems to succeed everywhere in cold localities and in the south of England. The flowers are light purplish in colour, pretty in form, and produced with great freedom.

JULES LAGRAVERE is indispensable, and I see that it is planted largely in the parks. It is the hardest of the lot, very free, and the flowers warm purple in colour, a little dead perhaps, but still welcome in November.

JARDIN DES PLANTES is a fine yellow. A plant smothered with the richly coloured flowers is as bright as anything we can get in November, and even after severe frosts its beauty is not materially diminished.

MRS. RUNDLE is a good white, but white flowers, except in very mild, dry seasons, are not satisfactory. The flowers get quickly sullied by the weather and are spoilt.

GOLDEN BEVERLEY is another good yellow kind very free, and bright in colour.

LA VIERGE, white, was very beautiful this season early in November. Bushes of it were laden with flowers, but it is not every season that suits it. The spotless white flowers are spoilt in wet autumns, but it is a variety that should be grown. It has proved one of the finest things in the garden this autumn, the plant of graceful habit, bushy, and vigorous.

In a recent issue of THE GARDEN some interesting notes appeared upon hardy Chrysanthemums, but these are of the earlier blooming kinds. I have given only those in beauty now, and hope to see the names of many more from those who have grown them. C.

Chrysanthemum Brookleigh Gem, one of the new incurved varieties, we do not care much for; its colour is not decided enough. The flowers are rose-purple, the petals tipped with white. The flowers we saw may not have been in true character, but the colour is not sufficiently clear.

Chrysanthemum Princess of Wales and its variations have this year been shown well on the whole. The finest of the variations that I have noted was Mrs. S. Coleman, which was uniformly good. On the other hand, Violet Tomlin was usually of a paler shade than in former years. What a beautiful exhibit the Princess family would make by itself. So also would the Queens and Empresses. I see no reason at all why this plan of grouping them together in separate exhibits should not be adopted. Three blooms of each form of these types would make a fine display of themselves. Perhaps the N.C.S. will take a hint as to this.—H. G.

Chrysanthemum Vivand Morel.—This lovely variety is oftentimes described in colour as

pink, which is most misleading. Personally I cannot see a trace of that colour in it. That given against it in the N.C.S. catalogue is an excellent description, viz., "silky mauve." This also seems to be of a sportive turn. I noted in one stand at the Crystal Palace the white, the yellow and the silky mauve, all fine flowers. The class there in which these were shown was not for distinct varieties; therefore, there was no quibble about the white form, nor do I think there should be provided the colour is pure white. I wonder how many blooms of Mrs. Heal have been cut from plants of the Princess of Wales. My own impression is that in process of time the white form will be sufficiently fixed to be shown in any stand with the others if the exhibitor wishes to do so.—G. H.

Prices of new Chrysanthemums.—Among the host of new Chrysanthemums distributed last spring, two—Robert Owen and Viscountess Hambledon—were quoted at half-a-guinea each, which was considered a very high price, but that has now been far left behind by one of the French nurserymen, who announces a new variety to be distributed next May at £1 each. The variety in question is Mme. Ferdinand Cayeux, which is alluded to in the following terms: "We have bought from M. Reydellet at the price of £20 the unique plant of this superb variety. It is a new type with downy petals, the enormous flowers being of a bright mahogany tint with a green centre." From the price and description this should certainly be a good and distinct Chrysanthemum, and one that will be looked forward to with interest next autumn.—T.

Chrysanthemum Mrs. W. R. Wells.—A fine flower of the white sport from Viviani Morel, named Mrs. W. R. Wells, was shown on a plant at Norwich. The plant, which was about 18 inches high, only bore the one flower. This sport has given rise to some discussion this year, many of the flowers having reverted to the original colour, but there could be no question as to the bloom in question being distinct.—J. C. T.

Cutting Chrysanthemums with long stems.—An interesting note appears in THE GARDEN, p. 456, on the above, and I quite agree with the same, but would point out that the cut blooms would be more attractive if the glasses could be covered in any way, such as in a bed of Moss or in boxes of Ferns. With glass bottles or jars exposed to view there are serious objections, as unless furnished by the society there will be a varied collection, differing in size, shape, and quality. If the stems are too long they do not absorb the water, the leaves flag badly and the effect is marred. If cut say from 6 inches to 18 inches long, there is no objection, and the habit of growth of each variety can be seen. The Royal Horticultural Society have of late encouraged this mode of staging, but hiding the glasses containing the water is, I think, an improvement, and one that Chrysanthemum societies should encourage.—H. S.

Dwarf Chrysanthemums.—I saw some splendid examples of these at Farnham, the plants being about 18 inches high and bearing very fine blooms considering the size of the pots. They were in $4\frac{1}{2}$ -inch pots, and furnished with leaves down to the top of the pot, the foliage being large and healthy. A few plants were in pots a size larger. These contained three plants, but those grown singly were the more effective. There is a ready sale for such plants, the grower and nurseryman informing me he could have disposed of a much larger number than he grew. Such plants are invaluable for the front of a group, and should be grown in larger numbers, as often the groups at shows are anything but well finished, the naked stems and pots looking most unsightly. Dwarf plants are easily grown by striking the strong points of the cut-back plants in June. If potted on into $4\frac{1}{2}$ -inch pots they make useful stuff by November.—G. WYTHES.

Chrysanthemums as bush plants.—At one time long stems and one flower on each were unknown, indeed would not have been tolerated. We are gradually going back to the old system. I

have observed in many groups five stems instead of three, and equally good blooms as from single stems. One great advantage with the flowers from bush plants is their long-lasting properties compared with large blooms, which are produced on very hard stems that cannot absorb moisture. When cut they soon flag and are worthless; whereas I have now flowers from bush plants that have been in vases ten days in a cool room, and are now quite fresh. I feel certain the old system with better culture will yet become a favourite one for decorative work, and I am pleased to see many of the newer kinds have a dwarf compact habit, rendering them suitable for bush culture.—G. W.S.

STOVE AND GREENHOUSE.

HANDSOME FLOWERED CACTI FOR THE GARDEN.

For a really choice, unique, and exceedingly neat and handsome class of plants for bordering small raised beds, I know of no more effective subject than plants of the Cactus family, known by the name of Echinopsis, and distinguished by



Echinopsis Eyriesii in bloom in the open air.
Engraved for THE GARDEN from a photograph
sent by O. Overbeck, Chantry House, Grimsby.

the large size of their delicately tinted blossoms and the lovely effect of their long-tubed Lotus-like flowers here and there expanded at eventide or by day.

I have now for many years grown these during the summer months, planted out here in the east-wind-swept cold sea-coast of Lincolnshire, where I have been rewarded with a wealth of blossom quite unknown to those who only understand and follow the ill-treatment system we see generally. These plants can stand when absolutely dry (soil and atmosphere), some 10° or 12° F. of frost, since in storing these plants away in a dry, sunny unnsed room I have had them frozen as hard as glass and become quite transparent. Upon throwing a blanket over them to keep off the light, they have slowly thawed and flowered the succeeding year as strongly as ever. The treatment they have undergone with me for the last twenty-five years has been the following, and small plants of various species which had been much admired by friends and made a gift of, and "greenhouse-coddled" after, have shown in after years the miserable weak growth so often seen in these plants. The hardy treat-

ment received by others of the same size with me have left them quite in the shade, and have been double as large. It is an error to think that such species as *Echinopsis Decaisneana*, *tubiflora*, *oxygona*, even *Eyriesii* and *Wilkinsii*, require heat in the summer. No, they require fresh air and wind about them to constantly dry their stomata and ripen their growth, so much the more important in our short summers (especially here in Lines).

I plant them out, after fear of frost is over, in a light rich bed of soil composed of plenty of old melon-bed soil, sand, peat, oyster shells, and good meadow loam, full of fibre and broken up into coarse pieces, as the whole bed should be of a lumpy character and very well drained, so that by no amount of continued rain in wet summers can the ground become sodden, which is fully analogous to their natural climate (except in point of a few degrees of temperature), where they undergo continual drenchings, accompanied with alternations of warm sunlight, during which time they swell up from their shrivelled, ripened state to a fresh green, grow rapidly and flower, to ripen when the drought follows, which ripening process is so severe, even with plants of such resistive capacity to heat as these plants are, as to give them a half-dead, shrivelled appearance.

Hence I water at first not at all (say they are planted here in the latter half of May), as the soil will be damp enough, then freely syringe in June and July, every other day in August, and twice a week in the first half of September. I then let them slowly dry out, dig them up and treat like *Echeverias* in the winter.

In this way it is simply astonishing how these plants grow and flourish, and how free they are from that insidious mealy bug at the roots, so often the ruin of these plants in pots, and recognised by the white fungoid-like woolly patches on the roots, every tip of which will be seen to have been attacked and destroyed. Since the root end protected by the root-cap is the only part of the root which can by its root-hairs absorb the vapours and liquids of the soil, we thus lose every means of renovating the plant's health except by cutting off all the roots, washing every trace of the bug off and repotting. Every time I do this I lose a season, and as all these plants (truly shrubs by their age and woody texture when matured) flower only after some years have elapsed, this is a loss to me. But at all times they are beautiful in their regularity of arrangement and the colouring of their thorns and stems. Unless required to increase the stock, the young plants produced at the base of the plant should be taken off by a sudden pressure with a blunt point upon them from above. Remember I never give them a single drop of water from October to April or May, since by planting together in boxes they retain the moisture for some time, and part with it but slowly. If stored in an empty room they should be raised from the floor, since the draught will do them no good. Let them here have during the winter every gleam of sunlight obtainable. The wonderful size, form and colour of the blooms, together with, in most species, their delicious scent, render them a wonder to those who have never seen them (and very few ever have), and a perfect sight when seen as their large Lotus-like blooms expand (always in the evening) and shine like large stars (6 inches to

9 inches long, and 3 inches to 6 inches across) glowing in the clear summer's moon with silvery white, cream colour or a bright rose shaded to pure white.

ECHINOPSIS EYRIESII (here figured), (especially the exquisite double-flowered species) the black sooty bud, compared with the open flower with its intoxicating scent, something between Lemons, Lilies, and vanilla, can only be realised by one who has seen it. In all these plants the bud first appears as a black, hairy, or woolly cone in the axil of a tileola (Thorn group), which grows at first very slowly indeed until about 2 inches long, then rapidly expands to its full length, in the latter stages an inch per day, being covered with patches of dark hairs and scales, which enlarge and grow paler farther up, and end in the long-pointed (narrow or broad and mucronate) petals of the flower. In *E. Eyriesii* the hairs are so black and dense that the bud looks as if covered with soot. The flower may be watched expanding, as it generally opens at nightfall. In their native country they are nocturnal bloomers, since with their delicate texture the morning sun would soon shivel them. *E. Eyriesii* seldom lasts more than the night, hanging over the plant like a limp rag the next day. In its native habitat the temperature may be 130° to 140° F. in the sun by day and nearly 32° F. at night. In *E. Decaisneana* and *E. oxygona* the flowers often last two nights and two days for the admiration of all. Among all our bedding plants, however choice, none can compare in blossom to the untold beauties of *Echinopsids*. Their habitat differs with the species (but all are very amenable to the same culture), those from Brazil and Bolivia being slightly more tender than those from Chili and Peru or parts of Mexico.

ECHINOPSIS OXYGONA VAR. ZUCCARINIANA.—Originally bought in one of those little scarlet pots in Covent Garden for 6d., now twelve years old. Here we have a brilliant flushed blossom of the purest rose shading to white, a magnificent flower with broad petals (mucronate), imposing sheaf of whitish stamens with yellow anthers forming a long tassel in the tube, and a white stigma with rayed style also white, the blossoms in this splendid season for Cacti measuring 9½ inches by 4 inches. To see three expanded simultaneously on one plant is very uncommon indeed. Just think of the juices required to be given up by the plant to produce these. At the base of the tube will be seen the ovary or seed-vessel—the flower being stalkless or sessile. If left on the plant it will grow into a fruit the size of a hen's egg, greenish yellow when ripe, covered with patches of hairs, and crowned with the remnants of the dead flower. It is very hardy and easily grown. Its thorns are under an inch long.

ECHINOPSIS DECAISNEANA.—This (in England rare) Cactus is the hardiest of all, and a sure bloomer within three years of separation from the parent plant; in its full grown state it equals *E. oxygona* in size, with more robust thorns. The blossom is generally constructed (as in the whole family) upon the lines given under *oxygona*, but the petals are narrower and not mucronate (with a short tip in the centre of an otherwise blunt end), and of a delicious cream colour shaded to rose, and with (as in *oxygona* too) at the upper external end brownish rose sepals, with a brown stripe down the middle of each. Hairy, as in *oxygona*, yet very distinct when seen side by side, being also a more open flower.

ECHINOPSIS TUBIFLORA is a short-thorned, very blue-green stemmed variety, with an absolutely pure white flower, opening at night only. It lasts for a couple of days as a rule. Its thorns are very dark, and expanded to a broad black base; hence easily recognised.

I have had hitherto three flowers this year on *oxygona*, and may, as a rule, take it that I get on *oxygona* per plant three to five flowers; *Decaisneana*, three to five; *tubiflora*, two to four; *Eyriesii*, one to two.

The above few notes will help, I hope, to make a lovely, yet neglected, family more popular, and since photographs are incapable of

exaggeration, I trust readers will not find the text in excess of the reality.

OTTO C. J. G. L. OVERBECK.

Chantry House, Grimsby.

Dwarf Cannas for autumn bloom.—How useful these are in the autumn, as they take up little room and give a large quantity of flower. I have just gathered some very fine heads of bloom from plants in what may be termed a warm greenhouse, these having been given a few degrees more warmth during the past month, thus inducing them to throw up a quantity of their richly coloured blooms at a time flowers other than *Chrysanthemums* are more too plentiful. The new dwarf *Cannas* are beautiful not only on account of their free-blooming qualities, but for their handsome foliage. The flowers, which range from golden yellow to deep scarlet, are produced in abundance. For autumn decoration I find small plants in 6-inch pots most useful. These if potted in the summer and grown cool or even in the open, will give a lot of bloom when placed later in a warm greenhouse. They are so readily increased and may be divided almost at any stage, that there is no difficulty in securing plenty of plants in a short time. To keep the plants sturdy a light position is necessary, and in potting up for autumn bloom, do this in time to get the pots full of roots, this allowing the plants to be fed to produce strong flowers. The flowers last much longer at this season than in the summer.—G. WYTHES.

Celosias for autumn bloom.—I have for some years sown a pinch of seed of *Celosia pyramidalis* for autumn blooming, and find it valuable for this purpose, as the blooms last a long time after being cut. It may be said, why grow the *Celosia* when *Chrysanthemums* can be had in quantity? but the latter do not set up so gracefully as the *Celosia*, whose light feathery plumes are always charming for vase work, specially if a good strain is grown. I am aware the coarse kinds are anything but graceful. *Celosias* are also valuable when grown late for room decoration, and make nice heads in quite small pots. Good plants may be grown for autumn in 4½-inch pots. These require little heat; indeed the seed may be sown in cold frames in July and the plants be grown without heat of any kind. In the late autumn careful watering is necessary, as the flowers soon suffer in a damp house. The great advantage of these late plants is that they rarely get infested with red spider or thrips.—G. WYTHES.

Ixora macrothyrsa.—A plant of this 6 feet high and bearing two immense trusses of flowers has been a most conspicuous object in the Palm house at Kew for some weeks past. For such a structure the species is well adapted, but for smaller houses its tall straggling habit makes it inconvenient, and the dwarfer, more compact species and varieties are to be preferred. In the size of its trusses, however, no species approaches this, neither do any of the fine hybrids that have been raised in gardens. In *I. macrothyrsa* the trusses are sometimes 1½ feet across, the flowers being deep red, acquiring a crimson shade with age. The foliage is of proportionate vigour, leaves upwards of a foot long and of a rich deep green being produced. After being cut back in spring the shoots should not be stopped again if they are expected to flower that year. This plant requires abundant heat and moisture during the growing season, being a native of the Pacific Islands. It was figured in *THE GARDEN* (as *Ixora Duffii*), April 6, 1878.—B.

Well-grown Poinsettias.—At the late Cirencester *Chrysanthemum* show some remarkably well-grown *Poinsettias* were shown by Mr. T. Arnold, The Gardens, Cirencester House. There were only six plants, yet they made quite an imposing display. Only the early-flowering form was shown and all were old plants having one to four main growths. These latter divided and subdivided in a most extraordinary manner, or much

as I am assured *Poinsettias* do in tropical countries, and I counted as many as eighteen fairly large, well-formed, richly-coloured flower-heads that had come from a single stem of this year's growth. Mr. Arnold informed me these plants were grown in cold frames all the summer, the lights being raised as more head room was needed. Fine *Poinsettias* are numerous this season, but I have seen none to equal those at Cirencester.—I.

Urceocharis Clibrani.—The note on this plant which appeared in your issue for November 18 (p. 459) reminds me that I had intended sending a note on its value for cutting. On June 12 of this year Messrs. Clibrani sent to me a scape which had on it four open flowers and six buds. They appeared quite fresh on arrival, though they must have had a very trying journey, having been two days in transit when the weather was exceptionally hot. I placed them in water, which remained unchanged, and the buds opened one by one, the last being perfectly fresh and of good size and colour thirty-one days after it was received by me. The flowers which were open on arrival also lasted many days. "W. W." mentions six flowers as the average for strong scapes, so the one I received must have been extra fine, although another, figured in the *Gardener's Chronicle* for August 20, 1892, shows eleven, and I should think it probable that ten would be about the average when the plants have had time to become thoroughly established.—J. C. TALLACK.

Bougainvillea glabra in cool houses.—What a lovely creeper this makes in a cool house in the late summer months when allowed to grow freely without much cutting or training. In such a position the flowers assume a deep rose colour, which is rarely seen when grown in a warm house. I recently saw a noble plant of this variety at Farnham Castle covering the back of a cool plant house or conservatory. This had filled its allotted space, and was allowed to ramble at will outside the house during the summer months. It was a beautiful object, the blooms being much finer and of a deeper shade than usual, the fine weather suiting it. There are also other advantages in growing this in a cool place, as the blooms last longer when cut. The flowers of *B. glabra* are lovely for vases if a few bracts are loosely placed together with a little foliage. In planting out it is necessary to restrict the roots to induce abundance of flower and to rest partially during the winter months, pruning or cutting out the weak wood before new growth commences, and giving plenty of water and liquid manure when growing freely.—G. WYTHES.

THE PALM LILIES, OR CORDYLINES.

It is to be regretted that there is so much confusion in gardens and in garden literature as to these highly ornamental decorative plants from New Zealand and Norfolk Island. The true *Cordylina* (*Dracena*) *indivisa* is a plant quite distinct and unmistakable if once seen. Its leaves vary from 2 feet to 5 feet in length and are 5 inches wide in the middle, glaucous green beneath, while their upper green surface is finely striated with red nerves or veins. The specimens alluded to in *THE GARDEN*, Oct. 21, p. 381, as growing in the open air at Menabilly, Cornwall, are very remarkable indeed, and it is, as there suggested, a misfortune that this noble species is not more frequently planted out in warm and sunny positions, especially near the sea. A specimen of *C. indivisa* 9 feet in height with leaves 6 inches wide is indeed worth going a long way to see. Now and then, but very rarely, this plant is met with as a greenhouse or conservatory plant, and in places where it is not hardy it well deserves culture indoors during winter and spring, as it is one of the showiest of all fine-foliaged plants for plunging outside on the Grass during the summer and autumn months of the year. There is a coloured figure

of a leaf in Lowe's "Beautiful Leaved Plants," p. 107, where it is called the "undivided or unbranched Club Palm," and it is further therein suggested that it might "probably prove hardy enough to bear the air in the south of England."

This noble plant was introduced by Messrs. J. and C. Lee, nurserymen, of Hammersmith, in 1852, and has been well grown and exhibited amongst stove and greenhouse fine-foliaged plants from time to time. It is a native of New Zealand, being found on the mountain ranges at a considerable altitude. Its undivided trunk attains a height of 20 feet. The leaves yield the so-called "Ti" or Toi fibre, and the old leaves do not fall, but remain persistent on the stem for many years after they die off and turn brown. The flowering panicle is at first erect and branched, afterwards it becomes pendulous, and is laden with white berries. We must ask some of our New Zealand friends to send us a consignment of the fresh ripe seed of this species, as it grows readily, and it was in this form that Messrs. Lee received their original stock forty years or so ago.

C. BAURI of J. D. Hooker, from Norfolk Island, is very closely related to the last in botanical characters, but it is distinct in appearance, and attains a height of 40 feet, and the stem is branched. C. Bauri was named C. australis by Endlicher, a proceeding that has misled cultivators and others a good deal. I have not yet seen C. Bauri grown in the open air through an English winter. The third species I shall allude to is

C. SUPERBIENS of C. Koch, which is synonymous with the C. australis of J. D. Hooker, and the plant so often mis-called C. indivisa and C. australis in gardens. It would be best to drop the name C. australis and employ the correct name C. superbiens for this plant, as suggested by Baron von Mueller. This plant is perfectly hardy not only in the south of England and Wales and in Ireland, but at Mount Usher, Ashford, co. Wicklow, several fine branching specimens belonging to the Messrs. Walpole ripen an abundant crop of seed every year, and this year I believe the harvest is a more copious one than ever. The plant is hardy near the shore all the way from Dublin to Cork and Kerry, where it luxuriates, and the same is true in a slightly less degree of the coast line from Dublin to co. Down, Donegal and Galway. The plant is found wild in New Zealand, where it grows 40 feet in height, and has a branched trunk. It has numerous long and narrow, thin-textured leaves 3 feet to 4 feet long by 1 inch broad, the old dead leaves being readily separable from the stem, and, according to Baron von Mueller, the berries are blue, but the specimens at Ashford before mentioned produce white berries the size of small pears on panicles as big as a bee-hive. When in flower its starry blossoms are very sweet, and they are generally covered with numerous insect visitors, such as bees and flies, during warm, sunny days. Thanks to the generosity of Messrs. Walpole in the matter of seed, I have been enabled to raise hundreds of this species, and have them planted out in all sorts of positions. No amount of frost seems to injure them, but now and then plants damp off wherever they get too much moisture. My plan here is to cover the base of the stem just at the ground level with coal ashes or old lime rubbish so as to keep the collar dry and prevent moisture from collecting at that vulnerable point.

CORDYLINA BANKSII of Hooker is another New Zealand species, growing 10 feet to 12 feet in height, its stem being usually undivided. Nicholson, at p. 372, "Dictionary of Gardening," says the leaves are linear lanceolate, 5 feet to 6 feet in length, and $1\frac{1}{2}$ feet to 2 feet broad, the latter portion of the statement being presumably a misprint for inches. There are six to eight very prominent veins on either side of the very pronounced midrib.

All the above species vary within certain limits as raised from seed, the main differences

being in the length and breadth of the leaves and the colouring of the midrib or veins. Some forms flower more freely than others, and the natural result is that the flowering specimens branch more freely than do the others, for I have so far never observed a Cordylina to branch unless it had either produced a flower-spike from its centre, or had had its growing point injured by wet and frost or by wind. Seeds sown at once in boxes of well drained sandy soil will germinate in March or April next, and soon form plants of a useful size for pots or tubs, or for planting outside in sheltered places in woods or plantations, or in the dressed grounds. These plants are also even more quickly increased by cuttings of the thickened underground roots or stems, as dibbled into boxes or pans of soil and placed on a gentle bottom-heat fully exposed to light. In this way any desirable variety can be kept distinct and increased with facility. C. indivisa (true) is not quite a rarity in our gardens after all, since it is offered in several catalogues at a moderate rate, about 2s. 6d. a plant, but all the same we should welcome a few ounces or pounds of fresh seed.

F. W. BURBIDGE.

Increasing Malmaison Carnations.—I believe most cultivators will adhere to the old-fashioned plan of propagating this plant, viz., that of putting out the old plants in the open air, surrounding them with a light fibrous mixture and layering the shoots into it. This system is always attended with more or less risk, as should the early autumn prove wet and cold, many of the layers root indifferently, while others die off altogether. Moreover, when lifted most of the soil leaves the roots, and some time elapses before the young plants are established. A plan I have adopted for several years and which answers well is to move the old plants after flowering, say in July, to the north side of a span-roofed greenhouse, which is somewhat shaded by Azaleas and Camellias. Select the best of the shoots, stripping from them the lowest leaves, afterwards making an upward incision with a sharp knife from one joint through the other immediately above it. The incision is kept open by means of a small piece of Moss being wedged into it, and the whole is finally bound round with the same material. This is kept moist by regular syringings twice daily, and in a month young rootlets will appear through the Moss. The plants are then detached from the parent and potted, Moss and all, into 3-inch pots. Rapid growth follows and good strong specimens are obtained before winter. If the work is carefully performed, 90 per cent. of the layered shoots will root satisfactorily.—J. CRAWFORD.

Pelargonium F. P. Raspail Improved.—That this is a grand Pelargonium for flowering during the summer was well shown by a fine group at the last Temple show, and now a mass of it at the Aquarium Chrysanthemum exhibition shows that it is equally useful for blooming during the dull days of autumn and winter. It is a decided improvement upon that popular variety F. P. Raspail first sent out fifteen years ago. The improved kind is being distributed by Messrs. Cannell, who have been the exhibitors whenever it has been shown in quantity. The colour of the flower is a rich crimson-scarlet, while the individual blooms are very large. For cutting, the bold trusses and long stout stems stand it in good stead.—H. P.

Iris reticulata in pots.—This Iris is one of the best known of the bulbous kinds, but not often seen in gardens, although perfectly hardy, and the flowers are beautiful and as strongly fragrant as the Violet. I should like to see the bulbs grown more for the conservatory and greenhouse and they stand gentle forcing. Five or six bulbs may be put in each 5-inch pot and placed in a cold frame until early December, when they should be taken to the greenhouse, in which they

must remain. It is not wise to give too much heat, and the time at which they bloom will depend upon the temperature. I. reticulata is more beautiful than any of its forms. I. r. cyanea is, however, a little gem, the flowers bright blue in colour, and the plant is very dwarf. Krelagei is dull in colour—a reddish purple tint—and the flowers are almost scentless. The flowers of I. r. purpurea are of a decided purple, and those of sophonensis of a red-purple colour, set off with a yellow crest.

Pentas carnea.—Though this will bloom at almost any season of the year, the flowers are more useful during the autumn and winter than at any other time; hence the aim of the cultivator is usually to induce it to bloom about the present season. To effect this in the case of young plants the cuttings should be struck early in the year and grown on in the temperature of an intermediate house. If stopped a few times when young and shifted on as required, they will form neat bushy little plants, from which (if needed for the autumn and winter) it may be necessary to remove some of the earliest flower-buds. The compact clusters of flesh-coloured blossoms are not particularly showy, but for all this they are very neat and pleasing, and where cut flowers are in demand, a few specimens can always be depended upon for cutting. Pentas carnea is a native of the southern portion of tropical Africa, and in this country needs the cool part of the stove or intermediate house. A second form—kermesina—is regarded as a variety of carnea, but the flowers are much deeper in colour, being, in fact, more of a carmine-rose tint. It is, however, neither so neat nor so free a grower as the other, and probably for this reason it is less frequently seen than P. carnea. An open atmosphere during the winter is very necessary to their flowering, for where fogs are frequent at that season, as they are in the neighbourhood of London, both these forms of Pentas suffer severely.—H. P.

POINSETTIAS.

THESE appear to be much earlier than usual this season. Although I have given them less artificial heat than usual, I have them now (November 16) with well developed bracts. I grow two distinct varieties; in one the leaves are deeply lobed and the bracts nearly a regular oval, while in the other the bracts are lobed and the leaves oval, though they vary a little sometimes. I believe the early variety is sometimes called carminata. There is a slight difference in the shade of colour, but it is hardly a carmine. This early variety is hardier than the other, but more inclined to run up tall. Many people propagate Poinsettias much too early in the season. Strong cuttings in July or even August will make good heads of bracts and the plants keep their foliage better than those propagated earlier, besides which they do not get so tall. It is always advisable to take some cuttings early, as the old plants do not make vigorous growth if not cut back, and the early struck plants may be topped. The tops make fine cuttings, and the plants will break from two or three eyes, and each will make a good head of bracts if grown in, say, a 6-inch pot. Five inch pots are large enough for those with single stems. Poinsettias do well in a cold pit during the summer, or if grown indoors they should be kept close to the glass and have plenty of air, but no shading. As the autumn draws on and the nights get chilly, a little warmth should be given. When allowed to remain under cool treatment too late in the autumn they are sure to lose their foliage as soon as put into warmth. As soon as the coloured bracts begin to show, the plants may be supplied liberally with liquid manure, and extra warmth will help to increase their size. After they are well developed they will last longer if kept cooler again. They also keep their colour better if not fully exposed to the sun. When plants are required for cutting only, they may be planted out under glass, and will not require so much attention. I may here mention that few flowers last better when cut than Poinsettias. I have had them keep in fine condition for

fully three weeks after they have been cut. Care must be taken that they are not exposed to the cold or put into quite cold water; they last best when put into tepid water as soon as cut and kept from cold draughts. Among the great variety of winter flowering plants we have nothing to equal Poinsettias for brightness. F. H.

ORCHIDS.

DENDROBIUM STRATIOTES.

THE above named species was introduced by M. Linden, of Brussels, during the last decade from some part of New Guinea. I have received some flowers from "J. T." which he says are from a plant purchased for this species, and with which he is very much disappointed. The flowers sent are the same as those from a plant which I first saw in the collection of the late Mr. H. J. Buchan, of Wilton House, Southampton, and which he had from Thursday Island. As this island is only a port of call for vessels coming from Australia to England, it was only shipped from there, I should suppose. The plant resembles *D. stratiotes* very much in its growth, but here all similarity ceases; the flowers, instead of being large and white, are brownish green with a yellowish lip, and the sepals and petals are all twisted. This plant is *Dendrobium Streblloceras*, and I am not surprised at "J. T." being disgusted with it when he thought he had got the fine plant here named. Both plants belong to the *Stachyobium* section of the genus, which includes such kinds as *D. superbiens*, *D. taurinum*, and some others.

The finest form of *D. stratiotes* I have seen flowered with Mr. Jones, gardener to Mr. Sherwood, at Streatham Hill, Brixton. It bore several flowers on a raceme. These were some 3 inches across, pure white, the petals erect and twisted; lip large, three-lobed, the side lobes erect, prettily streaked with purple, the front lobe white, beautifully marked with lines of carmine and purple. This plant, too, flowers in the autumn months and lasts long in beauty. Like many of the section *Stachyobium* to which it belongs, it likes plenty of heat and moisture. Under these conditions it grows well and flowers profusely. In a letter, Mr. Cypher, who grows *D. Phalaenopsis* remarkably well, says he has had over 2000 flowers open for the past ten weeks, but they are fading fast now, and he further states that he has cut one hundred spikes this week. This letter was accompanied by a remarkable lot of fine varieties, which did not appear to have been open that length of time. Mr. Sander, of St. Albans, sends some fine blooms of the rare variety which he imported with it, *D. Leeatum*, and which proves to be another fine autumn bloomer of this section. Yet another one comes from Mr. Williams, of Holloway, in *D. superbiens*, a dwarf, free-flowering variety of the species which was introduced by the Messrs. Veitch. Capt. Broomfield, in speaking of it, says that he considers this superior to all his others, and that it is the only one absolutely always in flower, a raceme of this being obtainable at any time. Captain Broomfield also says that this plant grows upon the Prince of Wales group of islands, which lie about twenty miles from the mainland of Queensland and thirty miles from New Guinea, and he says it is also to be found, but somewhat sparingly, on the nearest mainland of Australia. Mr. Williams says Goldie, then collecting plants for him, found it on the northern extremity of Australia and the southern shores of New Guinea.

These plants are best grown in either pots or baskets, which must be well drained. They should be potted firmly in good brown peat fibre and chopped Sphagnum Moss and be well exposed to the sun and light, have a very high temperature, with abundance of moisture in the atmosphere and a free circulation of air. During the summer season they enjoy a liberal supply of water to their roots as well as overhead from the syringe, and the thermometer at night should never be allowed to fall lower than 68°. In the winter a temperature some few degrees lower is preferable, say from 60° to 65°, when also less water and less moisture in the air should be given.

WM. HUGH GOWER.

Lycaste plana Measuresiana.—J. Dale sends a fine flower of this very pretty variety, with broad spreading sepals of a bronzy green; the petals and lip white, profusely spotted with bright rosy purple, with a plain white border to the petals, the lip also clear white. The plant is a native of Bolivia and will thrive in the cool house through the summer months, but in the winter it requires a little more warmth, and at this time it should be placed at the cool end of the Cattleya house.—W. H. G.

Dendrobium tetragonum.—This plant, discovered by Allan Cunningham, was originally introduced from Australia by the Messrs. Rollisson, of Tooting. It has pendent quadrangular stems. The flowers, produced singly, are very distinct, having long narrow sepals and petals, the lateral ones slightly twisted, pale green, streaked with red; lip recurved at the point, white, with numerous transverse red streaks. I am in receipt of a growth with flower of this species from James Sheppard, asking if I can tell him of a figure of it. I only know of a very poor one compared with the flower sent, and that is in the *Botanical Magazine*, t. 5956.—H. G.

Lælia Gouldiana (H. Goodheart).—This, according to some, is a natural hybrid between *L. anceps* and *L. autumnalis*. The flower measures 4 inches across, with bright rose-purple sepals and petals, the side lobes erect, white at the base, tipped with rose-purple, and streaked on the inside with the same colour. The front lobe is of a deep rich purplish crimson, the crest yellow. The plants may be grown on blocks of wood or in hanging baskets with good drainage and in good peat fibre and Sphagnum Moss. Slight shade is necessary for these plants during the hottest and brightest part of the day.—W. H. G.

Cypripedium cardinale.—Joseph Thompson sends a very fine flower of this hybrid, which was raised by the Messrs. Veitch and Sons, of Chelsea, between *C. Sedeni* and *C. Schlumi albidum*. "J. T." says it has been in bloom for the last eight months with several flowers open at a time. I remember to have seen a plant of this variety which flowered freely for thirteen consecutive months. It is a better plant than *C. Sedeni*, having a rounder pouch, which is of a much brighter colour, and the petals are broad, white, whilst the dorsal sepal is slightly tinged with green. The variety sent is a very good one, the flower being large and bright.—W.

Cypripedium insigne var. *Sanderæ*.—There are few more useful flowering plants for early winter than the old and well-known *Cypripedium insigne*. It is easily grown, flowers unfailingly, and in appearance compares favourably with many *Cypripedium* ten times as costly. Several varieties have in late years been introduced, the most distinct and beautiful of all being the variety *Sanderæ*. A flowering plant of this was shown by Messrs. Sander at the Drill Hall, Westminster, on Nov. 14. It has the same bright green, strap-shaped leaves as the typical form, but they appeared, if anything, to be shorter and stouter. The flowers, instead of having the yellow-green colour of the ordinary *C. insigne*, are of a beautiful shade of clear yellow and have an almost varnished appear-

ance. The upper margin of the standard sepal is of a perfectly pure white, the only other variation of colour in the flower being a few brown-purple spots on the standard sepal. This variety is at present very rare, but should it become plentiful, its immense value as a garden Orchid cannot fail to be recognised.—B.

Phalaenopsis Esmeralda.—G. Scott sends some very nice varieties of this plant, which vary considerably in their colours and markings. In the ordinary form the flowers are of a brilliant amethyst-purple. This species comes from Cochin China, and grows freely in a temperature of about 70° to 75° in the daytime, and some 5° or 8° lower at night. In the winter the temperature should never be lower than 65°, and a nice moist atmosphere should be maintained, but it does not like water overhead. It should be potted in Sphagnum, and the pots be thoroughly well drained.—W. H. G.

Cypripedium Calceolus.—Doubtless this Lady's Slipper is fond of calcareous soil, but it is by no means the case that it will not flourish without lime. I wish you could see some plants that have been grown in nothing but boggy peat and sand. The fresh stringy roots have run out in numbers and to a considerable length, and the next best proof of the healthiness and vigour of the plants is to be seen in the crowns, almost as big as Cob nuts, which are just showing on the surface. Some might say that this is abnormal, and that I do not deny, but it is useful to know how we can get abnormal developments in regard to bulk and vigour with some things. The practical point is, can you grow this plant well with or without lime? and as it has long been proved that such is the case, it is a mere matter of choice with the cultivator as to how he plants it in this respect.—J. WOOD.

Cattleya aurea Statteriana.—A letter comes to hand from Mr. Johnson, Stand 1111, Manchester, complaining that I have misrepresented the flower known by this name which exists in the collection of Mr. T. Statter, of which he has the charge. I can only say that the flower received from Mr. Wheatley is exactly the same as that figured in the "Orchid Album," t. 468, and called by this name. The plate was drawn and coloured by Fitch, and described by myself in the accompanying letterpress to the figure above-mentioned, and I have not heard of any complaint being lodged against it.—W. HUGH GOWER.

Lælia elegans Morreniana.—Oswald, Rheims, sends some beautiful flowers of this variety. The flower now before me measures upwards of 5 inches across. The sepals and petals are of a rich rosy magenta, the petals much the broader and beautifully waved at the edges; the three-lobed lip is at the base china white, the reflexed tips rich crimson. The front lobe is large and flat and of a deep rich crimson, having a border of lilac with some deeper coloured veins. I know of but one finer variety, and that is *L. elegans Broomeana*.—W.

Oncidium Jonesianum.—Oswald, Rheims, also sends me four flowers of different varieties of this plant. All are very pretty, but the one marked No. 3 may be taken as the typical form. He tells me he has found this plant likes a great deal of heat and moisture in the atmosphere, and in the winter months it does not like drying. I used to see this plant done well in the late Mr. Buchan's collection at Southampton, where Mr. Osborne used to keep it in the East India house.—G.

SHORT NOTES.—ORCHIDS.

Lælia autumnalis alba.—"J. T. H." sends beautiful flowers of this albino. The flowers are of the purest white, with just a stain of yellow on the disc of the lip. This is the only colour which is admissible in a white flower.—G.

Lælia anceps.—A very good form of this plant comes from H. Brockner, of Hesse, East Yorkshire.

It is a fine flower, although somewhat spoilt by having been packed in cotton wool, which should never be used for Orchids. The front lobe of the lip is very dark and rich in colour.—W.

Cattleya pumila.—H. Brockner sends a flower of this species under the name of *Laelia præstans*. It is not that species, although a very nice form of the plant named above, being of good colour and shape. The lip is small and very different from that of *L. præstans*.—W.

Cypripedium Harrisianum.—H. Brockner also sends me a rather dark coloured form of this plant. He says he has been told it is the variety *viricans*, but I do not see anything about it to warrant the name. It is a pretty variety, but there are now so many fine forms of this hybrid, that one can be easily misled.—W.

Cattleya Bowringiana.—I find this succeeds best in the warm Orchid house, and whilst in growth it takes a plentiful supply of water. During the winter months it must not be allowed to become dry or it will surely suffer. Being also a very free-rooting species, it must not be allowed to suffer from the want of pot room.—A. Y.

Cattleya labiata.—I am in receipt of flowers from Mr. Broome, of Llandudno, of a variety with a finely coloured lip. Mr. Broome also sends me a bloom from the same plant as that from which he sent me such a magnificent flower last year. The one now to hand is very inferior to it; indeed, the dried specimen is equal in colour to it.—W.

Bolbophyllum cupreum.—Mr. Cypher sends a spike of this plant. It is one of those plants which often are imported by mistake, for no one would gather this to send it home. The flowers, of a deep copper colour, are densely set on the spike. It is about thirty years ago since I had this species growing, and I have never seen it since. It is of no value.—G.

Peristeria elata.—Benjamin Jones sends me flowers of this, which is popularly known as the Dove Plant, and asks why it is that one of his plants never flowers. If the two plants are strong enough to flower and both are treated in the same manner, it simply confirms my previous remarks upon this species, that there are some varieties which are much freer blooming than others, and I suppose that "B. J." has one of each of them.—G.

Dendrobium Phalænopsis dellense.—"P. H. P." sends me flowers of this species, which are beautiful, and which represent the above-named variety. My friend tells me he has twelve flowers upon a spike. The flowers each measure about 3½ inches across, and have a ground colour of French white with a flush of violet in the lip. It is a charming form, the original plant being in the collection of Baron Schroeder, of The Dell, Egham.—W. H. G.

Disa tripetaloides.—"G. H." sends me a spike of this very pretty terrestrial species. The flowers are of a creamy white nicely spotted with crimson. This is an old species that was first found by Thunberg many years ago. It is only within the last few years that it has been brought alive to this country. I have seen it in several places, but most frequently in the garden of Mr. Smee at Carshalton, where many of these little rarities can be met with.—W. H. G.

Dendrobium linguæforme (M. Harper).—This is the name of the flower you send. It was found by Mr. Brown at Port Jackson, in Australia. It has thick, fleshy leaves, which are ribbed on the upper surface and deep green; the flower-stalk is slender, bearing a number of pure white flowers; the small lip is pale yellow, and the side lobes slightly spotted with red. The lip is quite concealed from view, so that the flowers appear to be pure white. It will thrive well upon a block of wood in the cold house.—W. G.

Dendrobium infundibulum.—J. Wescott sends flowers for a name. The curved spur of the lip and the smooth side lobes all confirm me in the opinion that the above is its name. It is one of the nigro-hirsute or black-haired *Dendrobies*. It was introduced first by the Messrs. Veitch, but was afterwards sent home by the Rev. Mr. Parish to the Messrs. Low, who grow it in quite a cool house, where it does better, and flowers more freely than when placed in more warmth. The large white blooms last a long time in perfection.—W.

The weather in West Herts.—A week of changeable weather as regards temperature. For instance, on Thursday in last week the shade temperature at no time exceeded 38°, whereas on Tuesday last the highest reading was 53°. Again

on Sunday night the exposed thermometer showed 11° of frost, but on Tuesday night the same thermometer never fell lower than 46°. Both at 1 foot and 2 feet deep the ground is now warmer than at any time for ten days. November was the first unseasonably cold month that we have had since January, or for ten months. The total rainfall has already (Wednesday) exceeded the average for the month by about a quarter of an inch—making this the third wet month of the present extraordinary year—the other two being February and October.—E. M., *Berkhamsted*.

NOTES OF THE WEEK.

Flowers from Australia.—Acting on past experiments with *Chrysanthemum* flowers, we understand that a bouquet of Australian wild flowers is now on its way to England frozen in a solid block of ice, and intended as a present for the Queen.

Jasminum gracillimum is a stove climber of note for its clusters of pure white deliciously fragrant flowers. It is very pleasing trained against a pillar, and gives over a long season a display of bloom. Few flowers are more fragrant than those of *J. gracillimum*.

Veronica Andersoni variegata.—Several plants of this in the greenhouse at Kew are well worthy of note. This is a plant amateurs might grow more, as it is easy to cultivate and remarkably handsome, the leaves being well variegated, green, with a broad band of creamy white, whilst the flowers are purple-blue in colour and produced in dense spikes.

Sonerila maculata.—This was very pleasing a few days ago in the stove at Kew, where several plants were in full bloom. It was introduced by Mr. Ball, of Chelsea, about the year 1890, and was at first named *S. orientalis*. This *Sonerila* is well worth attention. It grows about 9 inches in height, is very compact, and has purplish coloured leaves, the flowers being produced in neat erect bunches, the colour pink, a bright contrast to the foliage.

November leaves.—Mr. Waterer sends us a charming bunch of his Pennsylvanian *Wortleberry*, which is delightful and of very good colour; also some of the bright American Oaks, to which is given the general name of *americana*, which, we think, does not belong to them. There are several species of American Oak remarkable for the beauty of their leaves.

Trichinium Manglesi is a very pleasing little plant in bloom in the Cape house at Kew. The flower heads are large and not unlike small balls of wool with pink skeins through them. The way to propagate it is by cuttings of the roots, the stouter ones being selected. If inserted in pots or shallow pans and stood on a shelf in a warm greenhouse they will root well. *T. Manglesi* is not a plant for ordinary gardens, but it is certainly interesting.

Pear Winter Nelis.—I am sending you by this post half-a-dozen Pears Winter Nelis. I remember you think highly of this kind, and rightly so, considering the high flavour and long keeping qualities. Another of its merits is that, according to my observations, it can be depended on. This is more than can be said of many of the big kinds. Even in this low situation it is the best Pear I have. It should be much more extensively cultivated, and would pay for any attention.—JOHN CROOK, *Forde Abbey*.

* * The finest examples we have seen in London of this Pear—large, very good in colour, and with the flavour this sort has when in a good state.—Ed.

Senecio macroglossus, a South African climber, has been mentioned more than once in THE GARDEN as a distinct and interesting species. A specimen in the Cactus house at Kew is in bloom, and the whole aspect of the plant is

quite unlike that of any other climber. The flowers are yellow, not unlike those of the yellow *Marguerite* in shape, and in contrast to the wealth of ivy-like leaves, which are deep green and distinctly veined. At first glance it is difficult to see the difference between the leafage of the two climbers. It is of vigorous growth, and suitable for a house of considerable size.

Peristrophe speciosa, better known as *Justicia speciosa*, is one of the most charming of winter flowers for the warm greenhouse. It looks extremely well mixed with other things, as forced bulbs, and good effects may be got in the greenhouse in this way. The flowers are of a warm purple colour, and very distinct from the majority of things in beauty at this season.

The Phylloxera.—We learn that serious damage is being caused by the *Phylloxera*, especially in Sicily. In three or four years the ravages of the *Phylloxera* have reduced the Vine harvest to half its former yield. In the provinces of Syracuse and Catania the loss owing to this cause may be calculated at a milliard of francs, and, if not arrested, the evil will destroy the best kinds of Italian wines. The scarcity of means of curing the Vines is much felt in the province of Trapani, which is the principal sufferer.

Bomarea oligantha is not unlike *B. frondosa*, of which a coloured plate was given in THE GARDEN, May 11, 1892. A plant on a raft in the Cactus house at Kew is in full bloom, and makes a pleasing feature at this dull season of the year. It is a native of Peru, and the flowers are produced in heads of about eight each, individually tubular in shape, the inner surface rich yellow, spotted with deep crimson, the outer portion reddish. When well established, the *Bomareas*, which are much neglected in English gardens, are very handsome, and give comparatively little trouble. At Kew they are planted out in a shallow raised bed on the south-west side of the succulent house, and are never shaded.

Thunbergia mysorensis, in bloom in the stove at Kew, is a remarkably interesting plant, and the flowers are finely, if quietly, coloured. It is a rare species, and not likely to get very popular, as it is not a showy climber. A specimen running over a raft betokens robust growth, and the raceme of flowers is very much like the *Wistaria*, each raceme carrying about thirty flowers, which when fully expanded are pleasing. Individually, they are not unlike a magnified *Antirrhinum*, the upper segments broad, reddish brown or buff on the outside, the centre rich yellow, the outer segments reddish buff, and very charming for their particular shade of colour. The leaves are rich green and undulated at the margin. It is seldom one gets such a distinct colour, and this climber is valuable on that account.

Japanese Kakis.—We have received from M. Latour-Marliac an interesting box of the Japanese Kaki. He writes: "I have the pleasure to send you some specimens of the Japanese Kaki. If they have not the merit of novelty in your eyes, they have at least that of being my own growth. For eating they ought to be well bletted so as to be quite soft, or they will be tart and astringent as the Sorb. In a proper degree of maturity these Kakis are extremely juicy and full of sugar. Having carefully removed the skin, we generally moisten them by adding a little rum or brandy, as in the case of Pine-apples, adding sugar to taste, but many prefer them without these additions. The kind I send is known in Japan as *Ione Nashi*, signifying 'without seeds.' I hope you will like them."

Acidanthera sequinoctialis, a native of Sierra Leone, we noticed lately in bloom in the Royal Gardens, Kew. It reminds one of a *Gladiolus*, and the whole aspect of the plant is not unlike that of *G. sulphureus*, of which a plate was given in THE GARDEN, July 19, 1890. The flowers are of about the same size, produced in much the same way, but they are more beautiful even than the soft yellow blooms of *G. sulphureus*. They are pure white, not more than two, judging by the

Kew specimens, being borne on the rather slender stems, and at the base of the segments there is a arched dagger-shaped blotch, so to say, of colour, whilst the centre is yellow, and a slight suffusion of the same shade appears just around it. The plants are in comparatively small pots, and the growth with the flower-stems reaches a height of about 4 feet, the leaves Gladiolus-like, of a fine green colour, and by no means unattractive. The purity and beauty of the flowers are the chief charms of the *Acidanthera*.

Brownea Crawfordii.—Visitors to Kew during the winter months should notice this fine *Brownea* in the Palm house. It is commencing to bloom, and is one of the best of this remarkable genus. The late Mr. Crawford, after whom it is named, bequeathed his collection of *Brownias* partly to Kew and partly to Glasnevin. A plant is also in the latter collection. The Kew specimen is about 15 feet in height, and when in full beauty strikingly handsome. It is a hybrid between *B. macrophylla* and *B. grandiceps*, and shows affinity to both parents, agreeing with the former in general expression and foliage, and the latter in the flower. The heads of bloom are large, and composed of upwards of seventy flowers, individually from 2 inches to 3 inches in length, reddish salmon in colour, with numerous stamens standing out conspicuously. The leaves are pinnate, broad, and about 2 feet in length, the colour deep green, in fine contrast to the splendid clusters of flowers.

Hardy Crinums.—To "W. W.'s" list of hardy Crinums might be added *C. crassifolium*, a coloured plate and description of which may be found in Jacquin's "*Hortus Schoenbrunnensis*." Dean Herbert, in his invaluable work on "*Amaryllidaceæ*," pronounces this as the hardest known species. The flowers, of which in strong specimens about a dozen are produced in an umbel, are about 3 inches long, white on opening, turning to a deep rose when they have reached maturity. With me this species flowers very regularly every year in June and July, strong bulbs carrying many spikes; it produces but few offsets. The white Crinum Moorei, which, however, is not quite hardy here, is certainly one of the most magnificent greenhouse bulbs. The flowers, which are large, broad, and very fragrant, have the curious peculiarity of partially closing in the early part of the day, and they are seen at their best after about 4 o'clock p.m. The illustration given on page 483 is clearly that of *C. Powellii* album, and not of *C. Moorei* album, as stated.—C. G. VAN TUBERGEN, JR., *Haarlem*.

Staging Chrysanthemum blooms.—At the last Royal Horticultural Society's meeting in the Drill Hall, Messrs. H. Cannell and Sons staged some splendid cut blooms in such a manner as to immediately attract attention. There were several of the best varieties of the Japanese section, chiefly the newer ones, arranged in threes in vertical rows. True, there were a few other exhibitors who staged in somewhat similar fashion, but these being in larger numbers gave a much better effect. This system was advocated by me a year or two ago in these columns, and it is a method that ought not to be lost sight of. Whilst there is time and before the schedules are again drawn up, will the various societies take note of this kind of arrangement and give it a trial? Messrs. Cannell and Sons are to be congratulated upon the excellent style in which these flowers were staged and likewise upon the very plain and legibly written names. Twelve of the very best incurred or Japanese varieties, three blooms each, would make a fine display.—H. G.

Narcissus blooming twice a year.—The *Narcissus Tazetta* of Cornwall and of the Scilly Islands is just now in bloom for the second time during the present year, as the result in part no doubt of the recent hot, dry season. This is, however, often the case with bulbs of *N. Tazetta* vars. that have been forced for early bloom and then planted out in warm, dry sunny corners about May, such bulbs frequently bearing flowers and leaves in October, November, or December. There are, moreover, several varieties of bunch or cluster *Narcissi* from the south of France and

Italy that naturally flower at this season of the year. *N. Tazetta papyraceus*, the paper-white of the shops, often blooms here in November in the open air, as also do *N. Tazetta patulus* and *N. Tazetta chrysanthus*, or *N. T. Bertoloni*, and, as before indicated, this is often the case with several of the Dutch varieties, especially with *Soleil d'Or* and *Grand Monarque*. There is no reason why *Narcissi* should not bloom twice a year under certain conditions, just as early forced Strawberries often yield a second crop in the late summer or autumnal months of the year, but so far it seems that this habit is confined to *N. Tazetta* and its variations.—F. W. B.

Ugly names.—We regret to see that an American botanist, in attempting to give a new name to the well-known Snowdrop tree, cannot do better than invent the ugly one of *Mohrodendron*. First he tried to make it "*Mohria*," and in doing so fell into the mistake which he regrets in the following paragraph in *Garden and Forest*, November 8:—

THE GENERIC NAME OF THE SILVER BELL TREES.

In a note published in the issue of this journal of October 18, 1893 (pp. 433, 434), I called attention to the fact that the generic name *Halesia*, Ellis, was antedated by *Halesia*, P. Br., and should therefore be rejected. I proposed that it should be replaced by *Mohria*, in honour of Dr. Charles Mohr. My attention has since been called to the long previous publication of a genus *Mohria* (Swartz, *Syn. Fil.*, 159, 1806), a South African genus of Ferns, dedicated to D. M. H. Mohr, a distinguished cryptogamist, who died in 1898. Thus, in attempting to correct one homonym, I have inadvertently published another. This is unfortunate, but can easily be corrected. I here suggest for *Halesia*, Ellis, the generic name *Mohrodendron* = *Mohria*, Britton (*Garden and Forest*, vol. vi., p. 434), not Swartz, and for the species:

1. *Mohrodendron carolinum* (L.) = *Halesia carolina* (L.) = *Halesia tetraptera* (L.).
2. *Mohrodendron dipterum* (L.) = *Halesia diptera* (L.).
3. *Mohrodendron parviflorum* (Michx.) = *Halesia parviflora* (Michx.).

N. L. BRITTON.
Columbia College, New York.

We hope our readers will always keep to the old name, and, happily, in any case there is a good English one. Surely from the vast number of beautiful Greek and Latin names it should be easy for a man of learning and wit to find a beautiful Latin name for so fair a tree.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 28.

THIS meeting was one of the smallest of the whole year, being quite a contrast in this respect to the last October gathering. It was not devoid of interest, however, there being several good things shown both in Orchids and Chrysanthemums. Of the former the hybrid *Cypripediums* had the monopoly, whilst almost as a matter of course the Japanese section of the Chrysanthemums was by far the most conspicuous. Some excellent examples of Apples and Pears were staged from Sussex; finely developed fruit. The vanguard of the Daffodil family—*Narcissus monophyllus* (*Corbularia Clusii*), with its paper-white flowers was shown in good condition.

Orchid Committee.

A first-class certificate was awarded to—

LELIA ANCEPS AMESIANA—A very distinct and fine form. The flowers appeared to be only just expanded, but the colouring was excellent. The petals are broad, suffused with violet towards the extremities and white at the base, the sepals having less colour; the lip is somewhat small, but of an intensely deep velvety crimson shade, the inner portion being richly veined. From Mr. Thos. Statter, Stand Hall, Manchester.

Awards of merit were voted to the following—

CALANTHE VICTORIA REGINA.—Said to be a cross between *Limatodes rosea* and *C. Veitchi*. The growth and habit of the spikes are intermediate between those of these varieties, being sturdy and well clothed with flowers, the colour of the flowers a pale blush-pink, the lip of a lighter shade. Several plants were shown, forming a fine mass of flower of a most pleasing colour. From Messrs. Sander and Co.

CALANTHE MYLESI (*C. nivalis* × *C. Veitchi*).—A beautiful white hybrid pure in colour, save a faint trace of the palest yellow upon the labellum, a distinct variety, and quite an acquisition as well as a decided contrast to the richly coloured forms. The habit is much like that of *C. Veitchi*. From Messrs. B. S. Williams and Son.

CYPRIPEDIUM MARY LEE (*C. Leeanum* × *C. Arthurianum*), in which the latter parent is clearly to be traced in the drooping petals with their distinct markings; the dorsal sepal is particularly good and distinct, partaking of its other parent; it is pure white, with faint spots of a purplish shade and a green base. From Mr. W. R. Lee, Ardenshaw, Manchester.

CYPRIPEDIUM INSIGNE VAR. ILLUSTRE.—A fine form of the Chantini type, being profusely spotted in the dorsal sepal as that variety is, and upon a pale greenish yellow ground with a white margin, the petals freely spotted also. From Mr. R. J. Measnes, Cambridge Lodge, Camberwell.

CYPRIPEDIUM FARIANO-LAWRENCIANUM, best described as being possessed of the form of the former, with the characteristic colouring of the latter parent. It is in size intermediate between the two. From Mr. Thos. Statter.

CYPRIPEDIUM MINOS (*C. Arthurianum* × *C. Spicerianum*), which has the clearly defined character of the latter both in the fine dorsal sepal and in the bronzy-coloured pouch, the petals being much after *C. Arthurianum* in form and colouring—a very pleasing and distinct hybrid. From Messrs. J. Veitch and Sons.

CATASETUM DARWINIANUM, which very much resembles *C. Gnomus*, to which a botanical certificate was awarded on Sept. 26 (see issue for Sept. 30, p. 313). From Messrs. J. Veitch and Sons.

A botanical certificate was awarded to—

HABENARIA CILIARIS.—A very pretty species with pale orange flowers, the lip being beautifully fringed, the spike about 2 feet in height, a rare plant (North America). From Messrs. J. Veitch and Sons.

Of other miscellaneous exhibits, there was a beautiful display of *Cattleya labiata*, twelve cut spikes with nearly three dozen flowers. One variety was particularly fine, the lip being marked more after the manner of the best forms of *C. Mossiae*. These were tastefully set up, coming from Mr. Blandford, Moorhill, Southampton. Messrs. J. Veitch and Sons showed other hybrid Orchids, amongst which were *Cypripedium Cleola* (*C. Boissierianum* × *C. Schlumi albiflorum*), a beautiful hybrid with blush-white flowers, after *C. Sedeni*, but larger; *C. Aretæ* (*C. Spicerianum* × *C. concolor*), with small flowers; *Lælio-Cattleya Cornelia* (*C. labiata* × *L. pumila*), with a purplish suffusion in the sepals and petals, the lip large in comparison, growth dwarf and compact. Mr. Lucas, Warnham Court, had *Dendrobium d'Albertyi*, a small, but pretty species, with pale flowers. Messrs. H. Low and Co. showed a small, but rather leggy example of *Vanda Sanderiana*, bearing a small spike of flower; also *Cypripedium Pluto* (*C. Boxalliae* × *C. calophyllum*), a very pretty hybrid, and *C. calurum Ainsworthi*, a fine variety in the way of *C. Schrederae*, but not so large. Messrs. Sander and Co. had *Calanthe Sandhurstiana*, rosy red, a rich colour; *Cypripedium Pryorinum* (*C. Lathamianum* × *C. Harrisianum*), which partakes much of the latter parent, having bold flowers; and *C. Lynchianum* (*C. Spicerianum* × *C. selligerum majus*), another very pretty hybrid. From Mr. Lee came the best variety of *C. Leeanum* called *superbum*, the dorsal sepal being particularly fine. Mr. Cobb, Dulcote, Tunbridge Wells, sent *Cypripedium Cobbianum* (*C. Law-*

renceanum × *C. Siliieri*), a vigorous growing plant with dark lustrous flowers. *Cymbidium Mastersi* was shown by Mr. Tracey, Twickenham.

Floral Committee.

First-class certificates were awarded to—

AGLAOMORPHA (POLYPODIUM) MEYENIANA.—A noble looking Fern with a creeping rhizome after the manner of *Phlebodium aureum*, carrying a fine head of fronds, the lower part of each having the pinnae entire, the upper part (about half of the frond) which is the fertile portion being serrated after the manner of *Nephrolepis davallioides*; a fine variety and one that would be an acquisition in a fernery. From Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton.

ACALYPHA MACFEEANA.—A very showy plant, valuable for decoration, lighting up so well by reason of the rich colouring of its foliage, which is blotched with bronzy red and crimson in an irregular manner. The plants shown were dwarf and compact. From Mr. H. B. May.

Awards of merit were given to the following *Chrysanthemums*—

LE PRINCE DU BOIS (Japanese).—A deep bright yellow, large and full, shape and character of *Beauty of Exmouth*. From Mr. Owen, Maidenhead.

H. M. POLLETT (Japanese).—In style of flower much resembling *Vivand Morel*, but with the colouring of *Etoile de Lyon*, a distinct rosy purple. From Mr. Owen.

MRS. J. MITCHELL (incurred).—A sport from *Empress Eugénie*, with pale bronzy coloured flowers, a pleasing colour. From Mr. Owen.

MRS. J. GARDINER (English seedling incurred).—In form of flower much after *Princess of Wales*, but in colour a decided orange-yellow with deeper lines, much darker than *Mrs. S. Coleman*. Pure golden yellow flowers from later buds of the same variety were shown. From Mr. Owen.

ELSIE WALKER (pompon).—A distinctly beautiful variety with large bronzy red or chestnut coloured flowers tipped with gold and with serrated edges. From Mr. Owen.

LITTLE PET (miniature pompon), with deep bronzy red flowers, prettily imbricated, a very pleasing variety. From Mr. Owen.

JUDGE HOIT (Japanese Anemone-flowered).—A fine variety with extra large flowers of a pale blush-pink colour, a decided acquisition to its class. From Messrs. H. Cannell and Sons.

GOLDEN GATE (Japanese).—A deep golden yellow with broad petals. It might have been called *Golden Etoile de Lyon*, being much like that variety and nearly as large. From Messrs. H. Cannell and Sons.

ELMER D. SMITH (Japanese).—A very fine reflexed variety of large size, in colour a deep crimson suffused with purplish maroon, the petals having a lighter reverse. From Mr. T. B. Haywood.

Mr. G. Wythes set up a very effective group of Orchids and other decorative plants in season; of the former there were several well-grown examples of *Cypripedium insigne*, carrying from twelve to sixteen flowers each; also of *Calanthe Veitchi*, bearing long spikes of deeply coloured flowers (these are two of the best Orchids for this season). Other plants consisted of *Poinsettias*, *Crotons*, *Dracaenas*, and *Palms*, with dwarf Ferns as a finish (silver Flora medal).

Messrs. H. Cannell and Sons had a fine display of *Chrysanthemums* and zonal *Pelargoniums*. The former were staged in threes of each colour in lines similar to the plan advocated in *THE GARDEN* last year, and formed a most effective exhibit. The following were the best kinds staged: *Madame Thérèse Rey*, *Robert Owen* (extra fine flowers, the best we have seen this season), *Vivand Morel*, *Waban*, *Golden Wedding*, *Golden Gate*, *Mrs. C. H. Payne*, *Judge Hoyt*, *John Dyer* (a superior *l'Adorable*), and *Robert Flowerday* (dark maroon). Of the *Pelargoniums* which were staged in large bunches, the best were *Maud of Wales*, deep pink; *Mrs. Wildsmith*, a bright pink; *Mascagni*, cerise centre and white edges; *Etoile de Lyon*, white centre and cerise edges; *A. F. Wootton*, salmon;

Sunbeam, deep rosy salmon; *Album*, pure white; and *King of Purples*, a purplish-magenta (silver Banksian medal). Messrs. H. Low and Co. sent well grown *Cyclamens* of the best strains, the plants bearing large flowers with great variety of colour, also a small group of hard-wooded greenhouse plants, chiefly *Correas*, of which *C. cardinalis* was particularly well flowered. *Acacia platyptera*, a pretty variety, *Grevillea alpina* and *Crocea latifolia* were also shown (silver Banksian medal).

Miscellaneous exhibits comprised the following: Mr. Latham, Botanic Gardens, Birmingham, showed cut examples of *Callicarpa purpurea*, a stove species introduced from India in 1833, bearing an abundance of deep violet-coloured berries in dense cymes close to the leaf-stalks and in a continuous manner for a length of 3 feet or 4 feet; a most attractive plant for this season of the year. A cultural commendation was awarded to this exhibit. Mr. G. Wythes brought from Syon Gardens a cut example of *Sterculia nobilis* in a fruiting state, this being the first time of its fruiting there after a period of fifty years, the plant in question being of nearly the same height. The fruits are of a dark maroon colour and similar to a chestnut; the flowers are of a pale buff colour. Mr. H. B. May showed a fine-foliaged *Begonia* named *Mme. Lebourg*, of dwarf habit, with silvery foliage; useful as a decorative subject. Mr. T. S. Ware showed *Narcissus monophyllus*, to which allusion has already been made, also *Lachenalia pendula* (the true variety), with stout sturdy spikes of its Indian-red flowers, tipped with green. Mr. Owen had a few new *Chrysanthemums*, as *H. L. Sunderland (Jap.)*, which might be termed a *Golden Elaine*, and *Walter Surman (inc. Jap.)*, a bronzy yellow with serrated florets; also *E. L. Jamieson (Jap.)*, chestnut-bronze, of extra size. Mr. Blick, The Gardens, Hayes, showed *Helen Crawford (Jap.)*, a lilac-mauve, with silvery reverse, and Mr. Duncan brought from Warnham Court another called *Eric (Jap.)*, a light-coloured variety with long drooping florets. Mr. Salter, Woodhatch Lodge, Reigate, had large blooms of *Lord Brooke* and *Chas. Davis*. Mr. Seward, Hanwell, sent one called *George Seward*, a dark velvety crimson, after the style of *Mons. W. Holmes*. Mr. Stevens, of Putney, showed an incurred Japanese called *Pearl Beauty*, which is of much promise. This we hope to see again; it is of a creamy white colour. Long shoots of *Guernsey Nugget*, showing its peculiar character of flowering throughout the entire length, were shown by Mr. Blandford, who also had cut blooms of other varieties.

In the competing class for *Chrysanthemums*, Mr. Vince, Highgate Cemetery, was first with neatly grown plants of medium size, the best being *Florence Piercy*, *Mme. de Sevin*, *Source d'Or*, *Vivand Morel*, *Avalanche* and *Mons. Bernard*. Mr. Wythes was second in this class with plants informally trained.

Fruit Committee.

At this committee seedling Apples were numerous, but some were past their best.

An award of merit was given to—

APPLE BYFORD WONDER.—A very heavy solid kitchen variety, in shape and colour resembling *Warner's King*, but with dark spots. It was quite distinct in flavour. It is said to be a heavy cropper and good keeper. From the Hereford Fruit Co., Hereford.

Messrs. Bunyard and Co., Maidstone, showed two new seedling Apples, but somewhat over-ripe. One named *Foster's Scarlet Prolific* is very attractive, being highly coloured, the other *Christmas Pearmain*, a dessert variety, is somewhat like a *Blenheim*. Messrs. Peed and Son, Rouppell Park Nurseries, sent a new seedling named *King of the Valley*, a light green medium-sized fruit. A new seedling named *Bartlett's Glory* was also staged, but past its best; this was given an award of merit earlier in the season. Some half-dozen fruits of *Diospyros Kaki* were staged by *MM. Chantrier frères*, France. These are of a deep yellow colour, in size resembling a small *Orange* and of a peculiar taste. A dozen very large *Uvedale's St. Germain Pears*

weighing in the aggregate 27 lbs. 6 ozs., one fruit alone weighing 3 lbs 8 ozs were staged by Mr. Arnall, Headington Hall, Oxford. Mere size, however, does not add to keeping qualities, as these large fruits were decaying rapidly; whereas in ordinary seasons this sort may be kept well into May (bronze Banksian medal). A cluster of *Musa Cavendishi* was shown by Mr. Quarterman, Silvermere Gardens, Cobham, Surrey; the fruits were large and the bunch of considerable weight (cultural commendation). The *Liverpool Horticultural Co.*, The Vineyard Nurseries, Garston, Liverpool, sent some bunches of *Colman Hamburg Grape*. This is stated to be a seedling, but it is much like *Gros Colman* both in berry and colour, and the committee considered it too much like the latter in flavour to merit a special award. Bunches from a Vine inarched on another variety were also staged; these were also very similar to *Gros Colman*. A very fine lot of Apples (thirty dishes) and a dozen dishes of Pears were shown by Mr. Goldsmith, Leonardslee, Horsham. These were noticeable on account of their splendid finish and perfect shape. *Beurré Gendron*, *B. Alexandre Lucas*, *B. Bachelier*, *Duc de Nemours*, *Vicar of Winkfield*, *Maréchal Vaillant*, and *Duchesse de Mouchy* were especially good. Amongst the Apples, *Peasgood's Nonsuch* was very fine, while *Ribston*, *Cox's Orange*, *Blenheim*, *Adams' Pearmain*, *Hoary Morning*, *Lady Henniker*, *Newtown Wonder*, *Lane's Prince Albert*, *Bismarck*, *Beauty*, and *Warner's King* were also noticeable. A silver Knightian medal was awarded.

The lecture on late-keeping Grapes by Mr. Crasp, Swansea, was read by the secretary. This is unfortunate, as in the absence of the author any questions that may arise cannot be explained. At the outset Mr. Crasp stated many growers thought that late Grapes needed less care than early ones, hence the many causes of failure in private places. He said that late Grapes failed to keep well simply because they were badly finished and badly grown from the start. The border and the roots were the primary points, and to these too close attention could not be given. He did not advocate costly borders; indeed, they were not essential. What was specially required was efficient drainage. In private gardens the preparation of borders should not be haphazard, as where the canes are expected to last a long time, greater care was necessary. The site should not be low or damp, or there would be a difficulty in keeping the fruit. Vines like a warm, well-drained position and good soil, not too heavy, as clayey soil was cold and productive of great evil. The orthodox top spit of heavy soil was not always the best, and in cases where the natural soil was not suitable it was better to purchase than use such. A porous soil, but not loose, was essential to good culture. In some soils there was no lime, and this must be added. Rank manure was not required, this souring the soil and causing stagnation. When Vines required food, plenty of crushed bones and a top dressing of spent manure were beneficial, with frequent applications of warm liquid manure in the growing season. He advised a free use of the latter in preference to over-loading the soil with manure. Deep borders were not necessary, a depth of from 2 feet to 3 feet being quite sufficient. Planting too close was an evil, also too near the glass. The Vines should not be less than 2 feet from the glass, as if too near, the leaves had no room to develop, and in the case of late Grapes plenty of foliage was necessary. Such varieties as *Muscat of Alexandria* required plenty of space so that the berries could colour and be of good size.

When late Grapes were kept hanging too long there was not time to give sufficient rest or to expose the rods thoroughly before re-starting them. Vines required considerable moisture. The borders in which late Grapes are grown are often kept too dry, but one must not err in the opposite direction. If the roots are in outside borders, only sufficient protection to throw off heavy rains and snow should be given. Grapes started late colour late, and thus their keeping qualities are impaired.

There is no need to keep the fruit hanging too long on the Vines, as when cut it will keep well in bottles filled with water. He advised prompt attention to the stopping and disbudding, as there was great loss of power by large removals of foliage at one time. Muscats require more light to colour, and some kinds must be artificially fertilised. Many mistakes were made in thinning. Such varieties as Alicante and Lady Downe's needed severe thinning. As regarded temperatures, he gave 85° to 90° as a maximum day temperature, and advised span-roofed houses. In colder districts he had found that a lean-to house was the most suitable for growing late Grapes. He recommended that water should be given every month, allowing 10 to 15 gallons to the square yard, using it tepid and not drawn from underground tanks. Late Grapes take longer to mature than early ones. When the Grapes are hanging, the temperature may be from 45° to 50°, or even less in cold weather, and the Vines should be cleared in January to allow of their being pruned and given a rest. The best late varieties he considered were Lady Downe's, Muscat of Alexandria, Gros Colman, West's St. Peter's, Alicante, and Trebbiano.

The Royal Gardeners' Orphan Fund.—A meeting of the committee took place at the Horticultural Club, Hotel Windsor, on the 24th ult., Mr. William Marshall presiding, there being a full attendance. The following special contributions to the fund were announced: Proceeds of concert at Kingston, per Mr. W. Furze, £21 13s. 6d.; opening of Ketton Hall Gardens, Stamford, per Mr. W. H. Divers, £2 6s. 5d.; Reading and District Gardeners' Society, per Mr. J. Pound, secretary, £5 15s.; Mr. G. W. Cummings, admissions to see the Chrysanthemums at The Grange Gardens, Carshalton, £5; Mr. W. Bates, Twickenham flower show, £1 16s.; Mr. J. Wright, 171, Fleet Street, donation, £1 1s. Box and card collections: Mr. A. D. Christie, Ragley, Alcester, 8s. 9d.; Mr. W. H. Divers, Ketton Hall Gardens, 11s. 3d.; Mr. G. T. Cale, Charters Gardens, Berks, 11s.; Romford Chrysanthemum show, 5s.; Messrs. McDonald, Chichester, 10s. 6d.; Miss Holmes, Frampton Park Nursery, Hackney, £6 4s.; Mr. W. G. Head, Crystal Palace, Sydenham, £2 0s. 6d. On a review of the financial position of the society, it was resolved that five children be placed upon the fund at the next election, and the secretary was instructed to issue notices to that effect. Mr. Osman, Commercial Street, E., was elected a member of the committee in the place of Mr. H. Low. Mr. D. Sheahan, Hartfield Road, Wimbledon, was appointed local secretary for that district.

OBITUARY.

Mr. Isaac Dixon.—We are sorry to have to announce the death at the age of fifty-eight of Mr. Isaac Dixon, which took place on the 18th last after about a fortnight's illness. Mr. Dixon was manager of Messrs. Chas. Lee and Son's Feltham Nursery for twenty-five years; also traveller for the same firm, which he had represented as such for twenty years in all parts of England, and up to the time of his death. Having caught a severe chill, he was obliged to return home from Bath on November 3, and never recovered. He had been with Messrs. Lee and Son for upwards of thirty years, being at Hammersmith some few years before taking the management of the Feltham Nursery.

Mr. John Daniels, for forty-two years gardener and steward at Swyncombe Park, Henley-on-Thames, died near that place on November 1, at the age of seventy-seven years. About eighteen months ago he retired upon a pension. Born in the year 1816, at Kniveton, near Ashbourne, Derbyshire, he was placed with a nurseryman in the neighbourhood, and after a term of service he became second gardener at Smithland Hall, Leicestershire, from which he went to Elsenham Hall, Essex, where he remained until his employer's death. In 1850 he entered upon the duties of head gardener at Swyncombe Park, and eventu-

ally had charge of the estate as steward. While here he effected marked improvements in extending and beautifying the grounds. Taking up spring gardening when it was becoming popular, he was very successful at Swyncombe, and established a spring display second to none in the county, while in the woods he naturalised many charming subjects with marked success. His reputation as a successful gardener is more particularly associated with the culture of *Bougainvillea speciosa*, which he grew so well, that in the year 1860 he brought flowering sprays to one of the meetings of the Royal Horticultural Society and was awarded its silver medal. The plant when in bloom covered a space of 400 superficial feet on the roof of a large plant house, and hung down in handsome festoons. Planted by Mr. Daniels some years previously in a corner of the house near the boiler and abundantly supplied with moisture in the growing season, the plant grew with great rapidity, and the freedom with which it bloomed was considered by Mr. Daniels to be due to the wood being so well ripened by the proximity of the plant to the boiler.

Mr. Duncan Welsh.—All who knew the late Mr. Welsh will deeply regret to hear of his death, which took place at Lochend, Beith, Scotland, on November 19, in the sixty-fourth year of his age. Mr. Welsh's gardening career commenced in his native country, Scotland, and he went to Ireland nearly forty years ago as foreman in the then celebrated Vice-Regal Gardens under Mr. Geo. Smith. At the end of his engagement with Mr. Smith he was appointed gardener to the Earl of Pembroke, at Mount Merrion, Co. Dublin, a position he held with all honour and respect for thirty-six years; in fact, he only retired, with the good wishes of all who knew him, in the spring of the present year, as alluded to in THE GARDEN at the time. His management of Mount Merrion was a credit to himself and his employers, as also to the horticulture of Ireland, and plant-loving pilgrims were ever rewarded at seeing his pet Orchids, Pitcher Plants, such as *Nepenthes*, *Sarracenia*, *Darlingtonia*, and *Cephalotus*, and stove and greenhouse plants generally in splendid health and vigour. His specimen plant of *Darlingtonia californica*, photographed by Mr. Greenwood Pim, M.A., and engraved in THE GARDEN, was the finest example of cultivation in its way perhaps ever seen. He was a good all-round cultivator. Fruit and vegetables he took equal pride in bringing to perfection; so also hothouse Grapes and Peaches. Of late years he had curtailed somewhat his bedding plant displays, always beautiful in their way, and had extended the old-fashioned herbaceous plant and choice shrubby borders that suited so well the quaint Elizabethan house at Mount Merrion.

Francis Parkman died last week after a short illness at his home, on the banks of Jamaica Pond, in Boston. It is as a rosarian that Mr. Parkman is best known among horticulturists. He was one of the first Americans to cultivate a collection of Roses, and his example has done more, perhaps, than that of any other man to raise the standard of Rose-growing in America to its present excellence. "The Book of Roses," which he published in 1866, and which embodies sound cultural instruction with an account of the different races of his favourite flower, is still the best work within the limits of this field that has been written on the subject. In 1861, a small collection of plants, purchased from a nurseryman at Yokohama by Dr. George R. Hall, was placed in Mr. Parkman's hands to propagate. This was probably the first collection of plants sent directly to America from Japan; in it were several plants now well known in our gardens, including the double-flowered Apple, which bears Mr. Parkman's name and which is still standing in his garden, several *Retinosporas*, *Thuja dolabrata*, *Rhododendron brachycarpum*, *Andromeda japonica*, the double-flowered *Wistaria*, and bulbs of the familiar *Lilium auratum*, which Mr. Parkman flowered before anyone else in America or Europe. To the cultivation of Lilies, which were always favourites with him, he devoted much attention, trying to improve them by cross-breed-

ing; in this he had at least one conspicuous success with *Lilium Parkmanii*, which he raised by crossing *Lilium auratum* with *Lilium speciosum*. A paper from his pen, published in the "Bulletin of the Bussey Institution of Harvard College," records the results of his experiments in hybridising Lilies. In the improvement of plants by cross-breeding, Mr. Parkman was always interested, and many good varieties of Iris, Delphinium, Pæony and Poppy were raised in his garden. He was one of the first Americans to grow a collection of herbaceous plants; and his garden was always full of interesting shrubs, bulbs and hardy perennials. For a short time Mr. Parkman was professor of horticulture in Harvard University, which he served faithfully for many years as an Overseer and then as a Fellow, and for two years he was president of the Massachusetts Horticultural Society. In the development of horticulture in America, Mr. Parkman's influence has been considerable and always in the right direction, and of those Americans who have practised the gentle art, not one has brought it to a more sincere love or a keener intelligence.—*Garden and Forest*, Nov. 15.

PUBLIC GARDENS.

Thames Embankment at Greenwich.—The Greenwich District Board has received the consent of the Council to the proposed embankment of the Thames in front of Greenwich Hospital.

Kingston.—The First Commissioner of Works has consented to the towing-path above Kingston Bridge, on the Middlesex side of the river Thames, being laid out as a public promenade. The improvement is intended to commemorate the marriage of the Duke of York, and will probably be called York Parade.

A new open space.—A conference of delegates from the local authorities respectively of Bermondsey, St. Olave's, St. George-the-Martyr, and St. Saviour's has been convened with the object of seeking an interview with the London County Council, with which body to arrange the best terms for the acquisition of Guy's Burial Ground, Nelson Street, as an open space. The sum asked for the site is £2600, and the local authorities of St. George's, Southwark, have agreed to contribute £164.

Dipladenia atropurpurea.—In your issue of THE GARDEN, November 25 (page 489), it is stated that *Dipladenia atropurpurea* was re-introduced by Mr. Russell Clarke, of Croydon. It should have been the late Mr. Stephenson Clarke, of Croydon Lodge, Croydon. It was found by his gardener on a mass of *Lælia purpurata* bought at one of the sale rooms.—WM. CARR.

Destroying weeds on lawn.—Could some of your readers suggest an expeditious method of clearing a lawn of Plantago (black heads) which, being imported amongst Grass seed, has become such a pest as to almost exterminate the natural Grasses? Hand-weeding was tried, but the Plantago seeds so freely, that it is quite out of the question now. If there is any chemical that can be applied it might answer, as the colonial Grasses growing from rhizomes would not be affected by any poison on the surface.—J. D. C. L., Belmont, Cape Town.

A lawn mower for the Cape.—Will any reader tell me the best lawn mower for this colony, where the Grasses, being species of *Cynodon*, are very wiry, and in summer so harsh and twiggy that the knives would have to revolve rapidly to cut the tough stems and tall flower heads which grow so quickly in their season. Many makes have been tried, but they all leave something to be desired. An Archimedean tried some years ago gave the best results, but was hardly strong enough for continual use on a luxuriant sward.—J. D. C. L., Belmont, Cape Town.

Names of plants.—*Judy*.—*Sophronis grandiflora*.—*H. Goodheart*.—*Lælia autumnalis*, poor colour.—*Dorier*.—German Ivy (*Senecio mikanioides*).

Names of fruit.—*T. Bull*.—1, Blenheim Orange; 2, not recognised, so much bruised.

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"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

ORCHARD AND FRUIT GARDEN.

DAMSONS.

At the present time, when many people are puzzled what crops to plant, and turning their attention to fruit culture, it may perhaps be useful to remind intending planters of the value of Damsons as a remunerative and almost certain crop. The Damson is suited for almost all soils, and will succeed admirably where the Plum, Apple, and Pear crops fail. Not only so, but as a shelter to other fruit crops Damsons are useful, breaking the force of the wind, and the crop pays far better than anything else that could be planted in such exposed positions. On waste land where the soil is fairly deep, Damsons will in a few years give handsome returns if the trees are liberally dressed with manure annually. Again, as hedgerow trees on farms they will hold their own and produce good crops, especially when the trees become large and able to afford shade to cattle, the droppings from which act as a good stimulant to the trees. Planted in hedgerows as described, I have known the fruit realise more than the crop of hay produced in the field. It would be unreasonable to expect good results annually, but, taking one season with another, Damson trees will do well either planted about the farm hedgerows or in a plantation by themselves. Many people have an idea that Damson trees are a long time in getting large enough to bear a paying crop. Such an idea is not borne out by facts, for if a Damson tree and an Apple tree are planted as standards at the same time, the former will be profitable several years before the latter. If planted on land of moderate quality, the trees staked, and an annual mulch of good manure applied, paying crops will be had in five years from the time of planting. The importance of heavy manuring is that a strong growth may be induced, and consequently a good head formed to the tree that will be able to carry a full crop of fruit without breaking the branches. Unless a good foundation is made at the start, a large well-formed head is almost an impossibility. While the standards are young it is a wise plan to cut away the small twiggy shoots formed in the centre, and thus cause the main branches to be stronger than they otherwise would be. Afterwards as the tree becomes larger little or no pruning is required.

To get quick returns the bush form of culture is the best, as the Damson answers to this system of culture quite as well as Apples and Pears, and it is astonishing the amount of fruit a good bush tree will carry. Another advantage of these dwarf trees is that they can be thoroughly washed in case insects attack them, and the crop thus rendered more certain, while as a shelter for bush Apples and Pears they are first-class. Small trees only planted two years will commence bearing freely, and unless the season is very unfavourable they will continue doing so for many years. King of the Damsons makes a fine tree in any form and is very prolific, producing fruit of large size. Cluster Damson, Mitchelson's, and the Shropshire Damson are heavy croppers, with fruit some-

what smaller than that of the first named, but excellent for market or private use. The question is frequently put, Will not fruit growing be over-done? I think the best answer to that is, Look at the Board of Trade figures. While they indicate such immense importations and vast sums of money paid to the foreigner, there can be no danger for many years to come of good fruit being too plentiful to be profitable. Even this season when prices have ruled low the inquiry for choice fruit has been good and prices satisfactory, and the demand for Damsons was heavy. One buyer asked me if I could get fifty tons or upwards for him. As stated, for sound fruit of good quality, attractive appearance, and well packed, the demand is practically unlimited, with every indication of its continuing. It is the bruised, badly packed, and unsuitable kinds that are a drug in the market. I think it only a question of time when such fruit will be almost, if not quite, unsaleable. W.

Apple Improved Bess Pool.—Judging from the number of times this variety has been exhibited this season, this excellent Apple is finding favour amongst planters. So far my experience of it is that it is too long in producing a remunerative crop to be profitable to plant for market, having the same failing as the ordinary Bess Pool in that respect. To those who can afford to wait or plant for future generations this Apple is extremely valuable, because as the tree acquires age it crops freely. The fruit is large, heavy, of a beautiful shape and lovely colour, and will keep sound until the end of May. As a cooking Apple it is excellent, and by no means a poor dessert variety—in fact, better than the old well-known variety in every respect, and worthy of a place in every collection. It is also valuable for exhibition, owing to its perfect shape, size, and deep red colour.—W.

Pear Clapp's Favourite.—This handsome Pear is finding much favour amongst a few planters for market, but I question the wisdom of selecting this variety for the purpose on a large scale. Unless the quality is much better in other places than here on our light soil, it is very poor indeed, for during the past eight years not a well-flavoured fruit has been produced. Its cropping powers are splendid, and so are the size and colour of the fruit, but I think that all planters for profit should combine quality as well in the fruits they plant. Buyers very soon detect any inferior flavoured fruit and are shy at purchasing more of the same description, and then the grower finds a difficulty in disposing of it, even at low rates. My own practice is to mark all poorly flavoured Pears as seconds, and then regular buyers know exactly what they purchase and have nothing to find fault with, because they have not been deceived.—Ross, *Hereford.*

Old fruit trees at Farnham Castle.—Having an hour to spare a short time ago when in the neighbourhood of Farnham, I visited the castle gardens, where there are some very old trees of Apricots, Pears, and Cherries. On a southern aspect one or two Apricot trees considerably over 100 years old are still giving good crops of fruit yearly, and at this date the trees look most promising, being covered with fruit buds. When the cultivation of the Apricot is taken into consideration, it will be seen at a glance that there is something that suits these trees at Farnham. Trees probably 50 years old are perfect in shape and free of decay. From close observation, no doubt they benefit from the soft sandstone found in the neighbourhood, and, what is better, these old trees are in elevated positions. The ground in which they are planted slopes away from the wall, and there is a hard walk in front of a narrow border. This drains away excessive moisture in the early part of the year, just when the sap is rising, and to a certain extent the trees are protected from the east and north by rising ground, and what may be of great service is the

solid walls, in many places from 6 feet to 8 feet in thickness. Here also may be seen grand examples of Figs, which bear not only abundance of fruit, but also of the very best quality, fully equal to fruit under glass. The variety is Brown Turkey. The oldest Apricots are of the Breda variety, a medium sized fruit, but highly flavoured. Morello Cherries are equally old, and give splendid crops. These are not trained against the walls, but have been planted many years ago at the foot of the castle or keep wall and allowed to form a head. These trees project out from the walls, the stems being enveloped in a dense covering of Cotton-easters, Ivies and other creepers, giving the fruit trees the appearance of springing out of the stonework, and when in fruit presenting a nice effect, the Cherries showing to advantage with a dense green background. In the courtyard, covering a part of the castle, are some very old Pear trees, the stems of these being as thick as a man's body. These cover a large extent of the oldest portion of the building, but are of no value as far as their bearing qualities are concerned.—G. WYTHES.

Rivers' Orange Nectarine for forcing.—The value of this variety for early forcing is not, I think, very generally known, or we should more often meet with it in early houses. Some three years ago a note in its praise appeared in THE GARDEN from the pen of Mr. Temple, of Carron House. I took the hint and planted it, and have been abundantly rewarded with fine fruit and plenty of it. When started early it retains its buds, sets its fruit freely, invariably passes safely through the stoning period and ripens a very little, if any later than Lord Napier. Unlike that variety, however, it is not liable to sunstroke, and although any fruits which happen to be placed on the under side of the trellis, and therefore more or less shaded, do not assume the elegant mahogany tint which do those on the upper surface, yet they are beautifully golden and of striking appearance. As to flavour it is irreproachable. Some of our so-called early forcing Nectarines are not at all reliable. Stanwick Elruge is liable to cast its buds and also its fruit when stoning, and Lord Napier is also capricious, although fine where it does well. Rivers' Orange will, I think, please all who care to give it a trial.—JOHN CRAWFORD.

WINTER PRUNING AND NAILING.

In large and small gardens alike pruning and nailing take up much time, especially in those where there is a number of Morello Cherry and Peach trees. With us a wall about 150 yards long and 16 feet high covered with Morello Cherries takes about a month. This wall is always the first to receive attention, for before the days are too cold the leaves have usually fallen, so that there is nothing to prevent the work being taken in hand. It is bitterly cold standing in sharp frosty weather against a wall having a northern aspect; therefore, we aim at completing the work before we get such weather. There are several advantages to be gained by so doing. In the first place, there is no fear of the buds pushing on a wall facing north in the case of bright weather occurring in February, as the sun has little effect on the northern side. Secondly, there is not so much danger of the young twigs being broken off when nailed as when left loose. It is not everyone who can nail a Morello tree, practice and a good eye being indispensable, so as to enable him to see at a glance where the shoots are to be laid in. It is my practice to take off portions of the trees each season to prevent the young twigs being overcrowded. If the trees receive proper attention during the summer it is seldom that any pruning is required in winter, so that nailing can be done with more facility. The main shoots should be spread out first, nailing these from bottom to tip, taking care to have them as straight as possible. The nail should always be on the opposite side of the shoot to the direction of its pressure, so that the shred, and not the nail, may perform the work of holding the shoot in position. The former must also have length

enough to permit the twigs to have plenty of play, for if too short they are apt to cut them before they can be replaced. Having laid in all the main shoots, the next thing is to see if they are evenly balanced, and if they are not, they must be altered so that the tree may present a symmetrical appearance. We must now begin at the top of these leading branches, to lay in the off-shoots, taking care that each has the same amount of space allotted to it. The tips of the shoots must also be parallel to those which have been previously nailed to the wall, so that by the time the bottom of the wall is reached each one is pointing to the same spot at the top of the wall. No shoot should be so nailed to the wall, that if allowed to grow for two or three years it would cross any other. Each one should be allowed the same amount of space, about 3 inches being a good distance, as with such room there is no fear of the leaves becoming overcrowded.

PLUMS are the next to receive attention, and as these are planted in different aspects, the work must be regulated according to the weather. Plums are peculiar trees to nail, as often spurs die off, and even branches several years old will sometimes go without warning. This, if not well looked to, will give the trees an unsightly appearance. To make up these losses is often extremely puzzling unless the person who has charge of the tree thoroughly understands his business. No attempt should be made to bend a shoot or branch out of its oblique line for the sake of filling up a gap; far better leave the place bare. But if two or more shoots can be altered, so that they can be brought to fill up the vacancy without altering their slanting direction, this should be done, even if it causes the whole of them to be a greater distance apart. Lateral shoots may be utilised to fill in the intervening spaces, so by this means the tree will be more evenly balanced and look more uniform.

PEARS should next receive attention, for their spurs being at a greater distance from the walls, the flowers are not so easily excited as those of trees whose bloom buds are in close proximity to the wall. Since the practice of training trees on the cordon system has come into vogue, horizontal palmettes, fans, and other modes have long gone out of fashion, so that training these is not now of such importance as formerly, but pruning is of the utmost consequence. The great object in such trees is to keep them from making too much wood, and at the same time to keep them in a healthy condition. To accomplish this, the "summer pinching" has to be resorted to, so that there is less need of it at the time of winter pruning. All that is needed is to see that the spurs are properly furnished with flower buds and that the shoots are kept at the same angle while nailing, always paying attention to the leaving of plenty of room in the shreds.

APRICOTS AND CHERRIES are best left till the last, as their buds are easily excited into growth by the first burst of genial weather in spring, so that if too early pruned they often suffer from the ravages of late frost.

PEACHES should also be left till the last, for their shoots when nailed close to the wall often start into growth through the absorption of the sun's heat by the bricks, and its consequent radiation at night. Therefore, those nailed too early are more liable to suffer owing to their forward condition than others that have been left loose, and are therefore further from the wall.

H. C. P.

Fruit notes from Scotland.—The Pear season is going to be a very short one. Here in Scotland the time of ripening is generally several weeks later than it is in the south of England; but this year it is different, as sorts like Winter Nelis and Knight's Monarch, which ripen slowly and sometimes last until February, appear unlikely to last the year. Marie Louise generally keeps until Christmas, but it is over by the third week of November; so also that delicious sort, Doyenné du Comice, is now past. I note that some growers incline to consider the latter as good in quality as

Marie Louise. This year it has certainly been better, but I do not think it keeps so well as the old favourite. A Pear that is seldom good here is this year high-class. I refer to Van Mons Leon Leclerc. Thomson's is always good, but this season it did not crop well. Some of the second-class sorts, e.g., Beurré Bachelier and Napoleon, are, curiously enough, of wretched flavour; whereas, in bad seasons when first-class sorts are scarce these come in fairly good. Beurré Clairgeau, on the other hand, was good. Generally it is fit only for cooking. We have only a limited number of Ne Plus Meuris, Easter Beurré and Beurré Rance, none of the kinds having borne well; but I am hopeful that these will ripen much better than it is usual to have them. I have heard complaints about Pears keeping. Numbers, I believe, were gathered much too early, and doubtless many were kept in the fruit room too long; in fact, until they were so over-ripe as to rot. The same remark applies to Apples, which I have never had finer, and though some of the early kinds exhibited a slight tendency to rot, as a rule the Apple crop is keeping well. We have nothing here to come up to Warner's King as a valuable Apple. Unfortunately, during the past four or five years all our trees have exhibited a tendency to canker very badly. As a healthy free-fruiting Apple I like Keswick Codlin. It never fails, and with ordinary attention produces good fruit, which is of much value for cooking. Another noteworthy fact was a small second crop of Figs borne out of doors. The fruits were small and certainly did not contain seeds, but I am assured they were of good flavour.—R. P. BROTHERSTON, *East Lothian*.

FRUIT TREES AND THE LATE DROUGHT.

WHEN recently lifting some fairly large fruit-bearing trees of Peaches and Nectarines I was struck with the dry condition of the soil under them, and that in spite of such rains as most of us would consider ample to penetrate to the roots and beyond. Such, however, was certainly not the case in this instance; the soil, in fact, crumbled away in a semi-dusty state. This has given me quite sufficient indication as to the condition throughout the entire border (an extra long one), and I am fully persuaded that a good soaking of water will do good. Were I to leave it as it now stands, and provided there is not a heavy rainfall within a reasonable time, there need not be any surprise if bud-dropping became general in the spring. The aspect, I ought to say, is a westerly one, so that one might fairly have surmised that the ground would have been moist enough after the rainfall we have had. The borders were well mulched through the hot and dry weather, several waterings having been given; they are also nearly level, which I consider a most important point in the cultural detail save in the wettest localities and soils, or where the latter is of a tenacious character. Were they otherwise, they would have given us an incessant amount of trouble during the drought. Sloping borders may look very well and be found suitable for supplementary early crops, but the fruit trees should always have prior consideration. A deal depends, of course, upon the width of the fruit tree borders, but even then an almost level surface is far better than a sloping one, the latter being considerably drier at the back than the front as a natural sequence. I have not the slightest doubt that there are many fine trees which have been suffering for years through drought near to the stem where planted against walls on sloping borders. The result of this is that the roots have to penetrate further, to be disturbed probably every time the ground is dug deeply or trenched, or have pushed their way into the less congenial

subsoil; whereas if there were sufficient moisture nearer home with good mulchings such would not be the case. In some instances one sees narrow pathways on the soil next the trees; these if not broken up annually with the borders will become almost impenetrable to moisture, to the certain detriment of the trees. Personally, I am no advocate for these pathways of trodden down and impervious soil. Leave an open space by all means if it can be afforded, but mulch it well with manure; thus it will be kept in a much better condition, as the mulching can be trodden on without much harm being done.

Where there are pathways for the greater convenience of attending to the trees, they should be broken up immediately the fruit is gathered, using boards afterwards for treading upon during pruning and nailing. More than once when dealing with sloping borders I have raised the front where it was not possible at the time to lower the back. Not only will Peaches and Nectarines suffer from drought, but Pears and Plums are further instances, also Apricots, the last requiring far more water than they generally receive. Figs may be all the better if on the dry side rather than otherwise through the winter, so as in a measure to check their inherent tendency to make gross wood if given too generous a treatment. Cherries are another case in point; give them liberal supplies of water with manurial stimulants, not omitting lime or bone-meal, the constituents of which enter largely into the formation of the stones in these and other fruits. If I saw a tendency of decline in any tree, and had the slightest suspicion of the soil being impoverished, or drought existing, I would build up a ring of soil at a good distance therefrom and then give it a thorough good soaking with manure water. I often do this in the usual way when emptying a cesspool during the winter, the penetrating powers of a liquid exceeding those of a solid manure. A deal depends, I know, upon the character of the soil with which one has to deal, but I am fully persuaded that more harm is done by drought than many are aware of, or even suspect to be existing. It does not do to be led away with the idea that because the leaves have fallen no need of moisture then exists. If the fibrous roots suffer the tree suffers also, for upon these roots more than any others depends the fruitfulness of any tree of fruit-bearing character. In concluding these remarks, another fact might be drawn attention to, the time now being opportune for its observance. It is that of well watering in all newly-planted fruit trees. Not nearly enough importance is attached to this item of cultivation. In the majority of cases I venture to say it is never thought of. I have had a difficulty in fact to get it done without standing by whilst it was effected. Even if the roots be not dry, which will be a rare occurrence, the mere fact of settling the soil closely around them is of the utmost importance for their well-being. Even in wet ground I would adopt the plan for this latter reason alone.

POMONA.

Pear Josephine de Malines.—I quite agree with all "Y. A. H." says in favour of this grand winter Pear. On the south coast it comes to great perfection on open bush or pyramid trees, which grow freely, and crop regularly. The fruit assumes a beautiful golden tint and the flavour is very good. If there is any difference, I think the fruit grown on open trees surpasses that grown on wall trees. This is one of the few Pears that market growers ought to grow in quantity, as during its extended season there is no fear about finding a ready sale.—J. G., *Gosport*.

FLOWER GARDEN.

ANDROSACE LANUGINOSA.

THIS beautiful alpine plant has been so recently and fully described by M. Correvon in *THE GARDEN*, page 466, that I will merely give the treatment adopted for the specimen represented in the annexed engraving. It was planted three years ago in a mixture of

was first raised in Trinity College Gardens, Dublin, by Dr. Mackay, from seed sent from India, and first flowered in August, 1842. It is a native of the Western Himalayas, and is found at from 7000 feet to 10,000 feet elevation. There is no *Androsace* more easily grown and none more lovely for a rockery.

G. SOLTAU-SYMONS.

Campanula garganica.—Under this heading on p. 506 I am made to say that if we include the

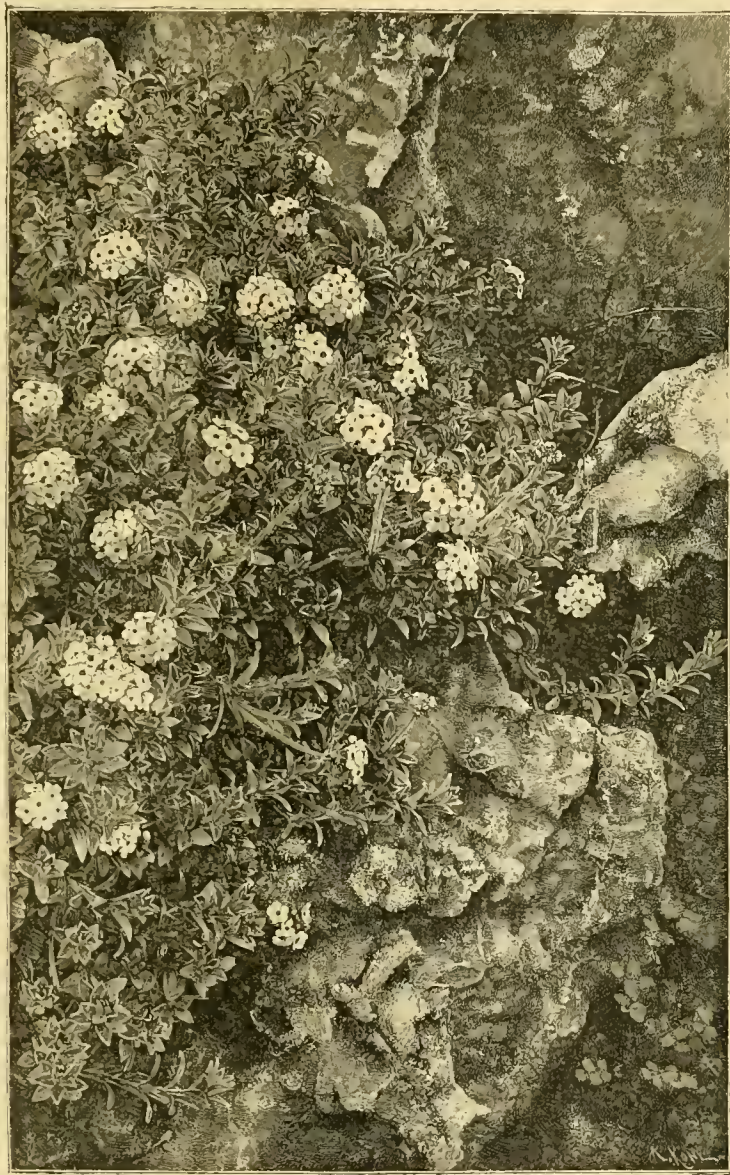
the white Clove being of a dwarf spreading growth, with flower-stem upright and with the flowers boldly facing the sun. Gloire de Nancy, on the other hand, presents a more robust habit of growth, though the stem "wobbles" and the flowers hang down. The old crimson Clove is in habit much like the white Clove, but somewhat more dwarf, with foliage of a darker shade of green and much affected by disease, so much so that some growers cannot keep it. I got a bluish form of the white Clove from Cambridge several years ago, but this is not worth growing. There have been many Cloves put into commerce in past years, but no one has yet superseded the old form. I have got what is termed the old Scotch Clove under the name of P. Engleheart. This is not nearly so good as the old crimson. The finest white border Clove Carnation I have had is Niphotos. Aline Neuman, a red-coloured Clove, is also a most excellent variety. Another good variety is Jessica, with soft shining crimson flowers. Lady Nina Balfour appears to be a very useful variety.—R. P. BROTHERSTON, *Tynninghame*.

HARDY HERBACEOUS PLANTS.*

THE value of herbaceous plants seems to become more recognised every year. It is, however, only of late years that the cultivation of these plants has advanced with rapid strides and has found such universal favour with the public generally. It is not a mere craze or fashion, but a recognition of their undoubted merits that has brought these hardy plants to the front, and gained for them the appreciation of the rich as well as the poor. We are living in a progressive age, and by the development of a more artistic taste we have become susceptible to the charms of beauty of form in Nature, and we prefer graceful outlines and harmony of colour to the geometrical designs in the gardens of our ancestors. There exists no class of plants which offers such an unlimited number of graceful forms as the hardy herbaceous plants. Not a single shade of colour can be mentioned which is not in some way or other represented by this class of flowers. The variation in size, too, is simply enormous. We have flowers like *Gypsophila paniculata* (which are not much bigger than a Mustard seed), and we have flowers of the boldest type measuring 6 inches and 8 inches across. We have plants that never grow beyond a few inches in height, and we have plants that attain 6 feet, 7 feet, or even 8 feet. Such unlimited variation in every shape or form, I may boldly assert, cannot be equalled by any other class of plants.

But these hardy flowers have still other merits of greater importance. Many kinds will bloom continuously for several months, while others will bloom at a time of the year when flowers are scarce. Even in December and January we have Christmas Roses out of doors. In February we have *Anemone apennina*, *Arabis albida*, and *Hepaticas* of various shades, to say nothing of the many early bulbous plants. March brings us *Adonis vernalis*, *Iberis stylosa*, *Mertensia virginica*, several *Anemones*, *Doronicums*, *Omphalodes verna*, *Lenten Roses*, *Primulas*, and many others. In April we have *Dodecatheons*, *Gentiana acaulis*, many *Iris*es, dwarf *Phloxes*, *Trollius*, *Epimedium pinnatum*, *Corydalis lutea*, *Iberis*, *Aubrietias*, *Alyssum*, and a host of others. I need not mention the flowers of June, July and August. Their name is legion, and we may choose from hundreds of varieties of every shade of colour. But even in September, October and November, when

* A paper, illustrated by sketches, diagrams, and coloured plates, read at the Exeter Guildhall before the members of the Devon and Exeter Gardeners' Mutual Improvement Association on Wednesday, December 6, by Mr. F. W. Meyer, Exeter.



Androsace lanuginosa in the garden at Chaddlewood, Plympton. Engraved for *THE GARDEN* from a photograph sent by Mr. G. Soltau-Symons.

peat, leaf mould and light loam, in a sloping position among lime rock, the surface covered with loose stone to keep the stems and leaves as dry as possible. Damp is fatal to it. It cannot have too much sun, and should be placed in a southern aspect. The specimen, part of which has been engraved, falls over a rock nearly 3 feet, and is 2 feet in width. It was in bloom from June to the beginning of November. *A. lanuginosa*

biennials and annuals, there are not thirty good perennial species of *Campanula* in English cultivation. It is obvious that the word include should be exclude. The context will show that I referred only to European species. If Asiatic (Caucasian and Siberian) species were added, the number would be much greater.—C. WOLLEY DOD.

Clove Carnations.—Gloire de Nancy is quite distinct from the white Clove, which I have known as long as I can remember. The flowers of the latter are smaller, of a better shape, but not so pure white. The habit of growth is quite distinct,

our Dahlias, our annuals and other flowers have vanished, we have still an abundance of hardy flowers out of doors. We have Rudbeckias and Achilleas of various sorts, Asters, *Physostegia virginica*, *Helenium Hoopesii*, and *Helenium grandiceps striatum*, *Stokesia cyanea*, *Zauschneria californica*, *Plumbago Larpentæ*, *Senecio pulcher*, *Anemone japonica*, *Pyrethrum uliginosum*, and many other excellent things. There is thus not a single month in the whole year in which hardy flowers of one sort or another are not available, and if we make a careful selection, our gardens need never be entirely without flowers. With regard to position, too, we have plants suitable for every conceivable situation, no matter whether it be dry or wet, sunny or shady, warm or cold; it is simply a matter of selecting the right thing for the right place. Even bare spots beneath the shade of trees, where not even Grass would grow, can be made bright and cheerful by such plants as hardy *Cyclamen*, *Hepatica*, *Anemone*, *Primula*, *Epimedium*, *Trillium* and many others, to say nothing of an admixture of such hardy bulbs as Dog's-tooth Violets, Snowdrops, Daffodils and Winter Aconite. If we have rough waste spots in a wood or shrubbery, we can turn them into a charming "wild garden" by dotting about irregular groups of plants of the boldest type, such as the Giant Cow Parsnip (*Heracleum giganteum*), *Telekia cordifolia*, or *Cephalaria alpina*. Here, too, we may have colonies of Foxgloves, *Verbascum*, *Anemone japonica*, and scores of others. If we have a wet or swampy place near a pond we may grow colonies of Iris, and such handsome leaved plants as *Saxifraga peltata*, *Rodgersia podophylla*, *Gunnera scabra* and *G. manicata*.

ARRANGING HERBACEOUS PLANTS WITH A VIEW TO SUCCESSION OF BLOOM.

Much depends of course on the purpose for which the flowers are to be grown. If cultivated for the exclusive purpose of supplying cut flowers for the house or for sending away, there is no need to have them in the flower garden at all. They might in this case be grown in a border in the kitchen garden, or some other spot set apart for them in a situation where disfigurement by constant cutting would be of little consequence. In such a case the arrangement would be more a matter of providing cut flowers of the most desirable colours, and at a season when they are most required, than of artistic grouping. But when herbaceous plants are used in the flower garden the grouping must naturally be of the utmost importance, so as to ensure a succession of effective displays. This, in my opinion, is the most essential part of all. The general cultivation of hardy plants is easy enough, but arranging them effectively is not so easy as it might appear, and requires not only a considerable amount of taste and forethought, but also an intimate knowledge of the plants to be used. Before we can hope to arrange them effectively we must know to what size they will grow; we must also be acquainted with the colour of the flowers, the time of blooming, and the behaviour of the plants after their flowering season is over. It is not enough to arrange the herbaceous plants themselves so as to give the best possible effect, but we have also to associate them with other suitable kinds of plants, such as bulbs, shrubs, or Ferns, and we have to blend the whole into one harmonious picture, or rather a succession of harmonious pictures, for the combinations will gradually change from week to week as the season advances. Thus we may have, for instance, a colony of blue flowers springing up from among

plants that bore white blossoms a week ago, and before the blue has quite faded from sight we may have sheets of pink or yellow appearing above the foliage.

BORDERS.

Years ago the orthodox style of border in the flower garden was the ribbon border, in which bedding plants were displayed in continuous lines with geometrical exactness. Of these it might well be said that if you had seen a yard you had seen the whole, because the same pattern ran through the whole length no matter how long the border might be. This kind of monotonous display, which moreover could not last longer than three or four months every year, is now, I am glad to say, almost a thing of the past, and has given way to the hardy plants, with the result that we have now not a monotonous and temporary, but a continuous and picturesque mode of display almost all the year round.

Borders in the flower garden may sometimes be in a straight line either quite open or bounded on one side by a wall or trellis covered with all kinds of creepers. But there can be no doubt that the most effective border is that which has an irregular outline, and is arranged against a background of ornamental trees and shrubs. As a rule such borders are not made nearly wide enough to allow all plants to develop their full beauty without becoming overcrowded. Now and then the choicest shrubs of the background should project into the border and mingle with the hardy flowers, while in other places the border itself should break the line of shrubs by forming here and there a deep recess among the taller plants. Such a border should never be dug over (unless in the course of years it should require to be altogether rearranged), and it should never show a single yard of bare soil either in winter or summer, and in this direction I think the borders of most gardens may be greatly improved. The worst fault of most borders is that they are generally arranged with far too much regularity. As a rule people are content to have their tall plants at the back and the small ones in the front, leaving the ground between perfectly bare. The result is a more or less regular bank during the summer months and a bare soil during winter. But there is just as much difference between this and the picturesque style of arranging borders as there is between a group of lovely Orchids and choice stove and greenhouse plants arranged for effect at one of our principal exhibitions, and another group forming a more regular bank of flowers and foliage arranged with such painful exactness, that its outline might be compared to the sloping roof of a house. In a well-arranged group, as now often exhibited for effect, we have short plants among taller ones, springing from a dense carpet of Maiden-hair Fern or other greenery, studded with flowers, but all plants are or should be so placed that the eye can penetrate and admire the full beauty of each individual flower or foliage plant, while the whole combination has a most pleasing and graceful effect. Why is it that plants grouped in this manner and offering, as it were, a series of vistas, through which the shorter plants are distinctly visible, are so pleasing to the eye? It is because this combination picture produces different effects of light and shade, and each visible short plant between the taller ones becomes in itself a picture viewed through the living frame of other plants.

This, then, is the style which should be our pattern when grouping plants out of doors; it is on the principle of the true style of Nature and will lend itself to an infinite number of

most effective variations. Instead of leaving the soil bare between the taller plants, let us carpet it with flowers and greenery, just as Nature clothes the bare soil of our woods with all kinds of dwarf vegetation, or as we would do in the case of a group of Orchids arranged for effect at an exhibition. We have an endless variety of hardy plants suitable for the purpose. What could be prettier than a colony of bright flowers springing from a carpet of the woolly Thyme (*Thymus lanuginosa*), or of such plants as *Herniaria glabra*, *Arenaria cespitosa*, mossy Saxifrages, *Veronica repens*, &c. Or if we desire carpets of a lighter colour, we have Phloxes, Veronicas, *Erysimum*, *Alyssum*, *Arabis*, *Aubrietia*, *Iberis*, *Campanulas*, and scores of other varieties to choose from. Surely there is no excuse for bare spots when we have such delightful evergreens as these to cover the ground.

The larger herbaceous plants should be arranged not singly, but in groups, intermingling with each other. One or two large groups of the same variety, consisting, say, of from ten to twenty plants, kept sufficiently far apart to allow the plants which form the groundwork to be plainly seen, will be found much more effective than dotting the same number about in a sort of general mixture. Bulbs of all kinds are a valuable addition to borders intended for successive displays. Take, for instance, that charming early spring flower—*Chionodoxa*—growing from a carpet of *Veronica repens*. When the blue flowers of *Chionodoxa* have faded away, the white flowers of the *Veronica* would take their place, to be followed, perhaps, by the scarlet Windflower, and later on by *Platycodon*, which in its turn might be succeeded by the white *Physostegia virginica*, or late in autumn by the purple flowers of *Senecio pulcher*, which often will last till November. In an adjoining group we may have a bright pink carpet of Phloxes (setacea varieties), to be followed by Narcissus, which will look all the brighter for the dwarf carpet covering the ground beneath them. When the Narcissus have had their turn, we may have Carnations or blue Campanulas, to be followed in autumn by the scarlet Lobelia or white *Anemone japonica*. Another good combination is a group of Lilies with an undergrowth of *Iberis* and *Epimedium* and mixed with Pæonies. The *Iberis* would be the first to flower, the Pæonies coming next, and by the time these have died away the Lilies would come out in all their glory, and the now flowerless *Iberis* would form a dark green carpet mixed with the bronzy tint of the *Epimedium*, thus giving by way of contrast a bold relief to the Lilies. As an example of a pretty group without bulbs, I would mention a combination which I have used with great success, and consisting of *Primula Sieboldii*, *Spiraea filipendula* and *Plumbago Larpentæ*. When in early spring the Primulas were in full bloom, the *Plumbago* plants scarcely showed a leaf above the ground, while the Fern-like foliage of the *Spiraea filipendula* formed an exquisite setting for the bright-coloured blooms of the Primulas. No sooner had the latter died away than the handsome trusses of white *Spiraea* flowers appeared, followed later by the brilliant blue of *Plumbago Larpentæ*, lasting till late in October. I could quote other examples by the score, but I think I have said enough to show the enormous advantage of this system of arranging plants as compared with the old-fashioned style of mixed borders.

FLOWER BEDS.

Beds of all shapes and sizes can be satisfactorily and permanently decorated by using

hardly herbaceous plants instead of bedding plants. Take, for instance, a bed of yellow or orange Carnations in a setting of purple Violas, or a bed of red Roses springing from a carpet of mossy Saxifrages, which in spring would be covered with charming white flowers before the Roses appear, and in winter would clothe the ground with luxuriant verdure when the stems of the Roses are bare.

Or take a bed of delicately coloured Tea Roses on a carpet of crimson Thrift or the bright blue Veronica prostrata, or yellow Roses among purple Aubrietias.

Small beds in the flower garden we might fill with Crocuses, to be succeeded by Campanula carpathica or turbinata, which in its turn might be followed by that grand yellow autumn flower, *Helenium pumilum*. Large beds of shrubs might also be fittingly relieved by hardy flowers, as, for example, the large Rhododendron bed in the gardens of Baron Rothschild, which is relieved by an exquisite display of tall Delphiniums when the Rhododendron flowers are over. In a like manner will the effect of a bed of dwarf Veronicas (*V. carnosula* and *V. buxifolia*) be enhanced by scarlet Lobelia or other autumn flowers.

Equally striking effects may be produced by other combinations, but time forbids my dwelling longer on this subject, and I conclude by expressing the earnest hope that I may have been successful in convincing at least some of my audience of the fact that a class of plants so capable of further development, and so admirably suited for the permanent embellishment of our flower gardens, offers one of the richest fields for horticultural research, and is well worthy the attention of every gardener and every lover of flowers throughout the land.

NOTES FROM OAKWOOD.

WHILE about at Oakwood taking advantage of the good weather, looking to the moving of plants and making alterations, I was struck by how much there is to be found in gardens pretty even in mid-November, and think that what I saw may be worth a note. The glories of the autumn tints of the Liquidambar tree have departed. Some of the deep red leaves of *Vaccinium pennsylvanicum* and of *Andromeda arborea* still held on. There are not many flowers out; most are on mounds, for which I have a weakness, thinking that plants show themselves better on them than on level ground. Where precautions have been taken against soil washing down, plants thrive well. There are some Primroses of many colours; hardy Cyclamens with their prettily marked leaves, some with flowers. One of the prettiest is *Cyclamen cyprum*, which I had from M. Max Leichtlin; the flowers, though small, are very pretty; it is a free flowerer, and the leaves have rich and distinct markings. *Cyclamen macrophyllum* has fine leaves, and stands the winter with us; one plant has held its flowers well in a sheltered situation, notwithstanding some sharp frosts. *Cheiranthus mutabilis* was a favourite of the late Rev. Harpur Crewe, who gave it to me. It is well to take cuttings of this, as hard winters kill it. A few *Gentianellas* are out, and one or two Hepaticas. *Helleborus maximus* is still very pretty. A very fine form of Harebell keeps throwing up flowers; this was given me by a gardening friend, who has made all forms of *Campanula rotundifolia* a study. The Cornish Heaths have a few flowers. *Andromeda floribunda* always well deserves its name, and is now loaded with buds.

What show well are the many shades of green in some plants, and dark and light brown of faded leaves, stalks, and flowers in others. The large bunches of dead flowers of *Hydrangea grandiflora* look very well in the distance, and *Polygonum compactum* holds its leaves and seeds, both of a very pale shade of brown. Many of the glaucous and pale grey-leaved plants are pretty; *Meconopsis*

nepalensis, with its hairy leaves studded with rain or dewdrops, one of the prettiest. French Lavender (*Santolina incana*) and *Agrostemmas* are pretty greys. In one of the ponds, *Myriophyllum proserpinacoides*, given me by the late Sir Wm. Bowman, is still green with its prettily cut leaves. *Diplopappus chrysophyllus* is cheerful looking. *Arenaria tetraquetra* has pretty compact foliage; mossy Saxifrages and white Thyme rich green.

The part of the garden where the view is now the prettiest is in the middle of the wood looking west. In a recess under the trees, Oaks and Birches with their autumn tints come first; Camellias with rich glossy green leaves; these are well set with buds; then *Retinospora squarrosa*, *Cryptomeria elegans*, Blue Spruce (small), *Retinospora pisifera aurea*, *Cupressus Lawsoniana lutea*, *C. L. viridis erecta*, blue Cedar (especially pretty), *Veronica Colensoi glauca*, *Hydrangea paniculata grandiflora*, with large bunches of faded flowers; *Andromeda japonica*, covered with red buds; *Polygonum compactum*, with pale brown leaves and seeds; *Kalmia angustifolia variegata*, *Berberis Fortunei*, with its small bright red leaves; *Eulalia gracillima*, still holding green (both this *Eulalia* and *E. zebrina* have flowered well this season); *Veronica verrucosa*, *Skimmia oblata*, a bank of Rhododendrons, *R. Wilsonianum*, *Ledums* with their buds, *Sciadopitys verticillata*, New Zealand Flax flourishing alongside a great plant of Bog Myrtle; all these together make a pretty picture. I have no doubt that many other pretty plants might be found, but fear the note is already too long.

G. F. WILSON.

PULMONARIA DAHURICA.

It always seems to me such a pity when a particularly desirable plant which used to be common enough drops out of sight and is in danger of being forgotten. Such now is certainly the case with one of the prettiest of all spring flowers. I refer to *Pulmonaria dahurica*, a most dainty and lovely little thing. It is sometimes called *Lithospermum davuricum*, as in Sweet's "British Flower Garden," and was much better known in his time than is the case now. The flowers are in panicles of a bright azure-blue when expanded; before expansion they are of a rather light purple, and no one could see it on an April day without being struck by it at once. It is a special favourite of mine, and year by year for nearly twelve years I should say I have hailed its appearance above ground in the spring with very great delight. I first of all met with it in the garden of the late Rev. Harpur Crewe, where it seemed to be flourishing, and I have always been told that the late Mr. Atkins, of Painswick, grew it in great abundance and that it did well in his hands. From him the main stock of this precious little flower passed, I believe, into the possession of Mr. George Paul at Broxbourne, and I have seen it quite happy in his interesting collection; but that was a long time ago, and Mr. Paul has since then had to lament that a cruel frost deprived him of one of his greatest treasures. My deprivation came about in a different way. The plant certainly is what is called "miffy" in our English climate if it be left to itself, but it was easy to provide against this by putting one of Mr. Wood's excellent glass protectors over its head before the autumn rains set in. With this small measure of help it has not troubled me at all for quite a long time. But this year the case has been different. I was away from home in early autumn, when the little bit of glass should have been used, and on my return, when I did think about it, I found, alas! that it was too late; the plant had rotted away. I have just a little side bit, which I took off in the spring, which may or may not be alive, but with this

possible exception I am now no better off about this delightful little flower than Mr. George Paul is. The reverses which he and I have met with in this sort of way do not daunt me in the least, for I think I know exactly where the trouble arose, and I should take more care to guard against it in the future. I believe that the ground was unusually hot from the baking summer we have had, and when the autumn rains came they set up a difficulty at once against which many delicate plants could not stand at all unless they had been safeguarded; they simply rotted away.

But now my anxiety is lest *Pulmonaria dahurica* should be lost to cultivation altogether. I have written several letters about it, so as if possible to get it again for another long spell, I hope, in my garden. But I can hear of it nowhere, and one good gardener goes so far as to say this: "I fear it is now extinct in England." I must say I join in his fear unless the very little bit I have referred to above should come up well in the spring. Now and then I think Herr Max Leichtlin has had *Pulmonaria dahurica* in his hands, but I do not know how it is at present, and at any rate I should be much obliged to anyone who could put me on the proper scent and help me to recover this gem. I imagine that it must be found somewhere on the Continent, if it be found at all. But it would be a great thing to have it once more amongst us, for it is so very pretty, and if it is found, then those who are so fortunate as to get it should take greater precautions against frost than Mr. G. Paul thought it needful to take, and earlier precaution against the deluge of autumn than occurred to me this year. But neither of these two things is difficult to manage, and if they are managed in light rich soil, *Pulmonaria dahurica* is sure to do well.

HENRY EWEBAK.

St. John's, Ryde.

FLOWER GARDEN NOTES.

WITH the approach of December and the possibility of the commencement at any time of a spell of protracted frost, any plants in the flower garden above ground or beneath the same in the shape of bulb, corm, or tuber that may require protection should at once receive attention. At the same time, if even with protection the chance of any such plants coming safely through the winter is very slight, it is hardly advisable to trouble about them if a young stock can be easily raised to take their place. This would apply to such garden favourites as the Sweet Tobacco and *Galtonia candicans*, which can only be safely wintered outside in comparatively mild winters and under favourable circumstances. Individual plants of *Yucca filamentosa* (which makes a charming bed in summer) should be staked and tied up, or frost and wet will rot the heart of the plant. The same remark applies to the graceful *Arundo conspicua*, not nearly so hardy as the true Pampas Grass. Plants of *Aloysia citrodora* on walls must be matted up if they are to be saved through the winter, and as established plants of this furnish such splendid material for cutting, they are well worth the trouble. Beds of semi-hardy bulbs, as *Montbretias* and *Ixias*, should be heavily mulched with leaves and a little Fern be sprinkled over the leaves to prevent the same being blown about with the first high wind.

THE HARDY FERNERY.—This is an almost indispensable adjunct to all flower gardens, sometimes on a large scale, where natural ravines, slopes, or glens can be planted, or on a small scale, where some nook or shady walk can be utilised for a few varieties. In many gardens of small and average size there is a shrubby walk connecting the flower and kitchen gardens, and either side of this for a portion of the way is very well adapted for the culture of hardy Ferns, that is if a sufficient

width of space is available between the walk and shrubs. Occasional clumps of rough stones at intervals at the back and partially across the border will enable the soil to be raised here and there, and then to slope away to the front and in irregular hollows also the width of the border. Smaller groups of stones will be wanted occasionally more towards the front for the planting of any dwarf subjects requiring comparatively little soil, as the small *Aspleniums*, *Ceterach officinarum*, and *Cystopteris fragilis*. For the centre and back of border a capital variety can be secured, the aim in planting being to so distribute the many good things that a fairly even balance of heavy and light, graceful fronds is preserved. Some years ago if the planting of a hardy fernery was contemplated, a very pleasant day could be spent in a Fern district in a diligent hunt for specimens, but the hedge-rows, at any rate except in very remote districts, have now been so thoroughly and indiscriminately rifled, that time, labour, and expense would be saved by repaireing to a nurseryman who makes a speciality of hardy Ferns and purchasing the sorts required. If the latter course is adopted, and the purchaser is not thoroughly well versed in the conditions under which the several varieties exist naturally, recourse should be had to a friend or to a good work on British Ferns. There are many things which it would be useless to plant, but, on the other hand, the list will be very much strengthened by a knowledge of individual wants. When the necessary number of Ferns has been planted, it may be well to dot in occasionally a few bulbs or any small spring-flowering plants that would make the fernery bright pending the full development of fronds. Among the many varieties of *Narcissus*, for instance, that can be tried are the trumpet forms *minimus*, *minor* and *nanus*, the small *Hoop-petticoat* and *Tazetta*, also such things as little clumps of *Scillas* and *Hepaticas*.

In the dull period that will intervene before the arrival of catalogues and the selection of subjects therefrom, a definite decision must be made as to flower garden arrangements for another season, also, if the weather continue open and the ground workable, some beds may possibly be partly planted that are to be a combination of hardy and tender or hardy and half-hardy plants. In the first category may be placed *Violas*, to be summer dotted with specimen *Fuchsias* or Ivy-leaved *Pelargoniums*, and in the latter such a mixture as *Pinks*, with scarlet *Lobelias* or the silvery *Veronica incana*, with the new fibrous *Begonia semperflorens atropurpurea*, recommended in last week's notes. Also before the order for seeds is given, the stock of bedding plants may be overhauled with the view of the substitution of seedlings if any particular colour is likely to be scarce, and if the colour cannot well be supplied, beds of mixed shades as can be furnished by *Verbenas*, *Petunias* and *Phlox Drummondii* may perhaps answer the purpose. In some cases, however, the required shade is easily procurable in seedlings, as, for example, in white, yellow and purple.

E. BURRELL.

Claremont.

***Tritonia imperialis*.**—I do not find this grand variety of *Tritonia* increase so rapidly as the typical *Tritonia aurea* or the many garden forms so widely distributed under the generic name of *Montbretia*. As far as it has been tried here it is somewhat less hardy than M. Lemoine's numerous hybrids, but it forms such a fine, bold specimen, that a place must be found for it in all gardens where this beautiful class of plants is grown.

—H. P.

Foliage and flowers.—It was recently remarked in THE GARDEN that the foliage of the *Mahonia* associated remarkably well with the flowers of the *Chrysanthemum*, its rich bronzy-green colour showing up in particular the shades of orange and chestnut that abound. The leafage of the *Blackberry* is of great value for mixing with the *Chrysanthemum* flowers, especially on the table, and its use makes a distinct and pleasant change. The leaves are long retained, not falling

so quickly as those of many things. Placed around dishes, they are pleasing and assist to create variety, not relying alone upon the beautiful foliage of the *Virginian Creeper* or *Ferns*. Too little use is, as a rule, made of *Vine* leaves, and we have seen the most charming effects produced with them.

ORCHIDS.

LÆLIOPSIS DOMINGENSIS.

THIS is now a very rare plant in cultivation. I used to have some four or five plants of it when with the Messrs. Jackson, of Kingston, nearly forty years ago, but I have very seldom seen the plant since until this summer, when some flowers of it came to hand from Thos. Galloway, asking for a name. This plant, as far as I know, is only found growing in the island of St. Domingo. It has somewhat the habit of a *Lælia*, but yet it differs from this genus, inasmuch as I could find but four pollen masses, although it is said eight are to be found. The plant when it flowered with me at Kingston used to make erect spikes from between the leaves. The spikes, about 1 foot or 15 inches long, bore five or six flowers, each measuring about 2 inches across. The flowers from Mr. Galloway are larger, being nearly 3 inches across. The sepals and petals are of a bright rosy lilac, the petals as broad again as the sepals, the lip sessile and three-lobed, the side lobes rolled round the column, the anterior lobe undulated, the front portion and the side lobes of a bright rosy lilac, the throat of a pale yellow, the veins all bearded with short hairs. The plant has somewhat stout pseudo-bulbs about 2 inches long, being somewhat compressed, and bearing a pair of coriaceous leaves which are from 3 inches to 5 inches in length. It grows well upon a good-sized block of wood or in well-drained earthenware baskets or pans hung from the roof. During the growing season the plant likes an abundant supply of water, and during the resting season it should be removed to a cooler place and kept fairly dry. We are told that in a state of nature the plant is subjected to a severe drought, but I found the above was the best system of resting it, and it flowered every season. It was grown in the East India house and exposed to the full sun during the whole day.

W. HUGH GOWER.

***Pleione Wallichiana*.**—John Jones says: "I have nearly a hundred flowers of this plant open and opening on different plants. I send you a few blooms as a sample." These are superb in colour and of large size, which shows that the plants have been grown well and rested properly. This plant is found at great elevations in Northern India, and grows well in a cool house. It likes a fair amount of sun during the growing season.

—W.

***Oncidium Lanceanum* (B. W.).**—This beautifully fragrant species comes to me in two varieties. The one marked No. 1 is the variety known as *Louvrexianum*, which has a paler lip and the other parts of the flower not so rich and dark as in the flower marked No. 2, which is the typical form of the plant, and has a lip of the richest and deepest purple. "B. W." tells me these plants are growing well with him amongst his *Marantas*, with plenty of moisture and shade all the year round. Those who find the species difficult to grow should bear this in mind. —W.

***Cyperorchis Mastersi*.**—This is none other than the beautiful *Cymbidium Mastersi*, but the name given is that under which it is known at Kew, the genus *Cyperorchis* being that to which

authorities have now removed it. *C. Mastersi* is one of the loveliest of Orchids, introduced by Messrs. Loddiges, of Hackney, in 1811. The habit of growth is elegant, like that of *C. eburneum* in this respect, the leaves narrow, arched gracefully, and varying in length from 1 foot to 2 feet. The flowers are very beautiful, and appreciated at this season of the year, several being borne on the scape. The sepals and petals are pure white. The lip also is white, but blotched with yellow in the centre.

***Lælia Schilleriana*.**—A gentleman signing himself "Avalanche" sends me flowers of a very fine form of this species or variety, and says his friends tell him that it is *L. elegans*, but he has never seen such a fine form, and he asks me to give him the right name. It is a very fine form of the variety known as *Lælia Schilleriana*, and has, I think, been figured under the name of *L. Warneri*. It is well worth taking great care of. It is not so much like *L. purpurata* as *L. Wolstenholmie*, which is, I think, the most beautiful form of all the plants that are put down as varieties of *L. elegans*. All of these plants require a slightly warmer house than the *Cattleyas* and *Lælias*, which are usually grown together. —W.

Orchids at Gunnersbury Park.—The Orchid house here is bright with colour, varieties of *Cattleya labiata* in particular. This is a charming type, and was one of the finest things at the meeting of the R.H.S. recently. The plants are free, and the bold flowers display considerable variety in colour, the lip varying from pale to intense crimson. *Lælia anceps* was throwing up a fine mass of spikes, and *Masdevallias* of many kinds were commencing to bloom. Orchid growing near London, however, is beset with difficulties, and the worst enemy is fog, which plays great havoc with not only expanded flowers, but buds.

***Zygopetalum Burkei* (S. S.).**—This is a rare species, introduced by the Messrs. Veitch & Sons from Demerara. It was known for a long time before it was brought home in a living state. The flowers are produced on an erect spike, and measure about 2 inches across; the sepals and petals are about equal, having a ground colour of green, margined and streaked with dull brown; lip and column white, furnished with a frill at the base, and streaked with crimson. It is a very pretty plant, and although somewhat small in its growth, it, like the larger growing kinds, will thrive well with a mixed lot of stove plants. My friend says the specimen from which the flowers sent were taken was brought home from Georgetown, in British Guiana, by himself a year or two ago. —W.

***Cypripedium insigne albo-marginatum*.**—Flowers of this plant come from "H. S." for a name. He also wishes to know if it is one of the montanum varieties. I do not know if this plant is cropping up amongst these plants, but I should imagine it to be very likely, and I have seen some varieties very near to it. The true *albo-marginatum* was found in our collections before anyone had thought of the montanum forms. The flower now before me is of ordinary size, the whole having a rich yellow hue, saving the pouch, which, however, is yellow with a tinge of reddish brown. The upper half of the dorsal sepal is pure white without spot or blemish, and this white border is continued down the sides of the sepal to the bottom. It is a very charming flower and somewhat rare.

—W. H. G.

***Cypripedium macropteron* (C. Durdan).**—The flower sent may be a seedling of your own, but it has the same parents as the kind named above, which was originally obtained by Mr. Seden at the Messrs. Veitch's between C. Lowi and C. superbens. In the flower sent the dorsal sepal is light green suffused with brown, ribbed with a darker green, and broadly bordered with white, in which it differs somewhat from the original form, which is narrowly bordered with white; the petals, however, appear to be less brightly coloured, and the pouch is also of a duller colour. I do not think the flower sent by "C. D." is such a good one as I have seen produced by Messrs. Veitch's plants in several collections, but

he may take it for granted it is this variety. As it gains strength, two or more flowers will be produced on the scape.—W.

Odontoglossum cirrhosum.—S. Butler sends me a densely flowered spike of this. This is a rather curious time to see this Orchid blooming. It is a small free-growing kind of great beauty, especially when seen so fine as this is. The plant was sent out originally by Mr. W. Bull, and it soon became common, so much so that nurserymen that had secured a large quantity of it found they could scarcely give it away. The time came, however, when it could not be obtained, and at the present time it is again highly thought of. It comes from a good altitude, and thrives well in as low a temperature as does *O. Alexandræ*, or even cooler.—W.

SHORT NOTES.—ORCHIDS.

Cypripedium insigne Wellsianum.—This is a magnificent variety and very distinct. It is one of the largest forms of this fine old species now known. I noted it recently in the Melbourne Nurseries of Messrs. Gutzow & Co., of Bexley Heath.—W. H. G.

Lælia xanthina.—E. Jessop sends me flowers of this plant under the name of *L. grandis*. It was introduced by the Messrs. Backhouse, of York, upwards of thirty years ago, and is a very desirable species. I have never seen such a fine variety as that figured in the "Orchid Album," i. e. 23.—W.

Cattleya gigas Sanderiana.—A very large and fine variety of this plant was flowering in the Messrs. Gutzow & Co.'s nursery upon a recent visit. The lip was remarkably dark, and stood out in fine contrast to the many fine forms of the old labiata which were flowering close to it.—G.

Lælia autumnalis Arnoldiana.—T. Dickson sends this variety for autumnalis alba, but there is a stain of colour on the lip which takes away from the flower the character of alba. Nevertheless, it is a very pretty form, and does well under the same treatment as does the typical plant.—W. H. G.

Lælia grandis tenebrosa.—T. Dickson sends for my opinion a remarkably fine coloured and large form, with broad sepals and petals 8 inches across; these are of a rich bronzy brown and the large lip is deep maroon-purple, shading towards the front to soft bright rose colour, white at the extreme point. It is a magnificent variety.—W. H. G.

Cattleya speciosissima Carrieri.—"J. S." sends me a very pretty form of this variety of the labiata section, having sepals and petals of a rich rose colour, but somewhat narrow. The lip is deep rose in the side lobes where rounded over the column, the front lobe rich magenta-purple, having two rich yellow eye-like spots near the throat.—W.

Cattleya labiata Percivaliana.—G. Hunter sends me a very fine form of this plant. He says the plant from which it was taken is now carrying fourteen more equally large blooms. The flower sent is certainly very fine, measuring $5\frac{1}{2}$ inches across, with broad sepals and petals of a soft rosy hue; the front lobe of the lip has the edge beautifully serrated and the margin soft rose, whilst the whole of the other surface is of a deep velvety crimson; the throat is prettily streaked with old gold.—W. H. G.

PLANTS FROM AMERICA.

LAST spring I had some plants from America—things not mentioned in English catalogues. I have no doubt some of your readers have done the same. It would be interesting if they would give their experience. In the meantime I will give mine.

DWARF EVER-BLOOMING CALLA.—Grew well, but has not bloomed.

IPOMÆA PANDURA (Hardy Moon Flower).—Started in a frame well; turned out in June in a rather sheltered corner, after which it scarcely moved.

GLADIOLUS CHILDSI.—Had three; one had blossoms 5 inches across; another was a poor thing; the third did not blossom. I grow the finest English Gladioli.

HIBISCUS CHRYSANTHUS.—Showed blossoms out of doors in September. After being taken up it bloomed indoors in November.

HIBISCUS (Childs' new hybrids).—I had a plant, which dwindled and died. Seedlings which I raised grew from 4 inches to 6 inches in about five months. Looked unhealthy. My soil is a first-rate light loam. This Hibiscus ought to be a fine thing if it will do in England. It is said to be quite hardy.

A. A.

STOVE AND GREENHOUSE.

BEGONIA ERFORDIA.

THIS is a hybrid between *B. Schmidtii* and *B. semperflorens* Vernon. The growth and the graceful habit are similar to those of the former species, while the colouring of the leaves resembles that of *B. semperflorens* Vernon. The flowers, of a lovely rosy carmine, are freely produced in loose clusters and form a beautiful contrast to the dark foliage. The plants attain a height of about 12 inches to 15 inches, and are literally covered with flowers during the whole season without suffering in the least from cool and damp weather. It is useful for the flower garden and is also a good winter-blooming va-



Begonia Erfordia.

riety. The electro and the description of the plant were kindly sent us by Messrs. Haage and Schmidt, of Erfurt.

Azalea linearifolia.—This is a very distinct winter-flowering Azalea, and seldom seen outside botanic collections, as at Kew, where several fine plants are in the temperate house. It first flowered in England with Messrs. Standish at Ascot, and is a Japanese species, introduced about the year 1867. It is remarkably distinct, quite unlike the Indian Azaleas, the leaves linear and usually about 4 inches in length. The flowers are starry in expression, the sepals narrow, and the colour is soft rosy lilac, whilst the stamens are long, with the filaments rose colour. It is scarcely a species to grow largely, but is worth a place in all good collections for its delicate colour and freedom.

Double Poinsettia (*P. pulcherrima plenisima*).—This variety, which has in addition to the whorl of bracts round the terminal cluster of flowers a separate whorl of smaller bracts round each individual flower, is most effective, and it has the advantage of lasting on later in the season than the ordinary form. It is, however, rather a delicate subject, and to bring the heads of bracts to perfection, it requires careful attention. Early in the season the plants will grow nearly as well as those of the old form, but later on when they begin to show the coloured bracts they require more care. Careful attention to watering is one

essential, and a regular temperature is another important point. If not carefully treated, the flowers are apt to fall off while they are developing the bracts. A low temperature is almost sure to bring about the loss of flowers.—F. H.

The white Poinsettia is worthy of attention. This does not usually carry quite such large heads as the scarlet variety, but it forms a good contrast. Like the double form, it requires some care to grow it well. The stock plants should be started earlier in the spring than is recommended for the ordinary form. Strong cuttings being most desirable, the old plants should be potted in some good open compost, and grown on until they have gained some strength before the first cuttings are taken. The cuttings made from the long shoots must be cut off quite close below a joint, otherwise they will not callus properly. If the first cuttings do not succeed, the later ones will be all the stronger if the plants are allowed to get a good start.—F. H.

Tree Carnations.—In my notes on these I omitted to mention the new pink variety Mrs. Leopold de Rothschild. This appears to be a really good thing, the flowers being larger and a little deeper in colour than those of Miss Joliffe. Mlle. Thérèse Franco is another good pink variety of which I lately saw a nice batch in Messrs. Veitch's nursery. This has been awarded a certificate of merit by the Royal Horticultural Society. Mrs. H. Cannell is another variety worthy of mention. I have not seen this growing, but, judging from cut blooms, it is a fine winter-flowering variety.—F. H.

THE GIANT ARAD.

(*AMORPHOPHALLUS TITANUM*.)

A GOOD deal of interest was excited a year or two ago when this plant developed its evil-smelling spathe for the first time at Kew. As a fine-foliaged plant of large proportions and of some elegance of habit it will always be welcome wherever there is hothouse space for its development, but after the Kew experience perhaps the less often it flowers the better, seeing that the plant is almost unapproachable at that period of its existence. Another very interesting giant Arad is the *Dracontium* (*Godwinia*) *gigas*, a native of Nicaragua, this being in all probability the Giant Arum of South America, just as is the *Amorphophallus* of the Eastern Archipelago. The last named plant was discovered in Sumatra, and I recently came across a very interesting account of the plant as it exists in its native forests in Carl Bock's work on the "Head Hunters of Borneo" (pp. 189-190) that may be of interest to those who have grown or heard of this vegetable prodigy. The explorer Bock thus writes of it:—

In the damp and shaded places in the forest, where the sun's rays never penetrated, the giant flower, *Amorphophallus Titanum*, which Dr. Beccari had found at Ajer Mantjoer, grew in fair abundance. The natives here called it sikaribut, while at Ajer Mantjoer it was known as grubuc. The first specimen I saw was pointed out to me by a native, who carefully dug it up; it was a young plant, the bulb measuring 11 inches in diameter. The next was a mature specimen, but almost dead, with a straight stem 5 feet 10 inches high, and measuring $3\frac{1}{2}$ inches in diameter at the base, with a fruit resembling the ear of head of Maize, 25 inches long and 4 inches in diameter at the base, tapering somewhat towards the top; the stem was 1 foot in the ground, and the bulb measured 10 inches in diameter. Since then I have frequently seen the plant in different parts of the highlands of Sumatra, but the flower and fruit are rare. Of the former I have seen only three, and of the latter only five specimens. It quite puts the great *Rafflesia* in the shade. It grows to a height of from 5 feet to 6 feet, when it throws out three large leaves, which may almost be called branches from their size

and from the fact that they are covered with small subsidiary offshoots, which may be called leaves. The stem, which is cellular and contains a large quantity of water, is of a beautiful bright green colour, mottled with spots of yellowish white. Its growth is remarkably rapid. I have watched the young plant, and found it grow no less than 1 foot in two days, so that it attains its maximum height in about twelve days, when it stops growing, and the leaves or "branches" are formed. The flower, which always appears before the leaves, grows close to the ground, seldom more than 1 foot from the surface. It consists of a single petal, very thick and leathery, and of the colour of the red Cabbage. The three flowers that I have seen all differed in form. The fruit is a solitary oblong head, covered when ripe with rows of brilliant red berries to the number of from 420 to 440. The bulb sometimes attains enormous dimensions. At Ajer Mantjoer I have seen some gigantic specimens, one of them so large that it took five men to carry it from the forest to my hut.

After reading Bock's account, the idea has occurred to me that this species may naturally die soon after flowering and seeding, so great is the strain on the stored-up resources of the tuber. The allied *A. Revierii*, from Cochin China, has twice died after flowering here, but as it produces small tubers or vegetative offsets freely, this does not so much matter.

The blossoming of this giant *Arad* seems to be the result of several, even if not many, years of starch accumulation, just as it is in the case of the Sago and some other Palms, and with Agaves, Bananas, and plants of similar character. I believe the Kew plant of *Amorphophallus Titanum* died soon after it flowered, and this would seem to be an additional fact suggestive of its tubers flowering but once in the course of their existence. It would be interesting to know if the tubers of *Dracontium* and other large Aroids behave in a similar way.

F. W. B.

***Cordyline indivisa vera*.**—Purchasers of this should be careful, as some do not recognise the identity and distinctness of this plant, and send out *C. australis* under the name of *C. indivisa*, an experience that has recently happened to myself.—F. W. B.

***Rondeletia speciosa major*.**—This is a good old subject not often seen, yet well worth more attention than is usually bestowed upon it. Where flowers are required for cutting, a specimen of this *Rondeletia* trained up the back wall of a stove, if not too shaded, or in some similar position, may be relied upon to yield a greater or less quantity of bloom nearly throughout the year, and the neat little clusters of flowers are by many admired for button-holes and similar purposes. Besides this, good flowering examples grown in bush form are very pretty when in full bloom, and they retain their beauty for a long time. It is a plant of easy culture, for cuttings strike root without difficulty, and if the plants are stopped freely while young neat little specimens can be obtained. Red spider must be guarded against and a free use of the syringe will keep it down.—T.

***Phoenix rupicola*.**—There are few Palms more adapted for house decoration or for cultivating under cool conditions than *Phoenix rupicola*. I have a very handsome pair, besides several smaller plants, which have been used for house decoration off and on for the past six or seven years, and they are now without blemish, being in fact perfect. They are placed in the house for a week or ten days, and then removed again to the conservatory for a like period.—A. Y.

Varieties of *Salvia splendens*.—The typical *Salvia splendens* has been long a popular favourite, but within the last few years a dwarf variety has made its way into cultivation. Several notes on this form have from time to time appeared in THE GARDEN, and it is such a good plant that it would

be indeed difficult to say too much in its favour. Regarding these dwarf *Salvias*, it would, however, be especially interesting to know if there is any difference between the varieties *compacta*, *Bruanti*, and *La President*, for as far as can be judged without growing them all under similar conditions they are very much alike, if not actually identical. In addition to the typical form and its compact variety there is yet another—*M. Issanchou*—in which the blossoms are striped with white and red.—H. P.

***Fuchsia microphylla*.**—This tiny-flowered *Fuchsia* will in a warm greenhouse bloom well on into the winter, and, treated as the ordinary garden varieties, it is just as free-flowering as they are in the summer. A neat little bush about 18 inches high when laden with its pretty blossoms is very attractive, particularly so from its being very distinct from the *Fuchsias* in general cultivation. There is a second species of this class, viz., *thymefolia*, which is, however, a taller grower than the preceding, though the flowers are of much the same size. *F. thymefolia* may be employed for furnishing a column in the greenhouse if planted out, but *F. microphylla* is essentially a plant for pot culture. Both these small-flowered species are natives of Mexico, from whence they were introduced more than sixty years ago.—H. P.

CROTONS.

I QUITE agree with "Grower" in regard to the usefulness of the three *Crotons* he names (GARDEN, p. 484), yet I should hardly give these first honours, for there are others which colour equally well and are of a much better habit of growth. Taking Baroness J. de Rothschild, it is rarely one meets with this in a young state, except in long leggy plants, though the colouring is always exceedingly bright. For grouping, the tall plants may sometimes be used to advantage. In preference to the above I grow *Emperor Alexander III.*, which has larger leaves and makes a better furnished plant, while the colouring is even brighter. Single-stemmed plants may be used as table plants, and when they get too tall they are effective, especially for fire-place groups, or the tops may be taken off and rooted again. *Mortfontainensis* is another highly coloured and very useful variety. It is a good grower and may be relied on to keep its colour. Many of the *Crotons* are very sportive, but this is quite an exception. Of all the *Crotons* *C. Newmanni* has the most red in the variegation. It is, however, a bad grower and is apt to lose its leaves, but when well grown it is exceedingly brilliant, the whole surface of the leaves being suffused with a bright glowing red. *Musaicus* is another highly coloured variety, which may be recommended on account of its constancy. The leaves are strap-shaped, but rather short, undulated on the margin, beautifully veined and mottled with deep yellow, which changes to a bright rosy red. I prefer this to the old favourite *undulatus*, though when the latter is well coloured it is very attractive, but it is very much inclined to run out.

Those referred to above are more suitable for grouping. For table decoration those with the long narrow leaves are most appreciated. Of these *Countess* is one of the most desirable. It has long drooping leaves, pale green, veined and spotted with yellow, which colour it retains. Of those which change to red there are none to surpass the old *majesticum*, which, when propagated from well-coloured tops, makes a very handsome plant. *C. Warreni* is one of the most elegant, but, as "Grower" states, it is only when grown with a single stem that it is seen at its best. I have never seen it in finer condition than when it was exhibited in the spring of 1880, on which occasion a first-class certificate was awarded to it by the Royal Horticultural Society.

With regard to the usefulness of *Crotons* for decoration, I think few estimate them at their proper value. Plants taken from the stove, especially while making growth, last but a short time; but take plants with matured growths and gradu-

ally harden them off, and they will last for months. As an instance of this I may mention that Mr. J. Wills once while speaking of their value told me that he had had some in a window box which had kept in good condition throughout the summer, and at the end of August they were still looking well. The sorts were *Disraeli*, an old favourite, and *Andreas*, referred to by "Grower." F. H.

***Aphelandra nitens*.**—All the *Aphelandras* are very pretty flowering plants, whose bright coloured blossoms are borne at almost all seasons of the year, but at no time are they more valuable than during the autumn and winter months. A very distinct species is *A. nitens*, a sturdy-growing form, with stout, leathery, ovate leaves, deep glossy green on the upper surface and purplish underneath. The large showy blossoms, of a glowing vermilion-scarlet colour, are borne in terminal spikes, as in most of the others. Besides this, especial mention may be made of *A. aurantiaca* and its variety *Roezli*, *A. fascinator*, *A. Leopoldi* with yellow blossoms, *A. cristata*, and *A. Chamissoniana*, whose flowers are of a distinct shade of chrome yellow. Both in this last and *A. Leopoldi* the showiest part of the inflorescence is the large bracts which subtend the blossoms, and in some cases nearly hide them, for these bracts are coloured very much as the blossoms themselves. From a foliage point of view alone most of the *Aphelandras* have much to commend them, for in *Roezli* the dark green leaves are shaded with a peculiar silver hue, *A. fascinator* has the foliage banded with white, the large leaves of *A. Leopoldi* have the course of the principal veins marked with a broad band of white, and in *A. Chamissoniana*, or *punctata*, as it is at times called, the narrow, deep green leaves are banded and freckled with silver. All the *Aphelandras* are of easy culture, and they can be readily increased by means of cuttings, or in some cases seeds. Old plants are apt to run up tall and naked; therefore a succession of young ones should be kept up, and they can then be grouped together as required.—H. P.

Carnations at Gunnersbury Park.—The *Carnation* is largely grown for winter flowering at Gunnersbury Park, and one house is wholly filled with the variety *Mrs. Leopold de Rothschild*, which, it may be interesting to mention, is a cross between *Miss Joliffe* and the old crimson *Clove*. The flowers show the parentage; they open of quite a salmon-rose, but chiefly more of a clear rose shade, and both colours are pleasing, whilst as a rule they do not split. This houseful of them has provided bloom for several weeks past, and is still gay. As regards habit, it is compact, free, and vigorous. Three other good kinds made note of were *Lizzie McGowan*, pure white; *Irma*, brilliant rose; and *Mrs. A. Hemsley*, of a fine deep crimson colour, not unlike the old *Clove* in this respect. We wish, however, the winter-flowering *Carnations* were more fragrant. Some have positively no scent at all, but by getting crosses with the old *Clove* this great failing may be remedied.

KITCHEN GARDEN.

SEED POTATOES.

It has long been regarded as one of the settled axioms of Potato culture that as seed, whole tubers are a long way superior to those which have cut surfaces, and that in no case should cut sets be used, except on an emergency, when only large tubers can be obtained for planting. Generally it is found that gardeners who save their own seed do select early and when most convenient not by any means the largest, but good medium-sized tubers, with a view to secure the greatest number of sound healthy plants and the least possible waste. Good seed houses do the same, and so far as possible make their

seed selections accordingly. Market growers and farmers take less pains; indeed, their methods in relation to seed storing for the winter, usually in clamps or pits, allowing the tubers to make more than one premature growth, and later because the sets are often large, cutting them into three or four pieces, are still as crude as they were fifty years ago. It is very hard indeed to make much impression on that particular field class of growers. They are so much outside the influence of the horticultural press, and therefore have less appreciation of better methods. One of the great faults of our existing stocks of Potatoes is that they produce too large tubers. The common desire, of course, is to fill the bushel as quickly as possible, and the bigger the tubers the sooner is that end obtained; but large tubers have inferior merit as food and they are a great trouble and a nuisance as seed. Could we clear out the bulk of our present too large-tubered stocks and replace them with a section that gave not less weight in a greater quantity of tubers of more even and useful table size, the gain would be great. Very often some sorts give few or none of what may be called useful and fitting seed tubers, and large ones, perforce, have to be employed. It is in such a case really worthy of consideration whether it would not be wise to grow expressly for seed a moderate breadth of the variety in poorish soil, as in that case a rounder, harder, and more useful class of tuber would result. It does seem possible that what is so desired may some day be secured, but, all the same, the attention of raisers may well be directed to this need, especially as it opens up a wide range in which new varieties of Potatoes may be utilised. It is true that now our present stocks may be very much modified if we would be content to grow them under less gross conditions. We give the crops too much of nitrogenous manures, which generates gross haulm and huge watery tubers. Were poorer soil utilised, and only phosphates and potash as manures, the result would be apparent in the direction of securing more starchy tubers and of more equable size. In relation to the proper size of Potato sets, I was a good deal interested in reading the other day a protest against the advice or practice to limit the stems or shoots of seed Potatoes to one only, on the ground that it restricted the root produce, as several stems must be so much more productive. That was not the assumption of a practical man, because experience has over and over again shown that single or, at the most, twin-stemmed Potato plants produce a far more even and heavier crop than do plants having several stems. Ample room, light, and air for the tops are as essential for tuber-development as are any other requirements, and these advantages are far more fully secured when the stems are nearly or quite single than when crowded. To secure this desideratum there is no better method than selecting moderately sized tubers for seed at the time of digging, putting them away into open airy sheds or outhouses to harden, being laid out thinly, and then for the winter keeping in cool, equable, though frost-proof sheds, either laid out on shelves or in shallow boxes. There is no possible method of keeping seed tubers superior to this. So long as the place is dry, cool, and airy, it does not matter if the tubers of the earliest varieties do make growth. At the most in such case it will be limited to the strongest crown, bud, or eye, and so long as the tubers are dry, that shoot, if in ample light and air, will not push beyond an inch or so even if it lies there for months. The one shoot thus exhausting the seed

tuber's store of nutriment leaves little for the starting of other eyes, so that disbudding is seldom needed. It is when larger tubers are employed, each eye or bud having its own reservoir of nutriment, that several shoots are developed and disbudding is needful. I have long entertained the belief, and it is really a question in plant or tuber physiology, that any one bud can exhaust only the special reservoir of sap that is associated with it. Hence we find that a comparatively small, sound, well-matured set will throw as stout a shoot as will a tuber of three times the dimensions. That fact serves to show how wasteful is the practice of planting large tubers. There is an impression that large tubers are needful for seed when it is desired to keep a strain or stock of Potatoes up to the standard of merit. That is not so. If the smaller sets be selected from a good stock there will be no deterioration, but sets from inferior roots should always be rejected. A. D.

Colewort.—Colewort, or Collet, is, no doubt, a distinguishing name for a small Cabbage, and what is known as the green Colewort is one of the most useful of winter greens. In Scotland, Colewort appears to be synonymous with Kale. How the Colewort originated is not stated, but the common name may perhaps be taken as distinguishing a class of Cabbages eaten before the heads are full and close. Judging from the extent to which some London market gardeners are planting the green Colewort, it may be taken as representing a remunerative crop. Land that bore Scarlet Runners, Lettuces, Cauliflower and other crops has recently been ploughed and manured, and plants of good size put out by the thousand. Plants put out in July may be said to have stood still for a time owing to the drought, but as soon as rain came they started into growth, are now heading in rapidly, and will soon be in the market—at least when the sale of Brussels Sprouts begins to slacken. Coleworts furnish what is known as bunched greens, and as the plants are pulled when the heads are young and tender and not cut, as is the case with ordinary Cabbages, they are tied up in bunches by the stalks, six or so forming a bunch, a custom which gives rise to the term bunched greens. A good stock being of a dwarf and compact habit of growth, the plants are put out so closely, that they touch each other when fit to pull, and thus an acre of ground will hold a large number of plants. Those who grow Coleworts largely make two sowings; one in April or May, or earlier, and another in July and August. There is no advantage in sowing too early, as the value of the Colewort is when winter greens are scarce. The Colewort is a very hardy vegetable, and stands the severe weather as well as any crop of winter greens. What is known as the Rosette Colewort is a selection from the ordinary green, and produces its leaves in the form of a rosette. It was put into commerce by the late Mr. Charles Turner a quarter of a century or more ago. Some market gardeners prefer it to the old type; others the latter. But the common Colewort will frequently take on the rosette form, and the rosette will revert to the older type. When young and tender the Colewort is greatly esteemed.—R. D.

Improved Round-leaved Batavian Endive.—There has been considerable progress made of late years in the varieties of Endive as regards hardiness and flavour. From close observation the above variety is the best. It differs but little from the ordinary kind known as broad-leaved, but is more compact in habit with less stalk and more leafage, and is not bitter, like the older variety, possessing a flavour more like Cabbage Lettuce. Of course with Endive hardiness is important, and this is far superior to the curled varieties on that account, as it stands severe cold if planted on a sloping warm border and protected during severe weather. This variety will give a late supply, and if a frame can be spared and the plants lifted with a ball there

will be no lack of Endive through the winter months. For the winter supply, sowing the second or third week in August is quite early enough if a good position can be afforded the plants afterwards. Thin sowing is important, as crowded plants are more tender and rarely survive the first frost. Sturdy plants are wanted for late planting.—G. WYTHES.

Jerusalem Artichokes.—The crop of Jerusalem Artichokes promises to be very large. The first root I lifted this year had a very large and almost solid lump of tubers, which were quite difficult to separate, so tightly were they packed together. Big and small they numbered fifty-seven; they almost filled a peck measure when picked and free from dirt and weighed 10½ lbs. The tubers are very clean and free from coarse roots. The past summer has suited the plants admirably, for nearly every head has flowered, and several of them have opened from three to five flowers each. I grow these Artichokes in fairly deep, but poor soil, and use nothing in the way of manure but some light hotbed stuff—mostly decayed leaves. A bit of ground sloping sharply to the north is devoted to their growth, and they give heavy crops from the same plot year after year.—J. C. TALLACK.

Storing seed Potatoes.—The practice adopted by many Potato growers of allowing the seed and refuse to remain in bags or heaps until the wet weather sets in and time can be spared to sort them over cannot be too strongly condemned, as during the interval heating often occurs, followed by premature sprouting and a loss of vitality. If more attention were paid to this matter, crops would make a better stand against the inroads of disease should a dull and humid summer ensue.—J. CRAWFORD.

SOWING EARLY PEAS IN AUTUMN.

THE sowing of early Peas in the open ground is attended with so many risks that fewer are sown than formerly, when glass was less plentiful and one had to rely upon early or autumn-sown Peas for the first supply; but even with sowing under glass there are failures. These mostly occur through excess of heat, want of light and air and from the roots being crippled in their early stages. With proper attention (not forcing) there will be a good return and the produce earlier than when the seeds are sown in the open in November. Sowing should not be deferred after the first or second week in December. To get the best results, time and as little heat as possible are necessary. I prefer larger pots than are often employed, not less than 4½-inch pots. This was referred to last year in THE GARDEN, and I am pleased to see other cultivators consider it good practice. I do not attach so much importance to variety as some persons, as it all depends when the Peas are required and if a succession is wanted. If the latter, I advise two kinds—an early and what is termed a midseason or general crop variety, which will form a succession and give a larger crop than the earlier kinds. I do not recommend the small white round Peas, the pods of which come so very small that they do not pay for room occupied. I would advise a green wrinkled Pea with some marrow blood in it. For outside sowing the small type without any of the marrow strain is hardier, but for sowing as advised in this note, with shelter provided for ten or twelve weeks, there is less need of such Peas. For the past two years I have sown a large variety (the Duke of Albany) at this date, and it is only a few days later than the smaller kinds. By sowing a large kind there is a greater yield and the Peas look better on the table. Large Peas may be objected to on account of height, but this does not apply to Peas raised in pots, as they are dwarfed by the process, and if they are too tall they

can be topped. Duke of Albany with me last April when in full bloom was not more than 2 feet high, and planted much the same as the dwarf kinds 3 feet apart on a south border in front of some fruit houses. Our earliest or small kind was Chelsea Gem, an excellent kind, larger and superior to American Wonder. I also like William I., but Chelsea Gem is a few days in advance and much dwarfier, allowing a row of early Lettuce between the rows. As previously stated, I like 4½-inch pots for the small kinds, and even larger or 6-inch for the Duke of Albany, using good yellow loam with some spent Mushroom manure and free drainage. I sow thinly and not deep, having made the soil firm to encourage sturdy root-action. Little water will be required if the soil is moist till the seeds germinate. I stand the pots in cold frames, placing the pots near the glass as the Peas come through the soil, and covering at night. To retain moisture and induce early germination, a covering of cocoa fibre over the pots after sowing is beneficial. Peas sown in this way have many advantages over those raised in heat. They are much dwarfier, they do not suffer when planted out, as they are sturdy and soon come into bloom. The larger pot allows of more roots, which, if slightly opened out when planting after removing the drainage, soon take to the new soil. Having been thoroughly hardened by the removal of the lights when in the frames, they may be planted early in March without any fear of collapse. Peas raised in this way give little trouble, and come in most acceptable weeks in advance of those sown in the open in February.

G. WYTHES.

THE PROTECTION OF CELERY.

It would be both instructive and interesting if cultivators would give their experience as to what extent protection to Celery is needed, or if at all. According to my experience the decay of Celery is more often than not due to other sources than frost. During a severe or prolonged frost a little protection is of great assistance, but the continual covering and uncovering of the rows which some people subject their Celery to cannot but be positively injurious. It is very annoying after trouble has been taken to have good Celery to find that at midwinter the greater part has decayed. There is no doubt that the form of earthing which is adopted has much to do with early decay. By earthing too early, the blanching is done much too soon; consequently after a time decay commences, let protection from frost be ever so efficient. I have noticed in Celery that is over-protected that fermentation sets in through want of air and close confinement. Celery, however, to keep well must be well moulded up. A careful workman will see that this is efficiently done, the sides well sloped up and made fairly smooth, the soil being also well worked around the tops of each plant, which should, when earthing is finished, be exposed about 6 inches. Heavy coverings of litter or Bracken laid along the tops of the rows cannot but have an injurious effect, and late Celery will be in a worse condition at the turn of the day than even if left freely exposed.

I find the best plan, if the weather should become unduly severe and there is no covering of snow, is to lay some dry litter or Bracken Fern along the sides of the rows and then to shake a little of the very lightest and driest loosely along the top. If a heavy covering be put on and snow were to follow directly afterwards, it would lie very close, and afterwards when a thaw set in, it would become a wet and sodden

mass, and the Celery would suffer accordingly. Damp is the worst enemy to Celery. I may be wrong, but I am of the opinion that Celery will suffer more than usual from damp this season on account of the very open weather which we have experienced. Whatever form of protection is used it must be so arranged that both light and air can have free access. Covering over with a cap by having two boards nailed together thus \wedge has been frequently recommended. This season, if occasion should arise, I shall use a covering which builders place along the tops of walls for keeping out wet and frost. Instead of being of wood it is made of corrugated zinc. This being fixed so that the tops of the Celery are not bent over, there is no danger of either light or air being excluded. In time of severe frost with a covering of litter along the sides so as to facilitate digging up and a little laid over the opening, I do not think there will be any fear of injury either from frost or damp. Celery that has been forced into a coarse growth by heavy applications of liquid manure and the too free use of artificial fertilisers will be the first to succumb.

A. Y. A.

Brussels Sprouts.—Whilst all who have grown what Mr. Wythes terms large or coarse varieties of Brussels Sprouts in gardens must admit that they are not suited for the deep rich soils of such places, I have found them to be first-rate for field culture; indeed they are very popular with the market growers, because under their somewhat rough-and-ready treatment these large sprouted forms come of medium height and size and are very solid, still further come very true, and give good hard sprouts right up to the last. These forms have undoubtedly helped to make Brussels Sprouts cheaper and more plentiful, but then they are all the more profitable. Without doubt Brussels Sprouts become not merely strong growers, but strong in flavour when grown on deep rich soil. Field ground is rarely ploughed deeper than 10 inches, but of course it is well manured. Still the ground invariably becomes hard, and because the base, too, is hard, the soil is so very different from that ordinarily found in gardens where it is trenched 3 feet deep. Here the plants will run up to 4 feet in height. I once saw a batch that had been sown where to grow and were then thinned out. The rows were 3 feet apart. This was at Heckfield, and Mr. Wildsmith determined to test the capacity of the Brussels Sprouts under this kind of treatment. The result never justified the pains thus taken, for the stems were of exceeding dimensions, the height proportionate, the leaves of enormous size, and the sprouts really like young Cabbages. The practice was not repeated. Still some gardeners raise their plants under glass that they may have them strong to put out a month earlier than they can be got from outdoor sowings. I have never seen any gain attached to that practice, as no one wants Brussels Sprouts in September, or indeed until the weather is getting cold. The market grower sows his seed in the open early in March and puts out his plants in June; they develop into stout, hard stems 2 feet in height, and have literally masses of very hard green sprouts all up them.—A. D.

Cypripedium microchilum.—The charming group of Lady's Slippers formed by *C. niveum*, *concolor*, *Godefroyae*, and *bellatulum*—the gems of the Cypripediums—has not yet been used to any great extent by hybridisers, that is, compared with some other species. The number of hybrids possessing their blood is, however, being constantly added to, and, judging by the beauty and distinctness of those already raised, we may expect further good results. *C. microchilum* was raised by Mr. Seden from *C. niveum* and *C. Druryi*, and first flowered with Messrs. Veitch about eleven years ago. A plant in flower was shown by that firm at the last meeting of the Royal Horticultural Society. It is of dwarf, neat habit, with strap-shaped tessellated

leaves. Although showing unmistakably the parentage of *C. Druryi*, the influence of *C. niveum* strikes one as more apparent. The lip, as the name implies, is remarkably small, and both it and the lower sepal are of a porcelain white; the petals and the upper sepal are also white, but spotted with black-purple, a streak of purple also running down the centre of each. This purple streak is much more marked in *C. Druryi*, and is the most distinctive feature of its flowers.

GARDEN FLORA.

PLATE 939.

"BREEDER" FORMS OF *T. GESNERIANA*.

(WITH A COLOURED PLATE.*)

FLORISTS' flowers may be considered from two standpoints—from the florist's one and from that of an artist. The florist's and the painter's opinion of beauty will scarcely ever be the same; the florist mostly loves regularity, fulness, and in too many cases stiffness; the artist likes loose arrangement, peculiar irregular forms and fantastic colouring. The plates of THE GARDEN are all made by artists, who figure florist's flowers without troubling themselves very much about the florist's manner of looking at a plant. As I like truly artistic painting, I am a great admirer of THE GARDEN plates in general, but being a florist I look at a flower also from another point of view, and as a florist I sometimes consider THE GARDEN plates not as I think they might be.

[There is only one way to true art in this matter, and that is what is done for us—to draw what the artist has before him. This was done. The stems lost their rigidity on the way from Haarlem.—Ed.]

The figure of a plant or flower, as far as possible, should suggest some idea of the character of the whole thing, representing it in its natural position and as it is seen in the field or wherever it may be grown. I confess this is a very difficult matter in many cases. Take, for instance, these Tulips. They may be considered as florist's flowers, although they are neither regular nor stiff, and if the artist had seen them in the field he would not have figured them looking you in the face, as they never do in the field. The Darwin Tulips always stand quite erect in their high iron-like stalks. They may be rocked by the wind, they always return to their old position, and as they are the tallest of all garden Tulips, you do not see them from the inside, but rather from the outside, as a rule.

The artist, however, has arranged the cut flowers we sent him in such a way that the flowers look you straight in the face. He no doubt had his reason for doing so, and I suppose he did so, being struck with the particular beauty of the base of the inside of the flowers, the colour of which, as a rule, contrasts in a remarkable manner with that of the other parts of the flower. Not all varieties of Darwin Tulips show blue bases in the flower, many of them being of a pure white. We sent flowers of both groups, those with the blue base being selected by the artist for reproduction. This fact proves that there is a great difference in judgment about flowers when drawn by an artist not being a florist. The latter invariably prefers Darwin Tulips with white bases; the former seems to prefer those with coloured bases. Darwin Tulips are, as it is well known, a race of breeders, and as, according to English florists,

* Drawn for THE GARDEN by C. Jones from flowers sent by Messrs. Krelage and Son, Haarlem, April 7, 1893. Lithographed and printed by Ben George, Hatton Garden.



FORMS OF TULIPA GEORGINA

unaw set in, it would become a wet and sodden | of dwarf, neat habit, with strap-shaped tessellated | Hatton Garden.

those with white bases produce better "broken" varieties, they prefer the same, considering no other self-coloured varieties worth growing. There is no reason at all for such exclusiveness. The Darwin Tulips give excellent broken varieties, but they have not been offered in the character of breeders, as they have proved to be so very valuable for bedding before being broken; indeed, no other strain of breeders can rival them in glowing, dazzling colours, and as it takes a rather long period for them to break, there will be found perhaps one broken flower in a lot of 1000, which, of course, does not spoil the effect of the bed.

The Darwin Tulips, as has been stated, are late-flowering breeders. They originated mostly in French Flanders, which for a rather long time has been the centre of amateur Tulip culture. The last amateur collection to be found in that country, being one of the most renowned ones, was purchased by our firm, who have since introduced the varieties into the gardens both of Europe and America. I hope to have an opportunity of giving a description and history of the broken Flemish Tulips later; about the self-coloured breeders there is not very much to be said. Among the most meritorious varieties may be mentioned the following, viz.:—

André Doria, brownish black; Beyerinck, lilac; Charles Darwin, light bluish violet; Edmée, lilac, bordered lighter; Faust, violet-black; Hitchcock, dark carmine; Hoola van Nooten, lilac-violet; La Candeur, light coloured, white in the centre; Laurentia, carmine; Mrs. Stanley, rosy pink, with whitish centre; Nauticus, glowing claret-violet; Parthenope, lilac-red, bordered lighter, white in the centre; Pauline, rosy violet; Peter Barr, glowing dark violet; Prof. Michael Foster, dark carmine; Prof. Sargent, bright red with violet reflexion; Reine Wilhelmina, soft rosy white; Rev. D'Ombrain, brownish red, large violet basal blotch, bordered with white; Réville, lilac, basal blotch white, bordered with light blue; Schoubert, brownish black; Sieraad van Flora, violet; Stanley, dark violet-red, white basal blotch, bordered blue; Theodoor Jorissen, bright violet; Van 't Hoff, bluish violet, with white centre; Whistler, dark brownish red, small violet blotch, elegantly bordered with white; Mr. J. G. Baker, carmine; Panopia, cherry-red, tinted with lilac; Sarah Bernhardt, purplish carmine; Sir Dalton Hooker, brownish red; Souvenir de Douleur, greyish lilac; Vespuccio, dark bluish violet; La Tulipe Noire, the blackest Tulip of all.

All the varieties named above have been awarded first-class certificates by the floral committee of the Royal Netherlands Horticultural and Botanic Society. This fact deserves special mention, as the flowers were judged by a special Tulip committee consisting of the best Dutch Tulip growers. About two dozen other varieties gained second-class certificates, but I do not give a list of them, as I think the above selection sufficient. Although the range of colour may be considered by some as somewhat limited, the yellow being entirely missed in these varieties, on the other hand, it is safe to say that no more dazzling scarlet nor more absolute velvety black flowers can be found in the vegetable kingdom than may be found among the Darwin Tulips; such colours as purple, mauve, crimson, rose, and vermilion are exceptionally abundant.

They may be treated in the same way as other garden Tulips. They are quite hardy in our climate, and the only care necessary is to guard against the early night frosts in spring. The flowers are at their best about the middle of May when the early Tulips are over, and when it is too early for the soft-wooded plants to be brought out of doors. They then fill up

a blank in our gardens, and under these circumstances undoubtedly will be very useful, being especially effective when seen at a distance.—ERNST H. KRELAUGE, *Huurlem*.

* * These are self-coloured forms of the well-known common garden Tulip, the parent of our florist or late-flowering Tulips as distinguished from the bedding or early-flowering forms. They were called "breeders" because they are those from which the florist varieties generally break. Confusion must arise from giving a new general name to a group of forms of a well-known and very old species, as to which there was no confusion necessitating a new group name.—ED.

THE WEEK'S WORK.

ORCHIDS.

THE weather is now exceptionally mild for the season, and as long as this lasts there will be no difficulty in keeping the plants in good condition, for during the whole of November there was nothing like fog in the air. We may have very cold weather soon, and to counteract the effects of the pipes being constantly well heated, let sufficient water be sprinkled on the paths and upon the stages under the plants. Some good growers recommend filling the evaporating troughs with water, but I do not, for when the pipes are well heated the water is being given off in the form of vapour quite visibly, and this being continued night and day causes the house to be too much filled with moisture, and in the morning the foliage of some of the plants may be found covered with damp. Those plants that are well on the moist side at the roots will show it to the greatest extent. Probably the reason why it does not show to the same extent upon plants that are at rest is because the leaves have absorbed the moisture and may have caused material injury to them by promoting growth when they should be quite at rest. There should be no condensed water on the leaves at this season of the year. It is quite impossible to give definite directions as to watering. A hygrometer is a useful instrument in a house, and in that case it is easy to gauge the amount of evaporation, which should range from the saturation point after damping down to 6° or so above it. In the cool house it should range very little above the saturation point. If the weather is mild there is not much difficulty in opening the ventilators sufficiently to admit all the air that the inmates of the houses need. A good test to show whether the ventilators have been opened too much is found in the sudden falling of the temperature. This ought not to happen. In the morning, instead of the temperature falling after the ventilators have been opened, it is better that it should rise, and if this does not happen, see that it at least does not fall. In the event of very severe weather setting in, it may only be possible to ventilate a little about mid-day, and this in the most careful manner. I have before shown how the air can pass into the house over the hot-water pipes before it reaches the plants. Of course, the wall ventilators may also be covered with perforated zinc, which would still further break the current of air, and cause it to filter more slowly amongst the pipes. The stages in all our houses are of iron framework, upon which are placed slabs of slate. The slabs are covered with shell gravel, and each Orchid all through the houses stands upon an inverted flower-pot. Economy in fuel and efficient heating should be, and may easily be combined. It is important that stoking should be entrusted to a careful, thoughtful man. Some young gardeners have not much thought beyond filling the furnace choke full of fuel, and if the temperature is low they pull out the damper, and if it is high and inclined to rise they push it in. I do not say that it is not necessary sometimes to well fill up the stokehole furnace, but as a general rule it is an error to do so. If the houses become overheated

with a moderate fire, it is easy to damp down with ashes, and by pushing in the damper the temperature will soon be at the desired point again. This error very often occurs early in the morning. It is found, perhaps, that the temperature is too low, and in the face of this the outside temperature is at daybreak usually falling to the lowest point. The nervous cultivator rushes to his furnace, stirs up the fire and crams it full of fuel; but this is a mistake. If the fire is low, as it is likely to be, a large quantity of fuel will not get up the heat so quickly as a small quantity, and when the heat does get up later, the stoker has not much control over it, and may have to draw some of it out because he has not only been too late in heating his pipes, but has made them too hot. The right thing is to make up a moderate quick-burning fire. By the time the heat is up to what it ought to be, the fire will have burned low and can be made up according to the outside temperature. On a dull, cold day the fire might require to be well kept up, but if the sun breaks out, less might be needed.

At present the East India house is very attractive with a profusion of bloom upon the Cypripediums. The very pretty species *C. Spicerianum* is in full beauty, and it is interesting to note what a very large number of garden varieties has been raised from it. About three-fourths of the new varieties exhibited before the Orchid committee of the Royal Horticultural Society are its progeny in the second, third or fourth generations, and the further they are removed from the original source the less attractive they are. Crosses have been obtained from *C. Lathamianum* and from *C. Lee-anum*, but the best varieties of these two, which are, as is well known, crosses from *C. Spicerianum*, are still unsurpassed. The recent importations of *C. insigne* have given some distinct and very fine varieties besides the well-known *C. Maulei*. Free-growing species and varieties are best for seed-bearing parents, and poor growers should not be chosen for this purpose. It is better to use them as pollen-bearers and get the seed from varieties that will not disappoint us. J. DOUGLAS.

HARDY FRUITS.

MEDLARS.—Medlars are appreciated in many establishments, and might well, therefore, be more generally grown. They are mostly of a low, spreading habit of growth, and may well be grown as standards in plots outside of the garden walls where possible. Bullfinches are very partial to the flower-buds, or otherwise it is doubtful if failures to crop well would ever occur. Almost any kind of soil appears to suit them—at any rate they are not any more fastidious in this respect than the commonest of Pears. Dutch or Monstreus gives the largest fruit, but the quality is not particularly good. This variety is occasionally to be seen growing against a moderately warm garden wall, the trees under these conditions producing superior fruit very freely. The fruit of Royal is of medium size and more briskly flavoured than the Dutch, while the small-fruited Nottingham is the best flavoured of the lot, this variety also being a heavy cropper.

MULBERRIES.—These, again, are somewhat neglected, very few young trees being seen other than in nurseries. Large well-ripened fruit can be had during most seasons from medium-sized to large trees. Lawns or pleasure grounds would appear to be the proper place for Mulberries. In cultivated ground the trees are apt to grow too rankly to be productive, and in any case the trees afford too dense a shade for anything to grow freely near them. Grass also saves the fruit when it falls, as it is very liable to do directly it is ripe. The Large Black, or *Morus nigra*, is the variety principally grown. Any light loamy soil suits the trees, the latter being trained to a single stem with a view to having them as standards. Any branches that are inclined to take too strong a lead may well be shortened back, but, as a rule, very little pruning other than thinning out occasionally is needed, the trees being naturally of a branching habit of growth.

QUINCES.—These will thrive and do well where few or no other kinds of fruit can be profitably grown, viz., in low damp places, and in particular round the edges of pools, open springs, and such like. There is a fairly good demand for Quinces in the market, and most housekeepers know how to put the fruit to a good use, Quince jelly being greatly esteemed. The trees can also be grown as pyramids and bushes under the same conditions as Pears, but standards and half standards planted in the positions already indicated or in outside garden plots are the least trouble, and generally the most productive. They are principally propagated from suckers, which are plentiful enough about old trees, bushes and pyramids being formed in exactly the same manner as Pears are framed out, and standards are obtained by training up the leading growth and restricting the side shoots till the required height is reached, one or at the most two topplings being about all the further trouble necessary. The Apple-shaped Quince and the Pear-shaped are the varieties most generally grown, both being very prolific.

FILBERTS AND COB NUTS.—Some of the very finest clusters or bunches are obtained from large bushes growing on a rather strong clayey loam, and trained and pruned very much after the manner Red Currants are treated. This is the Kentish fashion, but very good crops of fine nuts can be had from bushes or trees rooting in almost any kind of soil and with little or no pains taken with the pruning. Where shelter trees are provided either for orchards or gardens, an inner line may well be formed of Filberts and Cobs, these also being all the more likely to bear well if somewhat sheltered during the flowering period. Under orchard culture pruning being practised every spring, the bushes should be planted 12 feet apart midway between the rows of standard Apples and Pears, and they may also alternate with trees of the two latter in the rows. Any that are intended to grow unrestricted should have more space, a distance of 18 feet apart being none too much. The start is usually made with strong suckers, of which there is always abundance being formed. These are topped at a height of 2 feet, with a view to having bushes or trees with a clear stem, and a good foundation will be laid by shortening back the young shoots during the next two winters. The Kentish bushes are gradually built up, as before stated, very much as basin-shaped Red Currant bushes are formed. Bushes and trees in a bearing state should not be pruned till it is seen where the most blossoms are produced, the value of a good supply of male flowers or catkins not being overlooked. Stunted old trees that have ceased to produce good crops of nuts may well be cut or sawn off well back to the main limbs, and this will be followed by a plentiful growth of young shoots, which should be thinned out freely at the next winter pruning and then be allowed to branch naturally. Thus treated the trees soon become productive, the nuts being in great bunches. Some of the best varieties are Prolific Filbert, Kentish Cob, Webb's Prize Cob, Cosford and Duke of Edinburgh.

WALNUTS.—Large old trees of these are gradually becoming scarcer, and to all appearance planting has been discontinued for many years past. Instead of so many forest trees being grown in the vicinity of private residences and farmhouses, their places would have been more profitably occupied by Walnuts and, in the more favoured districts, Spanish Chestnuts. The fact of the trees being a quarter of a century before they produce heavy crops of nuts ought not to deter planting any more than it does in the case of Oak trees. Something ought to be done towards benefiting future generations, even if only out of gratitude for what our forefathers did. Standard Walnuts are suitable for lawn trees as well as for planting in paddocks and parks generally. Comparatively small trees of Dwarf Prolific will bear freely, while the best for growing into large valuable trees are Thin-shelled and Common.

SERVICE OR EDIBLE CHEQUER.—In Kent and Sussex large old trees of this native fruit are to be found growing wild, presenting both a distinct and

ornamental appearance. The fruit is freely produced in flat bunches and has to be kept and otherwise treated similarly to Medlars, being preferred to the latter by many who have an opportunity of tasting them. This member of the Pear tribe, again, is well adapted for planting in large pleasure grounds, in hedgerows and mixed groups of forest trees. W. IGGULDEN.

THE KITCHEN GARDEN.

POTATOES IN POTS.—It is too early to force Potatoes by the aid of hot-beds; consequently where young Potatoes are required early in the season, it is much better to grow them in pots. A sufficient number of sets of either Sharp's Victor or Mona's Pride—these being the best for forcing—should be started into growth. Place them in a shallow box upon a layer of flaky leaf-soil, with a little sprinkled between. These, if placed in a warm house, exposed to the light and kept fairly moist, will soon produce some strong sprouts, which must be reduced to one or at the most two to a set, when the tubers must be potted. Nine-inch or 10-inch pots are the best, these accommodating two sets. The pots must be efficiently drained. The soil, which should consist of about three parts turfy loam, adding to this some Mushroom bed manure and burned refuse must be kept fairly moist and the pots be well exposed to the light, or the growth of the tubers will become drawn.

SEAKALE CUTTINGS.—Seakale that has been raised from cuttings is the best for forcing. The best cuttings are formed from the thong-like roots which strike out from the base of the older root-stock. Therefore, as the roots for forcing are being taken up, take particular care that these are not broken. Those the size of a small finger form the best, these being cut into 5-inch or 6-inch lengths. On no account must these be placed where they can have the least warmth, or the buds will start. Either tie up in small bundles or lay them in rows in soil in a cold frame or light shed, just leaving the tips exposed. In this position the ends will callus over and buds be formed. These will start into growth directly they are planted in the spring. The Lily White should be increased as much as possible, this being a variety of good quality when cooked, and also more suitable for very early forcing than the older kind.

FORCING FRENCH BEANS.—For forcing French Beans during the winter months a very light and efficiently heated structure is necessary. Nor must too large pots be used, 7-inch or 8-inch being quite large enough. The best variety for forcing at this season is Osborn's Forcing, this being a free bearer and also of compact growth. The pots must be efficiently drained and the soil used in a fairly moist state, so that when the seed is sown no water will be needed until it germinates. The pots should be filled up at once, as leaving a space for earthing is a needless proceeding, and at this early date causes the stems to decay. The seeds must be covered about 1½ inches. The pots can be stood close together in any position where they may receive the benefit of a little extra warmth, so as to ensure more speedy germination; afterwards they may be placed well up to the light. A night temperature of 60° to 65° is sufficient, allowing a natural rise by day. Water will have to be carefully applied at all times, but more especially during the early stages. Any attempt at gorging the plants with liquid manure must be avoided. Not until the pots are well filled with roots and the plants in need of support must this be given, and then only occasionally and in a perfectly clear state.

IMPROVING SOILS.—This cannot be better attended to than during the present season, or at any favourable time throughout the winter. Where there is a large stretch of ground I have found it of great advantage to spread a layer of litter over the surface. The past season has, no doubt, shown the want of the improvement of the soil which is needed by the crops being in a state of collapse, and this owing to the want of a fair depth of favourable soil. Old garden refuse, burned or otherwise,

any kind of manure, road scrapings, and such like material should be freely worked into the soil. Poor soil should never be brought to the surface, but be improved where it is by forking in the materials above named. Do not work over the ground if at all wet and sticky, or try to improve it by merely trenching, that is, turning the top soil to the bottom and placing the bottom uppermost, unless this latter should be known to be fertile. In this case bastard-trenching is the best.

A. YOUNG.

PLANT HOUSES.

STOVES.—TEMPERATURES, VENTILATION, &c.—Thus far we cannot find much fault with the atmospheric conditions outside as they pertain to plant culture under glass. I never remember a more favourable November than that through which we have just passed. In this district there has been an almost entire absence of the proverbial fogs, two days at the most coming under this head. With a comparatively clear atmosphere and no great amount of rainfall, the air has been more of a bracing character. It has been possible thus far to maintain a congenial temperature in our stoves without either having to fire hard on the one hand, or to have to hold them very much in check on the other. In extremely mild weather there is always a danger of the atmospheric moisture under glass being excessive (the same as it is outside at such times) through the fires being somewhat low. This should be guarded against by ventilation in a small degree on the one hand, and by distributing less moisture about the house on the other. During mild and dull weather in the winter a small amount of ventilation is even more desirable towards this end than when the sun is shining brightly and a somewhat keen wind blowing. In the latter case almost, if not quite, sufficient air will penetrate through the laps of the glass to serve the purpose.

Plants that are the most susceptible to injury from damp will show signs which should be noted, and will be by an observant eye. Personally I am no advocate for either extreme in temperatures as it relates to stove plants in the winter. I know of one noted plant grower who maintained a temperature of nearly 70° at night through the winter, and that successfully, but all the same such a temperature is never desirable, nor would I recommend its adoption. The other extreme of a low night temperature has its evils, damp being one of these, whilst it often reduces the plants to too much of a dormant state. A medium course is, I think, infinitely better, and this I would fix at from 60° to 64° at the time of making up the fires, allowing of a drop of 5° by daybreak; the lowest point would be 55°, but only for an hour or two when the fires are under good management. I would rather see 55° any frosty cold morning than 60° if a keen wind be blowing, calculating on a rise of 5° or 7° as soon as possible. At the very most 10° during the day is a sufficient rise for the next two months, and this should only be in favourable weather. The fires ought not to be held back too much in the afternoon, so that they have to be pushed towards nightfall with a possible rise when there should be a steady decline. With good management some of the night stoking can be reduced, the labour thus saved being far better expended in starting the fires extra early so as to have them well under weigh at daybreak, when if it be frosty it is often the coldest.

A deal may be accomplished in the way of protection to houses where exposed to keen cutting winds either by mats or canvas coverings, or the blinds if these be still retained upon the roof. Being very much exposed to the east winds our blinds are kept up, so as to be able to run them down in case of need. The blinds may not last so long by one season, but there is a considerable gain in firing as well as in maintaining a better state of things inside. On the roofs of low houses or plant pits the canvas coverings now so much in use, and which are tanned to make them last longer, are, I consider, preferable to mats. These

were first made at my suggestion some few years back, and are serviceable in many ways as plant protectors. For the sides of lofty houses they are a great assistance in maintaining a steady temperature. On roofs they should be removed early in the day, so as to give all the light possible. It is possible to keep low pits with a fair amount of covering too warm; a watch should, therefore, be kept on the thermometer, so that this mistake does not occur.

The troughs for evaporating purposes upon the pipes should be kept filled. The amount of moisture given off by these will be in proportion to the heat in the pipes, but some additional moisture by means of the syringe and the watering pot will be needed in frosty weather. It is not advisable in any case to give up the syringing altogether, otherwise both thrips and red spider may have too comfortable a time of it, favourable opportunities for its use being chosen. Watering should now be done with greater caution in several instances. Dipladenias, for instance, will rarely require any now; Allamandas and other deciduous plants but little (none if planted out). Evergreen plants, on the other hand, should not be allowed to suffer. Of these, the Crotons and Palms require as much as any plants, and next to them the Dracenas, more particularly if they happen to be pot-bound decorative plants. To allow either a Palm or a Croton to suffer is against all good culture, more particularly the former. Alocasias will not require nearly so much, nor will the Anthuriums, the character of the soil in which these plants are grown being such as to hold the water in a similar manner to that of a sponge. Bromeliads will need scarcely any water now, the store in their leaves being almost if not quite enough for their requirements. Gardenias should not be kept dry, nor should Ixoras, both being evergreen, and rarely if ever quite at rest. In the case of healthy plants they should be well looked to, any excess being at the same time guarded against. Basket plants oftentimes take proportionately more water than pot plants; see to it, therefore, that these do not get too dry, but should they perchance do so they ought to be dipped for the water to properly penetrate the soil. Of plants now in their flowering season or approaching, E. anthemum pulchellum takes as much water as any plant, but others also should be generously, if carefully treated. J. HUDSON.

CHRYSANTHEMUMS.

SEASONABLE CULTURAL NOTES.

No sooner are the flowers faded than a start has to be made to prepare the plants for next year's supply of bloom. To obtain success, I advise an early start being made in preparing for next season's stock. To grow Chrysanthemums really well a long season of growth is absolutely necessary, at least where the blooms are desired in the best possible condition, according to their individual merits. In no way can the characteristic of each variety be so well developed as under the method of culture commonly known as the large bloom system. No matter how well plants that are cultivated to produce quantities of flowers are appreciated, they fail to convey what are the individual characteristics of each variety either in size of bloom, breadth of petal, natural form, or even colour. Take, for instance, one variety—Vivian Morel, perhaps at the present time the greatest favourite of all. When cultivated in bush form to give flowers in profusion the colour is lilac, of a pale hue very often, but when the number of flowers is limited to a few the colour is deep mauve. By obtaining satisfactory cuttings, a good foundation is laid. Some varieties are notably shy in producing any cuttings; some

discretion then is necessary in such cases in cutting down the old flower-stems. In the case of shy producers of cuttings, do not cut the stem down lower than to within 2 feet of the soil. Although the most desirable cuttings are those that push through the soil some distance from the stem, stem cuttings are better than none at all. In some cases where these stubborn varieties fail to throw up cuttings direct from the base, they often give cuttings from the stems after the plant is cut down to the height named. The objection to stem cuttings is that they are liable to form flower-buds instead of growth after they are rooted. Princess of Wales and its progeny often give trouble in this respect, and so do Princess Teck and its sports, none of which the exhibitor can afford to dispense with. Varieties like Queen of England and its numerous allies give cuttings in abundance direct from the base without the slightest trace of premature budding. Such as these then should be cut down to within an inch or so of the soil. It very often happens that these free-growing kinds have far too many growths springing up from the base to afford a sufficiency of space for each to develop properly. Where such is the case it is much the best plan to thin out these weakly growths and give more room to others, so that when the time arrives for taking the cuttings they will be sturdy and strong instead of being weak and attenuated in growth. Directly the plants are cut down the old stools should have a position assigned them where they will be close to the glass in a cool house or frame, simply protected from frost and damp. No place answers better than a vinery or Peach house at rest. Here the Chrysanthemums obtain abundance of light and air, which induces a stocky growth.

Care is necessary in supplying the old stools with water; too much is injurious, creating a paleness in the young leaves, which is objectionable. When the leaves are rendered so pale in colour, a long period often elapses before they regain their wonted vigour and colour. It is surprising how little water is needed to induce growth to be made from the base after the plants are cut down. Where the roots are washed bare on the surface they should be covered with a portion of sandy compost, adding to it decayed leaf mould, this having a decided tendency to encourage growth from the base that is firm and in every way desirable. In stubborn cases where growth positively refuses to move at the base it is necessary sometimes to rectify the drainage if this has got out of order, and even to plunge the pots in a gentle bottom heat and syringe the stems several times daily before a start into growth will be perceptible. The slightest sign of green fly should be dealt with at once by fumigating the house with tobacco smoke or by dusting the plants individually with tobacco powder and syringing them afterwards to cleanse the leaves of both powder and fly. Air upon all favourable occasions will induce a stocky growth.

E. MOLYNEUX.

Hairy Chrysanthemums.—Several varieties of the hairy Chrysanthemum were exhibited in good form last week at Norwich. This section is increasing in numbers and seems very popular with the general public. A good bloom of Mrs. Alpheus Hardy was shown, but the constitution of this variety is bad and makes it scarcely worth the trouble of growing. In contrast to this is the white form of Louis Boehmer, which is a lovely thing and a good grower. I venture to predict that this variety will be largely grown when Mrs. A. Hardy is forgotten. Louis Boehmer is too dull

in colour to be attractive. W. A. Manda is of a clear soft yellow colour and should be a great addition to the class, but the flower shown at Norwich was not in good form. This may be only a temporary defect, as the constitution is said to be perfect. H. Ballantine is another variety of good constitution and habit, colour terra cotta, changing to pale yellow. Already there are a dozen or more varieties of this section, and rigid classification being now the fashion at shows, they will before long have to be exhibited in a class exclusively devoted to them. While speaking of the classification of Chrysanthemums, I should like to say that there appears to be no provision made in the majority of shows for a popular and useful class—the hybrid pompons. Two excellent stands of pompons were disqualified at Norwich, presumably because they contained flowers of this class. I am not sure that this was the reason, but could see no other fault in the flowers, and I could not help regretting that two such pretty lots had to be passed by unrewarded.—J. C. TALLACK.

Single Chrysanthemums.—We have such intense interest shown in every direction at this season of the year in relation to exhibition Chrysanthemums, and the bigger apparently the better are they liked, that it is no matter for surprise if single forms should have to take a back seat. The grower for exhibition looks upon them with very scant admiration; on the other hand, ladies who love flowers because of their intrinsic beauty, and not because they win prizes, prefer the light graceful singles, and, perhaps, like them all the better, too, that, being grown without disbudding and with comparative freedom, they can cut for themselves and utilise the flowers in the most attractive way for house decoration. The giant blooms that are so familiar at exhibitions, when cut leave in plants a tremendous gap. Still further, they are as a rule too big and heavy for vase or house decoration. They are always best on the plants, and it seems to be a great shame after so much time and labour has been expended on their production, even for conservatory decoration, to cut them and employ them for domestic uses. That objection in no case applies to the singles; they flower in wonderful abundance, they need little or no disbudding, they are very light and elegant for vases, &c., and they will in a cool room endure for fully a fortnight if cut whilst still at their best. It is very probable that single varieties would be much more largely grown if they were better known.—A. D.

Chrysanthemum Beauty of Exmouth.—This variety has not this season been seen in such fine form as shown last year, the cause undoubtedly being the abnormally hot weather which the plants experienced during growth, and which caused the wood to ripen too much. The best blooms are produced from plants struck in March and topped in May, and for the final potting not using less than 10-inch pots. The object is to reduce the number of florets or petals. The plants should be well fed after the buds are taken, and the blooms are greatly improved if assisted with a little heat when they commence expanding.—W. J. GODFREY.

NOTES ON NEW VARIETIES.

THESE appear to be very numerous this season; therefore some discrimination is necessary in selecting those having the most merit. In addition to those already named I can recommend the following:—

MME. M. RICOUD.—This belongs to the narrow-petalled Japanese section. The colour is rose-lilac, tipped white, which passes away with age. It is a fine solid bloom.

INTERNATIONAL.—This flat-petalled Japanese is of huge size; blooms, but badly developed, measure fully 8 inches in diameter. It is, however, not a flimsy built flower. In colour it is pleasing, lilac, purple striped, florets semi-drooping.

GOLDEN WEDDING is an American-raised Japanese variety; when well grown and fully developed it is a grand flower, possessing as it does

such a richness of colour. The florets are narrow at the base, widening towards the points, which incurve slightly. In growth it is desirable, being robust, yet not too tall. Cultivators for exhibition should make a note of this variety.

ROYAL WINDSOR promises to make an excellent variety for decoration. The fully developed florets are creamy white, those not so, pink in the centre, which passes away with age. It appears to be a free-flowering variety—a desirable point in a flower of this class.

ROSE WYNNE has florets of great width and substance, in colour deep blush or pink, prettily veined.
E. MOLYNEUX.

SPOILING THE CHRYSANTHEMUM.

AN interesting communication from "J. I. R." in THE GARDEN, November 25, p. 479, draws attention again to the Chrysanthemum at exhibitions. Some years ago the subject of big blooms was thoroughly dealt with in these columns and bore good fruit, as shows at the present day are not so thoroughly inartistic as they were of old. It is possible now to go to an exhibition and discover an exhibit not usually asked for in the schedule, but rather set up merely to show how beautiful the flower is when boldly bunched.

The finest exhibit at the recent Aquarium show was Mr. Jones' display of cut flowers in large vases, an exhibit that surprised those hitherto wedded to the single big bloom classes. At the Drill Hall, Westminster, one has seen very many beautiful exhibits of cut Chrysanthemums, and the Royal Horticultural Society has distinctly set a good example by encouraging the exhibition of cut blooms with foliage and tastefully arranged. At the first November meeting one class was for a collection to be shown with foliage, and a rare assortment of blooms was the result, singles, Japanese, incurved, and other sections all well arranged, pleasing to the eye, yet many were very large. The monster blooms are made more ugly by cramming them on to boards far too small for them. The petals of neighbouring flowers getting intermixed, all natural beauty and grace are entirely lost. The groups and trained specimens are as formal as ever, the two arrangements at the Royal Aquarium being very difficult to beat in this respect. There is no occasion for this. The groups at summer exhibitions are often beautiful, and the Chrysanthemum is a splendid flower for effect if Palms and Ferns were interspersed to break up the bank of bloom.

"J. I. R." laments the existence of "Chrysanthemums as big as soup plates"—and the majority of those not concerned in getting prizes are of the same opinion. The flowers, as he truly says, are "simply impossible in a nosegay or for any decorative purpose"—at least, they are of no value whatever for bouquets, although in very bold decorations they could be used, but smaller flowers would be just as useful. I have taken six names at random from a list of new kinds as indicating the size to which Chrysanthemum flowers are brought to at the present day: Excelsior, Lord Brooke, G. C. Schwabe, Mlle. Thérèse Rey, Waban and Eda Prass—all blooms nearly a foot across, very charming possibly when the plants are permitted to grow somewhat naturally, but positively ugly in the condition one sees them at exhibitions. The most handsome of the six is Mlle. Thérèse Rey, but this is not so pleasing to me as the old Fair Maid of Guernsey or Elaine. It is not only that the flowers are of greater bulk, but they are coarse, the petals broad, stiff, and if turned up at the apex, without any grace. Where, as "J. I. R." truthfully remarks, are the flowers that the artists of

Japan depict on their countless varieties of vases and fans with such infinite skill and artistic effect? They are certainly not seen at present-day shows, and, unfortunately, many beautiful varieties are rejected by committees because not adhering to a certain standard of size. All sections of the Chrysanthemum are treated in the same style. The single varieties—the most charming of all when grown somewhat naturally—are as big as it is possible to make them; the reflexed, Anemone pompons and other types are all under the same ban of a depraved taste. It would not matter so much if exhibitions encouraged the comparatively natural growth of the plant and the production of fairly normal flowers, but this is not the case. The shows are one-sided and only for exhibitors.

Another very important point alluded to by "J. I. R." is the growing of hardy kinds. We want, he says, "a race of Japanese that shall flower all through October out of doors. Then we shall want a hardy break of singles for late October and November blooming in our borders. Singles would be less affected by the frost and damp of our miserable autumns." The state of affairs is not so bad as here depicted, as shown by the many recent notes in THE GARDEN. On p. 499 the names of several kinds are given, and all in beauty on a late November day. From what one sees the Chrysanthemum is being much improved as a garden flower, and one hopes that the same marked improvement will be continued in the future. This year the flowers in October were superb, the pure white La Vierge in particular, a Japanese kind, the little bushes being covered as if under a wreath of snow. Our autumns are not always "miserable," and a fine day in the fall of the year is as beautiful as May or June. It would be well if raisers of new varieties strove to get good single kinds for out-of-doors. The flowers are frail, and stand wet and unpleasant weather generally better than other types. A spray of blooms is full of grace, and one may cut many handfuls for the house without seriously damaging the effect of the plants in the garden.

"J. I. R." I am surprised, does not write about the colour of the present-day Chrysanthemums. The colour of the blooms in many cases is positively hideous—M. R. Bahuant and others that might be mentioned. The dull, dingy, dead-looking purplish tones are as bad as the dirty bronze shades, or coarse florets, such as distinguish varieties like the much-vaunted Waban. Louis Boehmer, although one scarcely looks through a horticultural journal without finding words of praise for it, is of a most objectionable colour. We have had some noteworthy exceptions, William Seward, John Shrimpton, and others, and the yellow kinds are, as a rule, remarkably bright, but the Chrysanthemum is not improved by making it as big as a mop or poor in colour, even if the shades are novel. The craze for novelty is astounding. It leads the raiser on to forgetting about the beauty of the flower, and seeks rather to gain new kinds because they may sell.—C.

— I am afraid "J. I. R." will find many who will disagree with him in his estimate of the Chrysanthemum as it is to-day, even if the old thread-like Japanese sorts of former days are gone. The popularity of Chrysanthemum shows proves that there is an increasing interest taken in them, and the fact of this aroused interest is traceable to the introduction of new sorts which appear in goodly numbers every season. It must be admitted there are sorts that lack grace and refinement, such for instance as Etoile de Lyon, but it must be known that these coarse-petalled blooms, although still

exhibited, command no favour at the hands of good judges, and will drop out of cultivation at no distant date, as others have done before. It is true that the incurved section cannot command the same popularity as do the Japanese, because in these there are no such changes brought about by seed-raising as in the case of the Japanese; still it would be a misfortune if everyone held them in such slight favour as does "J. I. R." To present them in their best form taxes the resources of many, if not most good growers; without skill they cannot be brought to that high state of perfection known to all the leading exhibitors, and surely "J. I. R." would not be in favour of doing away with a section that requires the highest talent to develop it perfectly. No one can dispute that the methods of staging are stiff and unnatural, but those that are shown with long stems and foliage require so much more room in conveyance that the class does not become popular among exhibitors.

I quite agree with "J. I. R." respecting the need for a change in the system of growing and training Chrysanthemums. The orthodox trained specimen has but little beauty, and, apart from its use in the exhibition hall, there is really no useful employment for it so stiffly trained. At a local show which I attended during the present season prizes were offered only for naturally grown plants, and those which gained the premier award were certainly an excellent exhibit. They were neither disbudded nor stiffly trained, but were really good and freely-bloomed conservatory plants. If such as these were more commonly grown for exhibition, we should not hear such bitter remarks as pertain to formal specimens often possessing as many stakes as flowers. Popular favour is not with stiffly-trained plants now, and the sooner they are discouraged by societies who offer prizes for them the better, if others naturally grown can be substituted. Standards and pyramids are to my mind the most offensive of the several systems of training, because so unnatural; these are fortunately becoming less shown every year.—W. S.

SINGLE CHRYSANTHEMUMS.

IT is to be hoped that some day single Chrysanthemums will become as popular as the other sections. I have repeatedly heard the remark passed this season by gardeners that they do not like single varieties. I was pleased to see the high praise bestowed on them by "C." and "J. C. B." in a late issue of THE GARDEN. For cutting, I hold the same opinion as "C." respecting the pretty white flowering kind Jane. I do not hold Yellow Jane to be a counterpart of the white, because it is not so single as the last named and does not show so much of the eye, because of the additional florets obscuring it to some extent. The colour is most distinct—indeed, I scarcely think there is another possessing the exact shade of yellow. It is equally free in growth and flower. Miss Mary Anderson has a much bolder character in its broad-petalled flowers, and is always conspicuous as a decorative plant or as a vase flower. It has scarcely the same freedom of growth as the two previously named sorts, but this is no great fault, because an effective display is made by the conspicuously large Daisy-like blossoms. David Windsor is another very desirable sort, bearing crimson-coloured and rather large flowers, relieved by a yellow disc. It grows taller than many of the singles, and can be cut in long lengths for decorating vases in conjunction with the lighter coloured sorts. Florence grows very dwarf; indeed, this is the dwarfiest one we have, producing larger flowers than any I have named. To see this at its best, it should be slightly thinned where the buds are thickly clustered, otherwise the flowers being large it loses much of its character as a single. The colour is a very pale pink or blush, and when slightly disbudded it is a striking flower. Societies would have a popular exhibit, particularly with their lady patrons, if they instituted a class for singles either as cut flowers, shown in bunches similar to pompons, as decorative plants, or groups. A stipula-

tion might be made in the schedules where groups form a leading feature to the effect that some single varieties be required. Being dwarf in habit, free flowering, and withal of light and graceful appearance, the finish and general effect would be heightened by the introduction of a few varieties of these single Chrysanthemums.

At west of England shows they are seldom seen. I do not know of one that provides a single class for them in any form, and so long as gardeners hold them in such slight favour it will, I am afraid, be some time ere they will be represented as they deserve at our autumn shows generally. What is needed is that the leading societies possessing the means for providing a comprehensive schedule should take them in hand, even if it was done at the expense of some of the other sections, for the public, I am sure, would find an appreciable change if singles were given due prominence. —W. STRUGNELL.

—We are pleased to see that raisers are taking an interest in these beautiful flowers. The best of all is Jane, sometimes called Snowflake, when it is not so disbudded that the flowers are of abnormal size. In one exhibit at the Drill Hall recently the flowers were quite three times their usual size and utterly spoilt, more like a show kind become single, much of the charming "frill," so to say, of the florets being lost. Why spoil the lovely single Chrysanthemums by trying to get them as big as possible? There are surely sufficient big Chrysanthemums to please the most fastidious. The flowers may be used in decorations with the most graceful effect, and arranged with Fern fronds or the feathery *Asparagus plumosus* gain in beauty. They may be had in perfection over a long season, blooming now and far into December and January. When the cuttings are struck late, such Chrysanthemums as these do not suffer from damp, as the larger Japanese and incurved, which in some years get much decayed. We should like to see in other colours a few more kinds of the character of Snowflake. The yellow counterpart is very beautiful, the colour very rich and clear, and a delicate rose, crimson, or other shades, if not of the objectionable brick-red so common now, would be worth striving for. The stiffer single forms are not pretty, but one sees quite a surfeit of these. A few are admissible, but not such a number as one notes at exhibitions. A few of the best varieties noticed recently are the two already mentioned and the following: Admiral Sir T. Symonds, raised by Mr. Cannell, is a fine yellow, the petals broader than in Yellow Jane, and the aspect of the flower is coarse when too large. Windsor is, perhaps, the best of that class, with chestnut-red flowers—not a colour we care about, but distinct and useful for a change. Gis Harris is one of the older single varieties, the flowers of a rose-lilac shade, yellow in the centre, and the plant is dwarf, bushy, and makes a good specimen. Lady Churchill is distinct, the colour of a terra-cotta shade, touched with yellow. Mary Anderson is the finest in form of all the single kinds; its flowers are smooth, the petals broad and white touched with rose. It has been much used as a parent in crossing, its fine shape justifying such a use. Miss Ellen Terry has larger florets than the majority. They are of a cheerful magenta shade, the disc yellow. Miss Rose is delightful. It makes as good a plant as any of the single kinds, bushy, compact, and smothered with neat rosy flowers. This is indispensable. Mozart, rose-brown shade, touched with yellow; Scarlet Gem, with flowers of a rather dead red colour, but neat in form; and Souvenir de Londres, crimson, complete the list of the finest of the single Chrysanthemums.

Chrysanthemums at Gunnersbury Park.

—A very large collection is grown by Mr. Reynolds at Gunnersbury Park, and the large varieties are in great part filled with excellent plants. We made note when there recently of a few good kinds. One of the finest was Mrs. Alice Bird, a Japanese variety not often seen. The flowers are intense golden yellow, a most delightful colour. Gorgeous is another good yellow, grown here well, also the pretty

pompon Flora, which is rather early flowering, very compact, and exceptionally free. Where much decoration has to be done, it would not be easy to find a better kind than this. We noticed remarkably fine the large-flowered *Anemone Delaware*, a well shaped and bold flower, the centre yellow, and the guard florets of a creamy white colour. Another very good variety is Eynsford Gem, a small pleasing flower of a rich crimson-purple colour.

Chrysanthemum groups.—I quite agree with all that "A. D." (p. 478) says on the above subject. At many shows there is such a great amount of sameness that one scarcely troubles to look at them. At the same time I was glad to see a change for the better at two exhibitions lately, viz., Hereford and Leominster. At the former place the number of plants was limited to eighty, not more than one plant in each pot, and edging allowed. In both the first and second prize groups there was room for improvement, as the arrangements were a little too heavy. The first or cup-winning group had the colours well blended, and most of the flowers were Japanese. In front and round the sides the Chrysanthemums were faced with small Palms, and then with Roman Hyacinths and Adiantums, making a beautiful finish. The second prize group, which had well bloomed plants of *Eucharis amazonica*, with small Palms and Ferns as an edging, was very attractive. However, both groups would have looked better with fewer Chrysanthemum plants. At Leominster the most beautiful groups I have yet seen at any of the autumn shows were put up, and the competition was very keen.



A curious Fir tree. Engraved for THE GARDEN from a photograph sent by Mr. J. C. Tallack, Livermere Park, Bury St. Edmunds.

Only twelve Chrysanthemum plants were allowed to be intermixed with fine-foliaged plants in a space of about 50 square feet, so far as I could judge. It would take up too much space to enumerate either the Chrysanthemums or fine-foliaged plants employed, but they were light, beautiful, and so attractive to the ladies, that it was almost impossible to get near enough to examine them. I am sure the framers of schedules might with advantage to their societies give fair prizes for similar groups; not only would the show be rendered more beautiful, but the competition would be far more spirited. To prove this, it is only necessary to consider that it frequently requires two dray or van-loads of Chrysanthemums to make a so-called good group, for which if limited as above, and fine-foliaged plants allowed, one van-load would be ample, and the effect produced of a much higher order. —W.

Chrysanthemums in Guernsey.—The communication by Mr. Thomas H. le Lievre, of St. Martin's, Guernsey, on p. 480, is of more public importance than appears on the face of it. In common with many of my Chrysanthemum-growing friends I had begun to think that the raising of new seedlings was an extinct art in Guernsey, and that there was nothing to hope for in the future from the little island where so many of our once famous Japanese varieties were raised. Visions of Fair Maid of Guernsey, Ethel, Elaine, Peter the Great, Sarnia, all belonging to that class without saying anything about the host of incurved and *Anemone* sorts which also emanated from Guernsey raisers, are aroused in my mind by Mr. le Lievre's short note and cause me to wonder why such capable cultivators as Major Carey, Mr. Charles

Smith, Mr. James Downton, and Mr. Thomas Pethers have ceased to labour in the good cause. The correction will be gratefully accepted, and if Mr. Kelly has raised any other new Chrysanthemums besides the two very fine varieties alluded to it will be not only interesting, but rendering the public a service for Mr. le Lievre to give us a list of their names. In these days we receive so many new Chrysanthemums from sources so far apart, that the origin of some is most difficult to ascertain, and whenever it is practicable such information ought in my opinion to be recorded in the public press. If Colonel Chase and Violetta are fair samples of Mr. Kelly's seedlings he may certainly hope to compete very favourably with the new raisers who are now annually coming to the front. —C. H. P.

TREES AND SHRUBS.

A CURIOUS SCOTCH FIR.

THE accompanying illustration shows part of the trunk and roots of a Scotch Fir which grows in a grove on the Culford estate close to the high road, and near the church at West Stow, Suffolk, where it interests many passers-by. Altogether there are about 200 trees, mostly Scotch Fir, in the grove, and more than a dozen of them have been more or less undermined, as shown in the illustration. Although this undermining was done more than thirty years ago, and all the main roots have been exposed for that time, the trees are in the best of health and vigour. Evidently they were planted and not self-sown, as none of them have tap roots. In addition, however, to the spreading roots, each tree has several vertical roots, which number in one case as many as fifty, and vary in diameter from 8 inches to 2 inches. Most of these are perfectly upright, and some are knotted at regular intervals and look exactly as if trimmed pieces of the trunk had been put in to prop up the trees, but on examination they are found to be living roots. In many instances, too, these roots are not quite upright and have touched each other, with the result that natural root-grafting has taken place. Some of the trees have had their spreading roots cut off at about 4 feet from the trunk, and depend entirely on the vertical ones for support.

The topmost roots of the tree most prominent in the engraving stand just over 5 feet from the present ground level, and they cover a space of more than 18 feet in diameter before entering the soil. The height of the tree is about 50 feet, and the diameter of the trunk at 1 foot above the collar is 2 feet 3 inches. This tree is in the best position for photographing, and shows more spread of roots than either of the others, but there is another much taller and finer specimen, the trunk of which is over 3 feet in diameter; the spreading roots of this have, however, been much mutilated. Another tree has its roots packed so tightly together as to form a complete roof, impervious to rain, to the cave formed by excavation, which is big enough to form a perfect shelter for at least a dozen persons. In the roots of yet another an Elder has found a home and grown into a big bush. The excavations are jointly the work of rabbits and of sand sellers, who came to this grove for sand some forty years ago.

J. C. TALLACK.

Livermere Park, Bury St. Edmunds.

Clerodendron trichotomum.—This is quite hardy, except in very exposed places, and by the addition of this variety to a collection there is a

great gain, as we have so few shrubs which flower late in the summer months. The flowers appear in September and are produced in large terminal cymes, white, with a reddish calyx and delightfully fragrant. Being very reasonable in price, it is one of those plants which should find a home in most shrubberies. It thrives well in most soils provided there is free drainage. Being a deciduous shrub, it would, I think, be suitable for town planting.—G. WYTHES.

Daphniphyllum glaucescens.—This shrub, a native of Japan, is remarkable for its fine habit and rapid growth. We have examples that have been planted only a few years quite 8 feet high, so that I am inclined to think it will attain a greater height than was stated when introduced. It is a grand object for the kept grounds, having large leaves from 6 inches to 8 inches long and nearly 3 inches wide, of a delicate pale green colour on the upper surface, the under portion being of a bluish grey. The footstalks of the leaves are of a bright crimson colour, this forming a charming contrast to the bluish grey shade of the foliage. It is quite hardy, but there is one slight drawback in that it starts early into growth, and if planted in a very cold position the tender foliage is at times injured by cutting winds or late frosts. A little shelter is therefore advisable. There are other varieties, such as *D. viride*, with darker foliage and dwarfer habit, but in this variety there are no crimson markings. *D. jezoense* is another form, but not equal to *D. glaucescens*.—S. H. B.

Veronica Jardin Fleuri.—The *Veronica* alluded to on page 462 is, I should say, the variety which was sent out by M. Délaux, of Toulouse, I think, in 1885. It was one of a set distributed by that raiser, and when new was to be found in a few lists, but at the present time I only know of one nurseryman who includes it in his catalogue. It is certainly a very good dark-flowered variety, and one that blooms very freely in even a small state. These shrubby *Veronicas* are often seen in pots, and very useful they are in this way, but for beauty they cannot be compared with the bushes that may be met with in the more favoured districts of England, where they are quite hardy. Along the southern and western coasts fine examples may be met with, and they do well in close proximity to the sea.—T.

WATERSIDE TREES.

VERY little care is usually exercised in the choice of trees for planting by the water margin, let that be a lake, a pond, or the running brook, the common Alder, the Willow, or the Poplar being deemed sufficient for such places. This is, however, a great error. Take as examples the several distinctly cut or, as they are usually styled, Fern-leaved forms of the common Alder, the many beautiful barked Willows that we have at our disposal, or the uncommon varieties of swamp-loving Poplars, and it will be seen that there is no lack of ornamental waterside trees, and that the too common repetition of the ordinary Alder and Willow is by no means a necessity. Some of the more ornamental Willows have a most pleasing appearance when planted in suitable places by the water-side, and for this purpose perhaps none can compare with the golden Osier (*Salix alba vitellina*), the young twigs of which are bright yellow. Massed in fives or so, the effect produced by this Willow is very distinct and pleasing, and as it does well in dampish ground, it is well suited for the situations at present under notice. The common purple Osier (*S. purpurea*) contrasts markedly with the former, the bark being reddish or purple.

Of the Alders, one of the handsomest forms is that known as the Imperial Alder (*Alnus glutinosa imperialis*), in which the foliage is so beautifully cut as to resemble more that of a Fern than a forest tree. It is a capital subject for planting by the lake or pond-side, but looks best when viewed at some short distance away, and for this reason should not encroach on paths or roads. The varieties *A. glutinosa asplenifolia*, *A. glutinosa laciniata* and *A. glutinosa quercifolia* are all

worthy of notice on account of the beautifully divided leaves, and, succeeding well in damp places, may be used with the best results where the roots are constantly in a moist state.

The deciduous Cypress (*Taxodium distichum*) has few equals for planting by the river, pond, or lake-side; indeed, it would appear to flourish well where the roots are constantly in a partially submerged condition. Planted on an island, it looks well, the bright pea-green foliage, which changes to the brightest hues in autumn, being always remarkable and distinct.

Some of the Poplars are fitting subjects for the positions at present under consideration, but more particularly the varieties with cut or divided leaves, all of which delight to grow in damp ground. These are a few of the trees that might be used with good effect in beautifying the grounds by the water-side, but there are many more that might be included in an exhaustive article on the subject. A. W. D.

Tree labels.—Some years ago a suggestion was made, I believe in THE GARDEN, that in labeling trees the most important item next to the name was the date of planting. This, I think, most tree lovers will agree with, yet it is very seldom carried out, and a good deal of guessing has to be resorted to in order to arrive at the approximate age of the specimen. The date of planting would not occupy much space on a label, and it would be decidedly more instructive than the date of its introduction into this country, which one may often see on labels attached to trees and shrubs.—T.

Straffan, Co. Kildare, in winter.—It is now and then advisable to see a good garden in winter, the effects of many shrubs and trees and hardy plants being then seen in aspects totally different to those they assume during the warmer months of the year. At Straffan, for example, on a drizzling wet day in November, a really fine effect of colour was given by the breadths of common crimson Dogwood and groups of cardinal and golden Willows beside the river Liffey that flows through the place. In one or two places the Osiers have been thoughtfully blended with the Dogwood, and the result is a flush of richer and warmer colouring, which is very beautiful—so soft and mist-like on a dull day, that if painted on canvas one might be led to think that the painter had flattered the scene. One very pretty bit of colour and form is obtained by grouping the Dogwood and Osiers around a graceful Weeping Birch, the silver trunk of which emphasises the mass of colour below; while in another place a bold group of cardinal Willow forms a warm mist of soft flame colour against the trunks of a group of forest trees further away. Even on a November day such effects are charming as seen through the white mist that hangs over the turbid river, but in bright sunshine they are, of course, something more exquisite still. Beautiful as is Straffan already with its fresh lawns and stately Limes and Elms, improvements are being made, the river bank having been carefully cleared and thinned opposite the island in front of the house, and this is to be planted with bold groups of the best evergreen and deciduous trees and shrubs right down to the water's edge. A swampy piece of the island has also been planted with Ferns, Grasses, the larger-leaved bog plants and groups of *Typha latifolia*, amongst which the giant *Gunnera manicata* is to have a suitable position. Straffan is always attractive, but the Dogwood and Osiers have now become so effective, that it ranks high and deserves mention for its exquisite effects in winter also.—F. W. B.

Pyrus malus floribunda.—This was bearing a fine crop of its small yellowish fruits in the Epsom nursery, and we hope that the Crabs will be more planted in gardens. In every garden, large or small, this fine Japanese Crab should be planted, not for its effect in autumn, as there are showier kinds at that season, but for a profuse display of flowers in spring. A tree of this species in full bloom is a delightful picture, the slender branches wreathed with flowers in early May, the

buds deep crimson, but as they expand one sees the pure white of the inner face of the petals, the result being a charming contrast of colour. The tree is graceful in habit and of dwarf stature, forming a wide-spreading head. On this account it is valuable for small gardens, in which there is usually too great sameness in the things planted. It is cheap, very hardy, and grows quickly. A shrubbery is not the position to plant it, as here its graceful contour is spoilt. It is seen to advantage when the tree is on the outskirts of the lawn, where the characteristic habit is well displayed.

The Honey Locust (*Gleditsia triacanthos*)—During the winter, when devoid of foliage, the formidable spines with which the branches are studded cause this to stand out very conspicuously, for among all our hardy trees there is nothing whatever like it in this respect, as the branched spines, many of which are as much as 3 inches in length, are borne not only on the young wood, but also on the main trunk and principal branches of the tree. As a young specimen it is very noticeable, for, apart from the spines, the pinnate foliage, which is of a light shining green, is very beautiful, but as it increases in size these foliage distinctions are not so conspicuous. As a tree it bears a certain amount of resemblance to the common False Acacia (*Robinia Pseudacacia*), but it is, as a rule, more open in character. The Honey Locust is one of the latest of our trees to unfold its leaves in the spring, and in the autumn they usually turn yellow and quickly drop. The wood of the *Gleditschia* is said to be very hard and useful for many purposes, but in this country its only merits are as an ornamental specimen, for which purpose its distinctive features entitle it to more notice than it usually gets. An additional merit, too, is the fact that it will thrive better than many subjects in the immediate neighbourhood of smoky towns. It is a native of North America, and one of the many trees introduced from that region quite early in the last century. There are several varieties, but two of them are especially distinct, viz., a weeping form (*pendula*) and one (*inermis*) in which the large and formidable spines are wanting.—T.

OUR TIMBER SUPPLIES FROM ABROAD.*

THIS subject is of the greatest interest and importance, not only to those immediately associated with the production and consumption of timber, but to every member of the community. There is very great difficulty in arriving at the exact value of the wood imported into this country, but, on a fairly accurate calculation, it may be set down at £20,000,000 annually. The returns periodically issued by the Board of Trade afford an idea of the number of loads, and the figures given in this paper show the vast and far-reaching influence which timber has upon our national industries. There is no doubt that trade in timber is largely influenced by the condition of other trades; but, at the same time, it has to be borne in mind that our timber supplies have a very important influence on other trades. It is often supposed that for many purposes wood cannot be superseded by any other material, but this is entirely erroneous. It is in a large degree dependent upon the facilities by which timber can be supplied whether or not the same proportion shall be consumed. In many branches of industry timber finds a keen competitor in iron, in some instances in brick, and occasionally in stone. In these cases the ultimate consideration with the consumer is the question of cost. That the use of timber has enormously increased is clearly seen by the figures that follow; and this expansion is largely due to the ingenuity of those associated with timber production, in introducing such inventions and facilities as enable it to successfully compete in price with other materials. The credit of producing this result is to be shared alike by the forester, the timber mer-

* By A. T. Williamson, Kew Terrace, Edinburgh, in the "Transactions of Royal Scottish Agricultural Society."

chant, and the timber manufacturer. The timber merchant, it may be said, is merely the distributor, and has little influence in guiding either the production or consumption. This may be true as regards the merchant in other commodities, but, as will be seen in the following remarks, the merchant in timber has had a very great influence in the development of the trade.

In the year 1890 the total imports from foreign countries and the colonies amounted to 7,056,688 loads. This was made up of 2,278,374 loads of hewn or rough log timber, and 4,778,314 loads of sawn and manufactured wood. These figures show the large proportion that is brought in a prepared and partially prepared condition, being fully double the quantity imported in its raw state. This is a condition to be regretted on many grounds. The amount of money represented in the manufacturing cannot be less than £3,000,000, a sum which one would think might easily be conserved to our own workmen. The cost of freight for waste and superfluous wood is saved when it is in a manufactured state, but the superiority of our workmen and the greater excellence of their workmanship should do more than compensate for this item. This has been proved by years of practical experience in the large quantities of manufactured flooring and lining that are sent to the Australian markets, not from Sweden, but from Scotland, the timber being first imported from Sweden into Scotland, prepared here, and then exported again to Australia.

It may be interesting to look at the enormous development of the import of manufactured timber in the past thirty years. Although statistics of any value are difficult to procure, I have been able to get a fairly approximate table for London, which represents something like one-fifth of the whole country, and which may therefore give a fair idea of the whole. The increase in the total imports has been practically steady and continuous, but, looking at the raw timber by itself, it has remained stationary, or has had a backward tendency. For 1860, the number of loads of hewn timber was 233,000; for 1890, the number of loads of similar timber was 219,700. The quantity of sawn or manufactured timber bears a very marked contrast with this. In 1860, manufactured timber was imported to the extent of 7,125,000 pieces, while in 1890 they had grown to no less than 33,198,000 pieces. This advance has been a gradual one throughout the thirty years, each year as nearly as possible adding 10 per cent. to its predecessor.

We have given the total imports for 1890, viz., 7,056,688 loads. Deducting from this 507,058 loads of furniture woods from various countries, 6,549,630 loads remain of the more common supplies. These imports, chiefly drawn from Scandinavia, Russia, Germany, and British North America, are made up as follows:—

Scandinavia	2,643,666 loads
Russia	1,519,174 "
Germany	287,482 "
British North America	1,366,671 "
All other countries.	733,637 "

It is thus seen that Norway and Sweden furnish us with about 40 per cent. of our timber supplies, and the 2,643,666 loads sent to us are made up of 673,305 loads of rough and 1,970,361 loads of manufactured timber.

The question may naturally be put, Why is Scandinavian timber so much favoured by us? It must be better or cheaper, but that is only true to a limited extent. The great development of Swedish imports is a matter of only recent years. It is impossible to make an accurate comparison of the qualities of imported timber, treating it nationally, because the shipments of some ports are superior to the shipments of other ports in the same country; but, on the whole, the balance of quality in respect of both the Scots Fir and the Spruce, which form 90 per cent. of the imports, is considerably in favour of Russia. The freight from Russian ports is also generally from 10 per cent. to 15 per cent. lower than from the upper ports of Sweden, whence the larger bulk is shipped.

The Swedes, however, have displayed characteristic enterprise in adapting their conditions to meet the situation. They have greatly improved their machinery, more carefully selected their timber, and lowered their prices so as to secure British orders, and have thus equalised matters with their Russian competitors. Not content, however, with having placed themselves on an equal footing with Russia, they have turned the scale in their favour in the eyes of the British buyer by granting six months' credit on all transactions, the Russians being unable or unwilling to give more than three months. It is in this way that the merchant has had so much influence on the development of the trade, to which I made allusion in the early part of this paper. These specially favourable terms induced an accumulation of stock in our merchants' hands, and allowed them to place before the consumer, in the most favourable light, the merits of Swedish supplies, and generally influence their use.

The question arising here is, of course, Can Sweden maintain the annual output of such enormous quantities of timber? The answer is generally admitted to be, on the whole, in the affirmative. Great Britain and Ireland receive one-half of the total quantity of wood shipped; and, when the vast area is considered, it must be admitted that even the figures given are only capable of clearing out the woods of a comparatively limited area; and Scots Fir and Spruce being fast-growing trees, the re-afforestation is proceeding as quickly as the deforestation.

The Russian supplies come second in their amount. These are represented by shipments chiefly from Riga, Cronstadt, and Archangel. The Riga shipments are principally composed of Spruce deals and battens, whilst the Cronstadt and Archangel are largely composed of Scots Fir or Redwood. Swedish timber has never been able to compete with Russian in respect of quality, and for all high-class joiner work architects demand that Archangel or St. Petersburg Redwood be used. The extent of the Russian forests is not known; and with regard to the prospects of their supplies being maintained, there is at present no question, nor will be for generations to come, in the ordinary course of events. A notable change has taken place during the past few years in connection with Russian Oak, which forms a rather important item in the exports. Formerly Riga, on the Baltic, was the chief port of shipment, the Oak being brought from the forests some hundreds of miles to the southward; but now the largest proportion of the Oak grown within the same regions as formerly is conveyed southwards, and is shipped at Fiume, in Austria. The Oak shipped at that port has acquired a high reputation for cabinet and furniture work. The German imports are comparatively small, and are largely made up of pit-wood and rough timber. Germany can scarcely be considered a great timber exporting country, being largely indebted to Sweden for her own supplies. France sends us, particularly to the British Channel, immense quantities of pit-wood, but her home supplies of heavy timber are quite inadequate to meet her wants. France imports, from Sweden and other countries, several millions of loads to meet home wants.

The supplies of timber from British North America, chiefly from Canada, amounting to 1,366,571 loads, although only half of the Swedish, represent quite as much money value. The chief item is the American Pine timber, a substitute for which has not been found in European countries. The maintenance of supplies from this source must be adversely contrasted with Sweden. Writers on forestry have deplored the waste in the American forests, and it is generally admitted that it is prodigious. At the same time, the vastness of the forest areas has maintained the equilibrium of the trade. While most kinds of timber have been, through competition, kept to the lowest value, Pine timber from Canada has not only maintained its price, but has actually experienced a steady rise. Consumption, or extra demand, has not caused this, but it arises from the fact of the demolition of the forests within reasonable distance of the seaboard. There is a growing ten-

dency to import manufactured Canadian Pine, and the figures of same, compared with hewn, may be quoted, the 1,366,571 loads being made up of 180,966 loads of hewn, and 1,185,605 loads of sawn and manufactured timber. There is less to be said against the growth of Canadian manufactured imports than that of Sweden, as the freight saved on deals and battens over logs is very considerable, the rate from Sweden being only about 8s. per load, while from America it is about 21s.

The vast forests of immense trees in British Columbia have recently been drawn upon for introduction into this country as a substitute for yellow Pine, but so far the experiment has proved unsatisfactory. The timber can be got larger and cleaner, but it lacks that mild nature which is characteristic of the Canadian Pine. It is found difficult to sustain a polish, and is too strong in the reed for fine household or ship work. The supplies in British Columbia are practically unlimited, and for rough work, in beams, &c., might be valuable, but the distance from our shores quite handicaps it in competition with other woods used for similar purposes.

Pitch Pine timber has taken a most important place in our industries. The supplies available are immense, and there is every probability that they will be maintained. The cheapness of this wood has popularised its use, notwithstanding the fact that the cost of freight is about 35s. per load. It is sold here at something like 50s. per load, which, with insurance and other charges, cannot leave more than 10s. per load at port of shipment. It is cut down, sawn, and transported a long distance for this sum, which gives us some indication of what could be done were our foresters at home to exercise their ingenuity on the question of transport from the woods.

Kauri timber from New Zealand now receives much favour. It is, however, classed as a fancy wood, and is only utilised for cabinet purposes, so it can scarcely be included in an article on common timber. New Zealand is too far away to draw upon for ordinary carpenter's timber, which really forms 80 per cent. of our imports.

A class of wood that is becoming popular is "Whitewood," called also "Canary wood" or "Butternut." It is taking the place of the long familiar yellow Pine, and the price being somewhat less, it is being generally used. The beautiful clean grain, free from knots and shakes, and the great width it is capable of producing, have acquired it a favour in most industries. It is imported from both Canada and the United States. The supply of it is said to be more limited than that of the yellow Pine, but statistics of the forests and their timber are not available for any practical purposes.

The total imports to Scotland in 1891 amounted to 878,924 loads. One-fourth of this was American timber, consisting of yellow Pine, pitch Pine, hardwoods, and Spruce; two thirds Baltic and north of Europe, Scots Fir, and Spruce; and the remainder made up of sundries—teak, kauri, and other special woods.

Before concluding, it may be interesting to take notice of an experiment being made at the present time by the Swedish shippers. Considering their British business practically established, the shippers conferred together and agreed to bind themselves to place their credit on nearly the same footing as their Russian neighbours. The effect of this action has not yet become fully apparent, but although these terms have only been in operation a few months, the decline of Swedish sales has been so marked, that considerations for the abolition of this rule are already exercising them. We have referred to this part of the subject with the view of showing how much more influence than the actual merits or demerits in price a hidden cause may exert on the development of a given industry. The question is a common one, Why will foreigners, removed from our shores by hundreds and frequently by thousands of miles, entrust our merchants with six months' credit, while our own foresters, agents, and landlords will not trust them a day, although the timber is retained in their own hands? Forestry in this country has little interest

for the mercantile community, but the foreigner gives us a substantial interest in the subject, and we in return reciprocate the benefit by obtaining our supplies of timber from abroad.

The Brush Bush for colour.—*Eucryphia pinnatifolia* is worth a note for the colour of its leaves in autumn—orange and scarlet, a pleasing contrast. It is hardy, except in the more northern districts of England, although a native of the southern part of Chili. When in full bloom it is of great beauty, the flowers large, white, set off with a central bunch of yellow stamens. They are produced in profusion, and are in charming contrast to the ample foliage.

***Viburnum plicatum*.**—This beautiful *Viburnum* is of note for the deep crimson purplish colour of its leaves in autumn, and is a thoroughly good-all-round garden shrub. We have seen splendid masses of it, but it is not grown so much as one might expect. In large places a bed of it on the outskirts of the lawn is very fine, the habit comparatively dwarf, spreading, and somewhat stiff, very different to the graceful Guelder Rose. The leaves are deep green, crinkled on the surface, and in fine contrast to the wealth of ivory-white flower-heads which wreath the shoots, creating a splendid picture in summer. It is a trifle tender, and should be planted in a warm spot sheltered from cold winds, and in a deep, moderately light soil.

ROSE GARDEN.

ROSES IN FLORAL ARRANGEMENTS.

Roses are ever popular; no flower more so will be generally admitted, I think. When it comes, however, to a question of arrangement after they are cut a good many are at a loss. I have noted this more particularly in horticultural exhibitions where prizes have been awarded for bouquets, baskets, and other arrangements consisting of Roses only. The mistake so often made is that of formality, whilst overcrowding is almost as often seen. Too many colours enter into some arrangements, and in others it would appear as if the buds in various stages of development must be rigorously excluded. Large over-blown flowers are never desirable, but blooms with good long stems to them are requisite. Nothing associates so well with Roses as their own foliage, and as this can generally be had in quantity, there is no excuse for its absence. Take, for instance, the beautiful deep coppery colour of the shoots of *Perle des Jardins*; how well these harmonise with the pale and delicately coloured *Teas*. Long slender and trailing shoots can also be had for other purposes, whilst in large arrangements (as in vases of shallow design) the foliage of *Rosa rugosa* should be noted. In fact one has only to walk around a Rose garden to be able to see suitable foliage to use with the flowers. This does not, of course, exclude the use of Maiden-hair Fern or any other suitable kind; well-hardened pale green fronds of *Adiantum cuneatum* are always welcome. I have frequently used the bronzy foliage of *Mahonia aquifolia*; it stands so well, and will last out two or three cuttings of Roses, whilst in form it is very similar.

The illustration gives an admirable example of the informal arrangement of Roses with their own shoots and foliage. It shows what may be done with a judicious selection of material. When arranged in an artistic manner there is nothing in my opinion that will compare with Roses, particularly the Tea scented and Noisette varieties with soft shades of colour. It matters

not whether it be an epergne, vase, basket, bouquet, spray, or button-hole arrangement; in either case these Roses seem to appropriately lend themselves to the purpose. The season of these kinds, too, is a much more prolonged one than in the case of the Hybrid Perpetuals. At the present time I notice that a quantity of the imported flowers of the Dijon type from the south of France are being offered for sale by the flower girls in the streets of London. In their methods of offering them for sale they have made a new departure (at any rate I have not observed it before). It is to offer them just as they are, with their own foliage and buds, holding a small bunch loosely in the hand, thus forming a most suggestive arrangement in a *négligé* fashion. This is much

the beginning of this article to the fact of Roses being allowed to attain to too large a size before they were cut. This error obtains more in private establishments than in nurseries, probably from want of thought, but more likely from a disinclination to cut what promises to be a good bloom. "Circumstances alter cases," as the saying goes, but it does not alter the fact that a semi-expanded bloom is far better for cut-flower arrangements than a larger one. The florists use the buds to a good account, but they also disfigure the same by reflexing the petals artificially when it suits their purpose to do so.

GARDEN ROSE.

Roses for their fruit.—Many kinds of Roses are of note for their fruit, and this year, as with



Tea Roses loosely arranged in a vase.

better than bunching two or three together for coat flowers, or a greater number for sprays. By the way, as it pertains to sprays, I note also an improvement in several instances, but it is the Roses again that are in the foreground. It is to tie a few together in a haphazard or careless fashion, keeping the tying material confined to within about an inch or so of the flowers, leaving 3 inches or more of the extremities of the stems untied. In this way I have observed them several times, the tying material appearing to be quite small india-rubber tubing about the size of the stems and coloured green. The prevailing fashion of making what are termed "shower" bouquets cannot be made with more suitable material than Roses, particularly with the light-coloured and miniature varieties. Allusion was made at

many other shrubs, they are unusually beautiful. One notices the wild Roses of the hedgerows producing a splendid crop of hips. *R. rugosa* is well worth planting for its fruit alone; large bushes of this kind are very striking. *R. lucida* is charming on the rockery. We remember a fine plant on the Broxbourne rockery, its leafage of a fine glossy deep colour, and the berries of a crimson tone. It is one of the finest for its polished leaves and showy fruit. There is a variety named *Duplex*, the flowers double, cupped in form, and of a blush colour. *R. villosa* is very showy with its red fruits, and two other good kinds are *R. spinosissima* and *R. cinnamomea*. *R. rubrifolia* may be added. The bunches of fruit are rich crimson and the leafage handsome.

A grand yellow climber.—Herewith I send you blooms of climbing *Perle des Jardins*, and as they are from plants barely twelve months old, and

each plant is carrying an average of fifty blooms in various stages, I think it is likely to prove a formidable rival to *Maréchal Niel*. In former notes I have advocated the growing of strong climbers in pots, and upon single rods. I have also recommended their being shifted into larger pots immediately the wood is matured in the autumn. The batch of plants now under notice was treated in this way, and I see a great improvement in their flowering over those forced in the 6-inch and 7-inch pots they were grown in. They are also earlier, although introduced at the same time. This variety was sent out in 1891 by Mr. Hendersor, and is an extra vigorous sport from the *Perle des Jardins* introduced by M. Levet in 1874. In every way it is equal to the old *Perle*, while I have no hesitation in saying one can secure ten times as many flowers from it during the dead of winter. Like the other climbers, it flowers from all well-matured eyes, and should be cut down to its base directly the crop of bloom is realised. I have this and other varieties trained up each side of a span-roofed house, and the quantity of bloom there will be during December and January far exceeds that obtainable under any other system of cultivation. The rods are about 2 feet apart, and the bloom buds from each almost meet. In this way they receive the full benefit of all the light, and being trained in a slanting direction the apex of the house is free and provides plenty of light for the other occupants. I shall probably grow the young rods on in the same position, ripening them out of doors during the next summer. The blooms sent are neither so large nor so heavy as those upon plants which are not being hurried quite so much. This variety is an improvement upon *Maréchal Niel* for out-door culture, being hardier and the buds less subject to injury from cold weather during the early summer, a frequent cause of disappointment with the *Maréchal*.—R.

The staying power of Roses.—On page 482 Mr. J. C. Clarke, writing upon the staying powers of Roses under glass, seems to me to refute his own arguments to a certain extent. I quite agree with him that Catherine Mermet and Anna Ollivier possess great staying powers, but surely the former must rank among our full-petalled varieties. It surprises me to hear such an authority as Mr. Clarke state that *The Bride* is not remarkable for lasting qualities, particularly after instancing Catherine Mermet as possessing this attribute in a great degree. As the two Roses are the exact counterpart of one another, except in colour (*The Bride* being a sport from Catherine Mermet), it is strange that one should possess staying powers and the other not. I have grown *The Bride* in quantity ever since its introduction, and my experience stamps it as one of the most lasting flowers we have. Even in the summer the flowers have kept comparatively fresh for a fortnight.—R.

Rose notes.—The article in your last issue from the pen of Mr. R. Irwin Lynch I have read with great interest. More than once have I been struck by the exceeding beauty of our wild Roses. Here (in mid-Sussex) *Rosa arvensis* (syn. *R. repens*) grows very freely both as a hedge plant and upon rough banks. On the deep clayey banks of a river in my neighbourhood I have been lost in admiration of this Rose. In this connection *R. repens* is more applicable than *R. arvensis*, lengths of 10 yards to 50 yards upon the river bank being quite covered with its creeping branches laden with white blossoms all through June and July. As your correspondent truly observes, there is a great variety of British wild Roses, and now that the single and semi-double varieties are becoming so popular, it would be well if more attention were paid to our native species and their varieties.—R.

Rose Margaret Dickson.—I am somewhat puzzled by "N. S.'s" remarks on this Rose in *THE GARDEN* (page 483). At one part of his note he states, fairly correctly, too, that "as a maiden it seldom blooms," but he subsequently says that under pegged-down treatment, which he has tried, it will without doubt rank as the best white Rose. The point left in doubt is, Has it flowered freely with him under this

pegging-down system? Margaret Dickson is undoubtedly a beautiful Rose, but so far we have had no season in England which has suited it since it has been distributed. I have grown it for three seasons. I think very highly of it as a flower and as a good grower, but apparently it is not yet acclimatised, and I think we must await a damp or a cool season to get the flowers in the perfection with which its raisers (Messrs. Dickson, of New-townards) can exhibit it. Some rosarians are already decrying it, as they are disappointed with the results so far obtained; but I think if we have patience we shall be well satisfied with its performance in the future.—CHARLES J. GRAHAME, *Croydon*

MARKET GARDEN NOTES.

FINE open weather has enabled growers to get their work well advanced, and there is at present a very abundant supply of vegetables of all kinds. Work at present consists mainly in clearing off crops and getting ready for another season.

GLOBE ARTICHOKEs are being protected with litter in case of severe frost, for although we in some years could leave them quite unprotected, it is by no means safe to do so, as a profitable plantation may be ruined by a few exceptionally cold nights.

JERUSALEM ARTICHOKEs continue to increase in size until very late in the season, and for this reason it is advisable to cover the beds with litter and lift the roots as required for market. Although the dry summer weather checked their growth considerably, they have made good use of the autumn and are a heavy crop.

ASPARAGUS—The beds are now getting their winter dressing. The tops, all weeds, and a little top soil having been removed, a good coating of seaweed has been placed on the surface. This is preferable to manure when obtainable.

BROCCOLI is growing rapidly, and even the latest planted crops look strong enough to stand the winter. Layering for protection from frost is not much practised on the coast, for even when Broccoli is killed in walled-in gardens, the crops in open fields usually escape.

CABBAGE.—Planting still continues briskly. The earliest planted crops have made such rapid progress that they will soon be fit for bunching, and if the weather continues mild a good many will be marketed long before they were intended to be, as the autumn rains on soil unusually hot for the time of year caused very rapid growth during September and October.

CAULIFLOWERS of the Autumn Giant kinds are now in fine condition, and are being cleared off rapidly. The first crop, owing to the excessive drought, was by no means good, but later crops are fine, and the frost has not yet been sufficiently severe to injure the heads.

CELERY is much finer than one could have expected, as the drought was very severe during its early stages of growth.

LETTUCES are now in finer condition than they were in summer, having grown rapidly under the influence of mild damp weather. Protection will be necessary if a sudden change occurs.

TOMATOES still continue to ripen slowly in late houses, but the demand has slackened considerably with the return of colder weather. Outdoor fruits cut and hung up in glass houses have ripened well.

Fruit crops are being marketed as quickly as possible.

APPLES are keeping very badly; no matter what the variety or how carefully gathered, they all rot rapidly; even such hard good keeping kinds as Wellington and French Crab are just as bad as the softer kinds, and those who stored large quantities must be careful to remove the rotten fruit.

PEARS are mostly disposed of, except a few of the late dessert and cooking sorts, which are, as usual, repaying any care bestowed on them.

The planting of fruit trees and bushes is being done under very favourable conditions, and although the low prices of fruit may have checked planting in many cases, I do not think on the whole there is any great falling off. Doubtless

the profits on fruit growing were not very large, but the difficulty is to find any other crop that will give such a good return. Old worn-out trees should be grubbed up and replaced by healthy young ones, for it is a waste of labour to save the old trees when young ones are so cheap and come so quickly into bearing. J. GROOM.

Gosport.

SOCIETIES AND EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.

DECEMBER 5.

THE last Chrysanthemum show of the year under the auspices of this society was held at the Royal Aquarium, Westminster, on Tuesday and two following days. It was the finest exhibition for the time of year that has ever taken place, and the competition was worthy of even a November show. In one class, that for twelve Japanese blooms, there were no less than twenty-one entries, and every class was thoroughly well represented. The flowers, too, were superb, especially the incurved. But the great feature of the exhibition, and one that we are delighted to see, was the free and bold arrangements from nurserymen. The good example set at the November exhibition of the same society was carried out to perfection on this occasion. Mr. Jones, Ryecroft Nursery, Lewisham; Mr. Davis, Camberwell; Mr. Owen, Maidenhead, and other growers had remarkably fine displays. The flowers in each case were cut with long stems, and brought out the beauty of the Chrysanthemum as a flower for decoration. The exhibition was alone worth a visit for these arrangements.

Cut Blooms.

The schedule, a not very large one, was confined chiefly to cut blooms, but the tremendous competition resulted in a large space being covered. The winner, out of eleven competitors, for twenty-four blooms, Japanese, not less than eighteen varieties, was Mr. Rowbottom, gardener to Mr. H. R. Williams, The Priory, Hornsey. It is worth while giving the names of the finer flowers, as they were superb for freshness and colour, particularly good being *Etoile de Lyon*, Mlle. Thérèse Rey, M. Bernard, *Beauty of Castlewood*, J. Stanborough Dibbings, Mrs. E. W. Clarke, *Pearl Beauty*, Princess May, Mrs. C. Harman Payne, Lord Brooke, G. C. Schwabe, *Princess Victoria*, E. Molyneux, W. H. Broomhead, *Boule d'Or*, and *Lizzie Cartledge*. One variety named *Umpire* is a poor thing, one of that objectionable type which is as much an incurved flower as a Japanese. The second prize was awarded to Mr. W. Collins, gardener to Mr. J. W. Carlile, Ponsbourne Park, Hertford, his finest blooms being those of Vice-President Audignier, G. W. Childs, a variety that has been greatly overpraised, *Etoile de Lyon*, and Mlle. Marie Hoste. Mr. H. Alderman, Morden Hall Gardens, Surrey, was third. It is worth mentioning, as the competition was so keen, that an extra prize went to Mr. W. G. Gilbert, gardener to Mr. Le Neve Foster, Sennowe Hall, Guist, Norfolk, who had a superb flower of *Etoile de Lyon*. In the class for twelve flowers, distinct, the first prize was awarded to Mr. Turk, gardener to Mr. P. Bosanquet, Penfield, Herts, who won against twenty competitors, all exhibiting good blooms. His flowers comprised *Beauty of Castlewood*, *Pelican*, W. Lane, *Etoile de Lyon*, Mrs. C. H. Wheeler, J. Stanborough Dibbings, E. Molyneux, Mrs. E. Beckett, G. C. Schwabe, Vice-President Audignier, Mrs. E. W. Clarke, and Mrs. J. S. Fogg. An excellent second was Mr. W. G. Gilbert, whilst Mr. E. Rowbottom was third. There were no less than eighteen competitors for six Japanese, distinct, and the best flowers were those from Mr. C. Cox, gardener to Mr. J. Trotter, The Grange, Brickenden. His blooms of *Vivand Morel*, G. C. Schwabe, Mrs. E. W. Clarke, *Beauty of Castlewood*, *Etoile de Lyon*, and Herbert Owen were very creditable for

the season. Mr. W. Collins, who showed Vice-President Audiguier, Col. B. Smith, Mrs. E. W. Clarke, Etoile de Lyon, E. Molyneux, and G. C. Schwabe remarkably well, was second, and Mr. H. Shoesmith, gardener to Mr. Hodgson, Shirley, Croydon, third. A class we were pleased to see was for twenty-four bunches, any varieties, but, unfortunately, the first prize exhibit, from Mr. C. J. Waite, Glenhurst Gardens, Esher, was far too crowded. The exhibit was utterly spoilt for this reason. It is a laudable object to have such classes, but the exhibitors must remember there is such a thing as tasteful arrangement. The reflexed variety Putney George was splendidly shown, the flowers rich crimson, tipped with gold—a rich contrast of colour. We preferred the second prize exhibit from Mr. C. W. Knowles, gardener to Mrs. Chas. Egerton, Solna, Roehampton, because less jumbled. One single variety named Mr. Robertson is of note, the flowers pink and white—a pleasing kind. A corresponding class to this was for twelve bunches, but confined to the Japanese section. We must make the same remark here as in the other case; the flowers were lumped together anyhow. Mr. C. W. Knowles won the first prize, and had good individual flowers, whilst Mr. W. Tipler, gardener to Miss Smith-Dorrien, Hartwell Villa, Aylesbury, was second. For six bunches, Japanese, distinct, Mr. A. Newell, gardener to Sir E. Saunders, Fairlaw, Wimbledon, was a capital first, Mr. C. W. Knowles second, and Mr. D. E. Crane third. A pleasing class was for twelve bunches of single varieties, three sprays in a bunch, the first prize being awarded to Miss R. Debenham, St. Albans, who had such fine kinds as Jane, Jenny Lind, narrow yellow coloured florets, Mary Anderson, and Souvenir de Londres; whilst the second award was made in favour of Mr. W. C. Pagram, gardener to Mr. F. Hobhouse, The Whin, Weybridge.

The incurved section was remarkably well represented. The competition was keen in the class for twelve blooms, not less than six varieties, the first prize being won by Messrs. W. and G. Drover, Fareham, Hants, who showed even, well-incurved flowers of Mrs. N. Davis, which is a little lighter in colour than Mme. Danier, Lady Dorothy, Lord Alcester, Princess Teck, Alfred Salter, Mrs. Robinson King and Mrs. Sharman, which has finely incurved petals of a creamy white colour. The second prize was awarded to Mr. W. G. Gilbert, and the third to Mr. H. Alderman. Sixteen competed in the class for six incurved, distinct, Mr. H. Alderman being first with excellent blooms of Golden Empress of India, Princess Teck, Lady Dorothy, Lord Alcester, Empress of India, and Barbara, whilst Messrs. H. Shoesmith and W. and G. Drover were second and third respectively. One class was for twelve blooms of the variety Princess Teck or any of its sports. Very highly finished flowers were those from Mr. H. Shoesmith, who was placed first. Mrs. N. Davis, Lady Dorothy, Hero of Stoke Newington, and Chas. Gibson were the principal flowers. Mr. W. G. Gilbert and Mr. G. E. Smith, second and third.

Two classes were provided for amateurs, one for six varieties, Japanese, distinct, in which there was very good competition. Mr. Thos. Lansley, Watford, was first. Etoile de Lyon and Beauty of Castlewood were well shown. The other class was for a tall vase—Mr. D. B. Crane, Archway Road, N., having a very pretty arrangement, and was placed first.

A special prize was offered by Mr. H. J. Jones, Hither Green, Lewisham, for six blooms, distinct, of any varieties introduced in 1892 and 1893. Mr. Rowbottom was first, showing Le Verseau, a full reflexed Japanese variety, rose-purple in colour, W. H. Broomhead, bronzy yellow, and several others, including Waban, an ugly flower, broad and coarse in the petals, and not worth a place in collections.

There were also classes for Cyclamens and Chinese Primulas, but the exhibitors were not numerous. The first prize for twelve well-grown Persian Cyclamens went to Mr. W. Cook, gardener to the Hon. Sir Charles Murray, The Grange, Old Windsor. Mr. W. Howe, gardener to Mr. H. Tate, Park Hill, Streatham, was first for a collection of

flowering, berried and fine-foliaged plants arranged for effect. The effect would have been better in this case if the spikes of Calanthe, instead of being stiffly tied to stakes, had been allowed to hang naturally.

Miscellaneous.

As at many other shows, the miscellaneous collections were more interesting than those in competition. The principal feature was the arrangement from Mr. Jones, which was most deservedly awarded a gold medal. Eleven large and handsome vases were filled with splendid blooms, representing all the leading novelties, which have been previously mentioned in THE GARDEN. Maiden-hair Ferns formed the groundwork, and the margin consisted of flowers in distinct blocks, so to say, of colour. This bold arrangement of flowers was carried out admirably by Mr. Davis, of Camberwell. Many vases were used, each filled with distinct varieties, and the exhibit in every way was worthy of this grower (silver medal). Mr. R. Owen, Maidenhead, who showed a splendid collection of seedlings and named new kinds, arranged the flowers with the greatest taste (silver-gilt medal). A similar award went to Mr. W. Wells, Redhill, for a bank of flowers, a novel, but certainly not a pleasing style of arrangement. Mr. G. Stevens, Putney, was given a silver medal for cut Chrysanthemums shown in bold bunches. A very fine group came from Messrs. H. Cannell and Sons, Swanley, comprising not only Chrysanthemums in great variety, but a noble collection of zonal Pelargoniums, amongst which especially worthy of note were the single varieties Mme. Melba, white, flushed salmon-rose; Etoile de Lyon, scarlet, white centre; Albion, white; Mme. de Bondeville, white, flushed with rose; Stella Massey, soft pink, and Ethel Lewis, rose, white eye, besides that splendid double variety, Raspail Improved (silver-gilt medal). Mr. T. Witty, Nunhead, had a group of Chrysanthemums of much interest (silver medal). A silver medal went to Messrs. W. Cutbush and Son, Highgate, for a delightful group of winter plants, comprising bunches of Mrs. Leopold de Rothschild Carnation, Orchids and Skimmia oblata Foremani, bright with a profusion of crimson berries. Mr. E. A. Holmes, Hackney, had decorative plants and Mr. E. Rowbottom Chrysanthemums, Chinese Primulas and other things (silver medal). Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, had a table of Chrysanthemum flowers charmingly arranged in epergnes (silver-gilt medal). A similar award went to Mr. H. Perkins, Greenlands, Henley-on-Thames, for a collection of Amaryllis, Chas. Davis, a crimson variety, being of unusually fine form. A silver medal was given to Mr. C. J. Waite for vegetables remarkably well grown. A novel idea for wreaths consisted in having a cork foundation, with tubes inserted at intervals for the flowers. Mr. J. E. C. Neilson, Nunhead, S.E., was the exhibitor.

A meeting of the floral committee of this society was held at the Royal Aquarium on Tuesday last, when Mr. George Gordon took the chair.

First-class certificates were awarded as follows:

JUDGE HOIT. — A large Japanese Anemone-flowered variety with rosy blush quilled ray florets incurving at the tips and a rather flat white disc. Shown by Mr. H. J. Jones.

COLONEL T. C. BOURNE. — A Japanese flower of attractive appearance and good size. It has long flat florets of a deep rich wine coloured crimson and a golden reverse. From Mr. R. Owen.

LORD ROSEBURY. — An incurved bloom of the old florist's type. This is a large flower, and the petals incurve very regularly; the colour is deep purple-crimson. From Mr. R. Owen.

AMARYLLIS CHAS. DAVIS. — A large flower with broad crimson petals and a greenish white throat. Shown by Mr. Perkins.

Among other novelties were three curious small-flowered Japanese Chrysanthemums with thread

petals, said to have been received from Japan, but they were unnamed. A vote of thanks was awarded to the exhibitor, Mr. Morter. Miss Maggie Blenckiron, a large, broad-petalled incurved Japanese, rather loose, but of a bright canary-yellow, was good, as was Potter Palmer, an American seedling Japanese with short, stiff white petals. Richard Dean, a rich crimson and gold Japanese, was staged for the third time this season, and only lost a certificate by one vote. Several other flowers which have been mentioned in these columns of late were exhibited, such as Mrs. J. Gardiner, Pearl of Maidenhead, Niveum, Pearl Beauty, Mrs. F. L. Ames and C. B. Whitnall. A few novelties which looked promising were requested to be presented again.

PUBLIC GARDENS.

Recreation ground for West Hampstead.

—At a recent meeting of the Hampstead Vestry it was decided to open negotiations with Sir Whitaker Ellis, the agent for Sir Spencer Maydon Wilson, for the purchase of about ten acres of land situated in West Hampstead, for the purposes of a recreation ground.

Bushey Park, Hampton Court.—The First Commissioner of Her Majesty's Office of Works has consented to erect another gate for Bushey Park, Hampton Court, in accordance with the numerous signed petition presented to him a month or two ago. The new gate will be situated midway between the Hampton Wick and Teddington entrances to the park.

The College Park at Dublin.—Mr. Burbridge, curator of the University Botanic Gardens at Dublin, has lately been appointed by the Provost and senior Fellows to the charge of the fine piece of ground round Trinity College itself, a noble sort of play and pleasure ground in which the College stands apart in a stately way. We are glad of this, not only as an evidence of confidence in the curator of the College Botanic Gardens, but also for the sake of the College Park itself, as, without taking from its value as a play-ground and air-ground in a large city, it may be possible to add some further charms in the way of trees and garden pictures.

Proposed extension of the Embankment.

—The London County Council appears to have lent a willing ear to the suggestions of the Chelsea Vestry with regard to the extension of the Embankment. The Council have got so far as to be negotiating with the Vestry as to the contribution which the latter body is prepared to make toward the cost of the undertaking, and the Vestry have determined to make an offer of £8000 in cash, and to undertake the filling up of the ground adjoining the proposed Embankment wall, which is estimated to cost another £8000. This is an improvement which would furnish a large amount of work for the unemployed in the district.

The opening out of Gray's Inn Gardens

—The benchers of Gray's Inn, in reply to a communication from Clerkenwell Vestry, state that they are willing to entertain the proposal to substitute a dwarf wall and railing for the present high wall of Gray's Inn Gardens abutting on Theobald's Road, provided the Holborn District Board of Works would pave with wood the roadway from Raymond Buildings to Holborn Town Hall, and from the Town Hall to Holborn. In the event of the local authority acceding to this condition, the beautiful grassy and well-timbered gardens—of ancient and historic interest—will be exposed to public view, and the amenities of the neighbourhood appreciably improved.

Proposed new open space.

—It was reported by the Parks Committee of the London County Council that the Vestry of Lee had asked for a contribution towards the cost of acquiring a piece of

land in Manor Lane, Lee, for a public recreation ground. The price asked was £800 per acre, and it was estimated that £500 an acre would have to be expended in laying it out, and that the cost of maintenance would be £550 a year. The site was contiguous to a district largely populated, and the nearest open space was Blackheath, upwards of a mile distant. The committee recommended the council to grant a sum not exceeding £2000 towards the cost (£6400), and to undertake its maintenance. Alderman Beachcroft moved that before taking action the Parks Committee should report as to whether it was prepared (and on what principle) to undertake the maintenance of small open spaces. The discussion was adjourned.

NOTES OF THE WEEK.

Ipomœa Horsfalliæ var. *Briggsi* is in bloom in the Victoria Regia house at Kew. It is a splendid climber for a stove, free, very vigorous, and bearing a profusion of splendid crimson-coloured flowers.

Two beautiful hybrid *Rhododendrons* which we noticed a few days ago at Manor House, Acton, are Princess Alexandra and Favourite. The former bears a well-shaped truss of massive flowers, each of a very delicate silvery blush colour, whilst those of the latter are rose.

Pleione birmanica.—*Pleione*, or *Cœlogyne* *birmanica*, as it is now called, was in bloom recently in the Kew collection. It is a rare species, and first found by Col. Benson on the Arracan Mountains at about 3000 feet elevation. The flowers are purplish rose in colour, and similar to those of *P. Wallichiana*.

Skimmia oblata *Foremani*, exhibited by Messrs. Cutbush & Sons, of Highgate, at the recent Royal Aquarium show, is a very useful and bright shrub for the greenhouse or for decoration at this season. The leaves are of a fine green colour, leathery, and the crimson berries are produced with great freedom.

Lithospermum prostratum, as grown here, is not in the least herbaceous, but a veritable shrub if anything is. It exists in spreading masses of from 1 foot to 12 feet across, billowy tufts in some parts quite 2 feet high; it flowers nearly the year through. It is a fine hater, and quickly assumes a different habit when it gets into soil it does not like.—T. SMITH, *Nerby*.

Metrosideros floribunda, or *Callistemon salignus*, is a handsome Australian plant when grown in a large tub, as in the greenhouse at Kew. A specimen was in full bloom a few days ago and smothered with large bottle-brush-like flowers of deepest crimson. The *Metrosideros* share the same fate as many another class of hard-wooded plants in gardens, and are rarely grown well.

Oncidium ornithorrhynchum is a charming Orchid, in bloom recently at Manor House, Acton. It is a good species for an amateur, bearing graceful spikes of purple-rose-coloured flowers at this season, whilst they are also very sweetly scented, not unlike new-mown hay. It should be grown in a basket and the flowers last a long time in beauty. There is also a white variety named *albiflorum*, which, however, is rare.

Salvia leucantha is a very distinct variety and makes a handsome plant for the greenhouse at this season. It is shapely in habit, the leaves abundant, narrow, deep green on the upper surface, but covered with a fine down underneath, whilst the flowers are produced in long spikes and quite woolly in aspect. They are of a mauve-rose colour, and against the white woolly covering very pleasing.

Medinilla amabilis in bloom in the stove at Kew reminds one of a genus none too well grown in gardens. *M. amabilis* bears a raceme of pleasing rosy coloured flowers and the leafage is of bold character. One of the most handsome of all stove plants is *M. magnifica*, which has very fine

flowers and foliage, the pendent racemes measuring about a foot in length, the flowers and conspicuous bracts rose-pink in colour.

Two *Chrysanthemums* of note now in the Chiswick collection are *Orange Beauty*, a Japanese variety, and the single *canariense*. It is not often one sees them in gardens, but they are well worth growing. The former produces a wealth of comparatively small flowers of an intense yellow colour, the lower petals suffused with chestnut-red. Those of the latter are soft yellow and of pleasing form. Both are delightful kinds for cutting.

Manettia bicolor, recently in bloom at Kew, is a bright flower too little seen in gardens. It has been long introduced, but is not by any means common. When trained in a kind of balloon-like form it is remarkably attractive, the leafage very abundant, and set off by a wealth of flowers, individually showy by reason of their scarlet and yellow colours. The plant is readily propagated by cuttings, and the wonder is that, blooming at a dull season of the year, it is not common.

Narcissus monophyllus.—The pure white Hoop-petticoat *Narciss* is a delightful bulb for pot culture. It should be grown freely for winter flowering, and the way to grow it is to plant the bulbs early, using sandy soil. After putting them in pans remove to a cool frame, where they should remain until the buds appear. If transferred to a mildly heated house they will expand freely. A succession may be easily kept up by relays. The flowers are useful for button-holes and choice decorations.

Lælia Dormaniana is a fine Brazilian Orchid sometimes described as a species, but supposed also to be a hybrid between *Cattleya bicolor* and *Lælia pumila*. A well-grown plant is in bloom at Manor House, Gunnersbury. It blooms very freely, but the flowers do not last a long time in beauty. The colour varies, but usually the sepals and petals are rich olive-green spotted heavily with crimson, the side lobes pale purple, whilst the centre lobe is deep crimson, white at the base.

Oncidium tigrinum.—This is one of the most beautiful Orchids in bloom now. We noticed several plants in beauty at Messrs. Shuttleworth and Co.'s nursery at Peckham Rye, and at Manor House, Gunnersbury. The flowers are not only of bright colour, the sepals and petals brown with yellow markings, and the lip self yellow, but sweetly scented like Violets. Its fine branching spikes are also in beauty at this season, and last fresh for several weeks. It is not difficult to grow well, and is as useful and attractive as any Orchid in flower in late autumn and winter.

Cymbidium affine.—A specimen of this beautiful species, which belongs to the thin-leaved section of the genus, was in bloom recently in the collection of Mr. Gledstanes at Acton. It is quite a gem amongst *Cymbidiums*, the leaves broader than in either of its relatives, *C. Mastersi* or *C. eburneum*, whilst the flowers are borne freely in a raceme, as in *C. Mastersi*. They are individually of great beauty, neat, and pure white, the lip crimson-purple in colour, with the side lobes spotted with the same shade. It is sweetly scented and valuable for winter blooming.

Plumbago rosea.—One of the best groups of this fine old plant we have seen recently was in the garden of Mr. Gledstanes, Manor House, Acton. The plants are in $\frac{1}{2}$ -inch pots, dwarf, bushy, well furnished with rich green leaves, and bearing a free display of the bright red flowers. The plants are kept in a cold frame during the summer, and one is surprised such a bright flower is not more common. Unfortunately, near the vicinity of large towns fog soon spoils the flowers. This *Plumbago*, judging by its comparative rarity in gardens, might be considered almost a novelty, but it was introduced from the East Indies as far back as 1777.

Cyclamens of poor colour.—One cannot help noticing that the Persian *Cyclamen*, although far finer in many ways than the varieties of old, is not faultless in colour. It is too much the fashion to get purple, magenta, and dull rose or crimson shades into the flowers, which spoil otherwise

beautiful strains. This is a great pity, as the flowers are handsome in form, bold, and borne on sturdy peduncles, whilst the plants as regards habit have undergone manifest improvement. We hope raisers of new varieties will strive to get acquisitions of decided colour, and eradicate all traces of objectionable magenta or dull leaden shades.

Nicotiana affinis.—I quite agree with all that Mr. Flemyng says respecting this beautiful plant. It grew with much vigour in my garden this season, only ceasing to bloom when cut by frost, and towards evening the air was redolent with its perfume, which is always present more or less, but very faint in the day as compared with evening and night. It is a good flower for cutting, and lasts fairly well in water. Like many other half-hardy things, it produced quantities of good seed this year, some of which I have saved, but much was shed. I am curious to see if it will come up in the open ground from self-sown seed.—GREENWOOD PIM.

Tasmanian plants.—In Sir Joseph Hooker's great work, "The Flora of Tasmania," a copy of which recently came into my possession, there are several hundreds of coloured portraits of plants by Fitch; amongst them a very few seem to have found their way into this country, or if imported at all are to be seen only in botanic gardens. There are certainly many that ought to be better known here, and as the climate in some parts of the island at least closely resembles that of England, there is little doubt that a goodly number would be quite hardy with us. It looks as though it would be a happy hunting ground for the temperate or hardy plant collector. It is singularly rich in terrestrial Orchids, amongst which there are some extraordinary flowers. In shrubs and herbaceous plants there is a great variety that the ordinary cultivator never hears of. I am aware there are some Tasmanian shrubs to be found in a few nursery catalogues, but they seem a very small proportion of the large desirable number of plants indigenous there. From the large number of plants figured I have selected a few that I cannot help thinking would remunerate the importer. There are many hundreds of plants described, but not figured, out of which doubtless a large proportion would be equally worthy of culture.

<i>Coprosma nitida</i>	<i>Calochilus campestris</i>
<i>Eurybia lirata</i>	<i>Acianthus caudatus</i>
<i>floribunda</i> and several others	<i>Caladenia filamentosa</i>
<i>Brachycome decipiens</i>	<i>clavigera</i>
<i>tenuis</i> <i>capa</i>	<i>dilatata</i>
<i>Ozothamnus Hookeri</i>	<i>Paterosni</i>
<i>scutellifolius</i>	<i>Dipodium punctatum</i>
<i>selaginoides</i>	<i>Dianella tasmanica</i>
<i>lycopodioides</i> and several others	<i>Cyperus sanguineo-fuscus</i>
<i>Helicrysum Milligani</i>	<i>Hibbertia ericefolia</i>
<i>Senecio leptocarpus</i>	<i>Drosera gracilis</i>
<i>capillifolius</i>	<i>foliosa</i>
<i>Centropappus Brunonis</i>	<i>Eucryphia Milligani</i>
<i>Microceris Fosteri</i>	<i>Phlebalium truncatum</i>
<i>Gaultheria lauceolata</i>	<i>Boronia Gunnii</i>
<i>antipoda</i>	<i>Cryptadenia Gunnii</i>
<i>Pernettya tasmanica</i>	<i>pimeleoides</i>
<i>Cyathodes divaricata</i>	<i>alpina</i>
<i>Archeria birtella</i>	<i>Pultenaea Gunnii</i>
<i>Richea pandanifolia</i> , a tropical-looking tree	<i>Bossiaea cordigera</i>
<i>Prostanthera rotundifolia</i>	<i>Leptospermum rupestre</i>
<i>euneata</i>	<i>Bauera rubioides</i>
<i>Trichinium spathulatum</i>	<i>Dichopetalum ranunculaceum</i>
<i>Diuris maculata</i>	<i>Panax Gunnii</i>

—J. M., *Charmouth, Dorset*.

The weather in West Herts.—Another week of changeable temperature. On Thursday in last week the highest reading in shade was 49°, but on Saturday 35° was at no time exceeded, and on the following night the exposed thermometer indicated 19° of frost. The reading last mentioned is the coldest as yet recorded this winter. At 1 foot deep the temperature of the ground now stands at 39°, but at the depth of 2 feet is 2° warmer. On Friday there occurred a light fall of snow, the flakes of

which, however, melted on reaching the ground. On Saturday the sun was shining brightly for six hours, which is a splendid record for a winter month. November was the first unseasonably cold month since January. The total rainfall exceeded the average by nearly half an inch, bringing up the excess for the first two months of the present drainage year to $1\frac{1}{2}$ inches. The last Rose bloom of the season was destroyed by frost on November 22, which is nearly a fortnight earlier than the average date of its destruction in the previous eight years.—E. M., *Berkhamsted*.

OBITUARY.

MR. E. S. DODWELL.

THOUGH Mr. E. S. Dodwell had been ailing for a long time, his somewhat sudden death on the 30th of November came as a surprise to the many florists and lovers of the Carnation who knew him personally or by repute. He had, during a long and active life, been so prominently associated with the development of the Carnation and the improvement of its various sections, as to have become a central figure at Carnation shows, and a lawgiver to those who estimated the Carnation according to the florists' standards. Though he never refrained from zealously advocating the employment of the flower for border and general garden decoration, he ardently and successfully sought to add size and refinement to the flowers grown for exhibition. The selfs and fancies were equally his care, and he obtained from seed many of the former that take rank among the most approved border flowers. Of the many hundreds of seedlings he annually raised, all were planted out in the open and wintered there to bloom and display what qualities they possessed. Constitutional vigour Mr. Dodwell always held to be a matter of prime importance, and a year's probation in the open ground tested this fully. He had been a raiser of seedlings for something like a quarter of a century, making the Picotee and Carnation his first care. Of late years he introduced some very fine Carnations—bizarres and flakes, selfs and fancies. One of his latest productions was *Othello*, s.b., a brilliant flower that was shown in fine character in 1892, but which, owing to the smallness of the stock, could not this autumn be put into commerce, or only to a very limited extent. He took great interest in the more modern yellow ground varieties, and the Kilmurry yellow seedlings having passed into his hands a few years ago, he distributed several by name, and raised seedlings from them of high quality, so numerous, indeed, that they were sent out under numbers rather than under names. As a cultivator Mr. Dodwell excelled. When he settled in Oxford in 1881 he planned and laid out a Carnation garden the like of which probably does not exist in the country. For plants in pots he built shelters and structures that while screening the flowers from the elements, yet enabled them by full side exposure to be grown as hardy as if in the open. He usually cultivated some 3000 plants in pots, while almost the whole of his garden in the Stanley Road was aglow with Carnations of all types. A short, sturdy growth characterised his plants, and they had all the care and attention the devotion of a lifetime could give them. He systematically and scientifically cross-fertilised for the production of new forms. He had an intimate knowledge of the structure of the flower of the Carnation. As a dresser of flowers for exhibition he scarcely had a rival, and in setting up a stand of blooms he had a keen appreciation of contrasts of and harmonies in colours. His book on "The Carnation and Picotee," which may be said to sum up the experience and successful practice of a lifetime, is one of the classics of floriculture, and one can scarcely withhold regret that Mr. Dodwell was not a contributor to the "Carnation Manual" recently issued by the National Carnation and Picotee Society of London. Born at Long Crendon, Bucks, on November 28, 1819, he had just completed his seventy-fourth year.

He resided in his birthplace until he went to live at Derby in 1845, but meanwhile he had been engaged in commercial pursuits in London. While at Derby he became an enthusiast in Carnation culture, and becoming first an exhibitor and then a successful raiser, he not only effected marked improvements in the flower, but also taught better modes of exhibiting, raising the standard of excellence also. He gave a great impetus to the establishment of Carnation exhibitions in the midland counties, and for some years acted as secretary to the Midland Counties Horticultural Society. As a judge of Carnations his services were in great request. He was a contributor for some time to the *Midland Florist*, then edited by Mr. J. F. Wood, and to the *Florist*, then conducted by Mr. Charles Turner. In 1856 Mr. Dodwell, in conjunction with the late Mr. John Edwards, started *Gossip of the Garden*, a monthly publication that had a successful run for a few years. In 1860 he left Derby to reside at Clapham, London, where he grew Carnations with marked success, and in conjunction with others founded the National Carnation and Picotee Society (southern section). Mr. Dodwell left London for Oxford in 1881, and after breaking away from the London society, he in 1885 established the Carnation and Picotee Union. For nine years an exhibition annually held in Mr. Dodwell's garden in the Stanley Road, Oxford, was always largely attended, as the gathering partook of a much more social and friendly character than is generally the case. He was an assiduous and methodical worker up to the very last, harder indeed than many men work at this period of their lives, an indomitable spirit possessing him to the last. His death removes a master-mind and a master-hand from among the florists of England. Mr. Dodwell leaves a widow and several sons and daughters. He was buried in the Holywell Cemetery at Oxford on the 5th inst. R. D.

Death of Mr. W. Howard.—We regret to announce the death, at the age of 58, of Mr. W. Howard, of Southgate, one of the best known gardeners about London, from the time when he was gardener, many years ago, at Bedford Hill, Balham. He was not fortunate in recent years, but nothing damped his enthusiasm. He was an excellent plant grower, as proved at many exhibitions.

Plantains on Grass (*J. D. C. L.*).—On a part of the park here where this weed is very abundant there being more of it than of Grass, I had to make a new cricket ground some ten years ago, and as it was wanted for use the following season, the turf had to be used again, with the result that this Plantain was soon as thick as ever. I have adopted several plans for the destruction of the Plantain with varying success. Sulphuric acid (oil of vitriol) was as good as anything I have tried. A wide-necked pickle bottle is used to carry this dangerous article in, with a piece of copper wire fastened securely round its neck, having a long loop by which to carry it with. A sharp-pointed stick which is held in the other hand is dipped (not too deeply) into the acid and driven into the crown of the weed. Every care should be taken when using this acid that it does not to touch the hands, boots or clothes or it will burn them, and as a precaution gloves may be used. In the event of any accident it should be known to all who use it that immediate immersion in water is the only cure. Many of the patent weed-killers that are advertised will answer the same purpose as the acid, and are used in a similar manner. There are machines made to be charged with one or other of these weed-killers, but owing to their not being properly adjusted generally too much of the liquid is applied, which causes whole patches of Grass and weeds to perish. The variety of Plantain under question has a small bulb at its base, and I have had as great a success when the plant has been lifted by means of a daisy fork right out of the soil. When this course is followed the work should be done either late in autumn or early spring, and the whole have a

dressings of strong soil which should be brushed into the holes, and after the Grass begins to grow give the whole a thorough rolling. No one can expect to destroy the whole of these weeds in one season, as many plants that are now very small will by another year be much larger, but by following up the practice for a few years great improvement will follow. Another precaution is to take care that the plants left are not allowed to seed. In carrying out this work it is a good plan to have two lines stretched across the ground and the space between them thoroughly looked over, leaving the front line in its place while the back line is brought to the front, thus taking in another width. This prevents going over the same ground again.—C. WARDEN, *Clarendon Park*.

—“J. D. C. L.” will find that a mixture of sulphate of iron and sulphate of ammonia, in the proportion of two of the former to one of the latter, and applied at the rate of 1 cwt. to 300 square yards, kills most weeds on Grass, fostering the growth of the latter. The time to apply this mixture is just before growth starts, and a dry period suits best. The iron sulphate should be finely ground, and the sooner it is applied to the land the better, as it has a tendency to set.—R. C. H.

Tree roots in wells.—I would beg for a little space to direct attention to what is really a very important matter. I have several wells, from one of which the water is taken for drinking. Some years ago this water became so bad that we could not drink it. I could not understand why such a change came about, as I was sure that no sewage or foul matter of the kind ever had a chance of entering the well. The water getting worse, the well was cleaned out, and then the cause of mischief was plain. The sides of the well were covered with tree roots, which found their way there in summer and rotted during the winter. This had evidently been going on for some years, so that there was a considerable accumulation of vegetable matter at the bottom. Our local builder tells me that this is a by no means uncommon state of affairs. In a well 20 feet deep the surface of the water was covered with a network of roots. In country districts where water for all purposes is obtained from wells, it behoves the owners to have them seen to every three or four years, that is, if trees are sufficiently near to admit of their roots making their way to the water.—J. C. B.

Gardeners' Royal Benevolent Institution.—We are asked to state that his Grace the Duke of Bedford has contributed £100; Mr. Bailey Wadds, of Birdsall, Yorks, £2 11s.; and the Reigate and District Chrysanthemum Society, £31 10s. to the funds of this institution.

Royal Horticultural Society.—The last meeting of this society for the year 1893 will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, December 12. The fruit, floral, and Orchid committees will assemble at 12 o'clock, and new Fellows will be elected at 3 o'clock.

Panicum plicatum.—I have some seed of this beautiful and stately greenhouse Grass that I would be pleased to share with anyone who cares for such things and who will send me a stamped directed envelope. Some of the seed is not yet quite ripe, so some delay may occur. In my little intermediate house it grows 9 feet or 10 feet high, its beautiful plicate leaves being often 3 feet long by 5 inches or 6 inches wide.—GREENWOOD PIM, *Monkstown, Dublin*.

Names of plants.—*G. C.*—*Cœlogyne fimbriata*.—*J. Davidson*.—*Cattleya labiata*, a good light coloured form.—*C. B. M.*—1, *Hymenophyllum dilatatum*; 2, *Asplenium longissimum*; 3, *Cattleya luteola*.—*G. Hudson*.—1, *Ficus religiosa*; 2, *Vanda Sanderiana*, poor variety; 3, *Pavetta borbonica*.—*H. Geraldson*.—1, *Nephrودیum molle*; 2, *Asplenium viviparum*; 3, *Davallia canariensis*; 4, *Hymenophyllum erinitum*.—*G. Fisk*.—1, *Cattleya Bowringiana*; 2, *Pleione maculata*.—*Eustace F. Clarke*.—1, *Reineckia carnea*; 2, *Boussingaultia baselloides*.

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"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—Shakespeare.

ROSE GARDEN.

WILD ROSES.

THE able and interesting article of Mr. Irwin Lynch in the issue of THE GARDEN for November 25 last comes at an opportune moment, for if seedling Roses are to be raised now is the time to secure the heps, and to put them in boxes or pans of earth for the winter preparatory to sowing the seed in the spring. Moreover, there is no doubt that where plants of Rose species are desired, the most satisfactory way by far of obtaining them is from seed.

The fact that a considerable number of species are beautiful garden plants is being gradually recognised, and fine examples are now to be found in not a few gardens. But the difficulty, of course, remains that no amount of enthusiasm can make space enough for many species in a small garden, while in a large garden no amount of space will create enthusiasm. It would really seem as though, in Rose growing, enthusiasm varied inversely as the size of the garden. Yet it is only in large gardens that one can hope to see anything like a collection of Rose species, and of large gardens again only in those in which some unconventionality or naturalness is allowed. For it is in gardens where there is something of a wilderness—not using the term at all in the sense of a desert, but rather as indicating where plants may grow somewhat wilder than under the conventional garden restriction—that many of the Rose species, especially the native ones, may be seen to the greatest advantage; in such a situation as that shown in Mr. Alfred Parsons' beautiful picture of *Rosa arvensis*, the most beautiful of all our English Roses, with its wonderful contrast of snow-white petals and golden stamens unsurpassed in any other Rose, even if equalled by *Rosa moschata*. Growing on a wooden shed, I have a large plant of Bouquet d'Or, which was budded on a cutting of *Rosa arvensis*. Every year one long shoot from the stock is allowed to grow as it pleases, and the effect of the clusters of white blossoms, which, of course, expand before those of the scion, amongst the deep glossy foliage of Bouquet d'Or is very charming.

Some years ago I set about making a collection of growing plants of Rose species, and in this attempt to get the native and other Roses together, in which I received most kind and valued help from Mr. Irwin Lynch in the matter of heps of many species and varieties from the Cambridge Botanic Gardens, great numbers of seedlings were raised and planted out. Unfortunately, lack of leisure prevented my carrying out my

intention as fully as I had wished, and much of the original material is now a tangled thicket; but several species are still an annual delight, notably *Rosa hibernica*, a charming plant, masses of the delightful Burnet Rose (*R. spinosissima*), and a hedge of Sweet Brier (*R. rubiginosa*). In raising many seedlings of Sweet Brier I did not find much variation, but there are, of course, several double and semi-double forms of considerable beauty, in addition to Lord Penzance's many interesting seedlings, the most beautiful of which, Lord Penzance and Lady Penzance, the results of crosses with varieties of *R. lutea*, I believe Messrs. Keynes, Williams & Co., of Salisbury, hope to distribute next autumn.

I note, however, that to this species (*R. rubiginosa*) Mr. Irwin Lynch refers *Rosa macrantha*, which argues some confusion in the matter of names. For the *Rosa macrantha*, that has gained such popularity in gardens during the last few years, certainly does not answer to the description given by Mr. Irwin Lynch, as having "rather pretty flowers, though they are somewhat small"; on the other hand, it is one of the most magnificent of all the single Roses, and, as I understood, was referred by Mr. Baker to *R. gallica*.

In regard to *Rosa rugosa*, it is certainly worth while to grow the finest forms, although this involves their propagation by cuttings or budding, as they do not come true from seed. I have an extremely handsome crimson form, from which I have raised many seedlings, but none of them is nearly so fine either in flower or foliage as the seed parent; while many are as poor as *Rosa kamtschatica*, which is perhaps the least interesting of the feroces. The white variety, again, does not come true from seed; every seedling that I have raised from a plant, grown in a comparatively isolated position, of a fine white form has produced flowers of varying shades of dingy red—a fact that I fancy tends to dispose of the theory advanced at one time that the white-flowered *Rosa rugosa* was the original species and the red-flowered ones were varieties. "The red Rose came first," says a quaint German mystic, speaking of "the mystery of so-called white things as being ever an after-thought." Thus Walter Pater.* It may not be evidence, but the Germans are close observers.

Of other exotic species, *Rosa rubrifolia* is a charming plant for any garden, and though, as Mr. Irwin Lynch points out, the beauty of its red-grey foliage is especially remarkable early in the year, the plant is even more beautiful when in flower, and beautiful still in autumn with its varied tints of leafage and myriad bright red heps. A bold group of seedlings planted out on the Grass is a constant delight and attracts immense attention throughout the season. A similar group of *Rosa lucida* is also very attractive, with gleaming foliage and fresh rose flowers, succeeded by sealing-wax-coloured heps. In rais-

ing seedlings from *Rosa lucida*, *Rosa nitida*, &c., there seems a certain amount of variation and a tendency to intermediate forms, and it would not be surprising to find eventually the possibility of a reduction in the number of species of these glossy-leaved Roses of North America.

Rosa moschata (sometimes cultivated under the name of *R. Brunonis*) and *Rosa multiflora* (syn., *polyantha*) are two magnificent climbers, and *Rosa macrantha* (of gardens) is beautiful as a climber, or on a pillar or as a bush, its large flesh-coloured flowers with petals of great substance and rich yellow stamens rendering it one of the handsomest and most popular of all single Roses.

Rosa lutea and its varieties, more commonly known as the Austrian Briers, are of unique and surpassing beauty, and are deservedly popular, and if subsequent experiments in crossing with other Roses result as successfully as those already made in Lord Penzance's garden, it is more than likely that *Rosa lutea* will eventually figure as the progenitor of a very delightful series of garden varieties.

No doubt there are florists who, having set up an arbitrary definition of a particular flower, have no eyes for any beauty in any seedlings that do not conform to their preconceived model, and it is probable enough that some fine single Roses have been thrown away by raisers who were intent upon obtaining varieties with double flowers; but it is curious to observe that of garden varieties of single Roses that have been distributed of late years, none have proved entirely satisfactory. Moreover, one or two well-known raisers, knowing of my interest in single Roses, have from time to time very kindly sent me single-flowered seedlings that appeared in any way striking, yet it is quite extraordinary how rarely any one of them is of real value. Perhaps they are autumnal-blooming, and then their flowers are not particularly attractive; or they may have flowers of exceptional brilliancy, and then the plant is found to have no constitution. I have some single Roses that produce the most vivid flowers on plants that refuse absolutely to grow more than about 6 inches high.

But these, of course, are seedlings from varieties that have long been cultivated with double flowers—varieties, too, that have been for many generations selected with very little consideration of any quality beyond the doubleness of their flowers. The seedlings that Mr. Irwin Lynch desires to see raised from crosses between native and other single Roses are not likely to be of a nature lacking in vigour or freedom, and if only other raisers can be induced to follow somewhat on the lines so successfully laid down by Lord Penzance, there is little doubt that our gardens would soon be enriched by a fresh series of very delightful and novel Roses.

T. W. GIRDLESTONE.

Rose Margaret Dickson.—Replying to C. Grahame (p. 543), I may say that this Rose bloomed well with me under pegged-down treatment during

* "Marius the Epicurean," chap. ii.

the past summer. I do not think my former note upon p. 483 left much doubt about that fact, but I would not like to call it the best white Rose without more knowledge of it. I have grown it for two seasons, but the only time it flowered well was when pegged down.—N. S.

Rosa minima.—The so-called perpetual Roses cannot compare with this little gem for a perpetual blooming habit. It begins with the earliest, with *Rosa rugosa*, and lasts all other Roses out that I know, all the summer and autumn keeping up a constant succession, and that notwithstanding its miniature stature. My five or six-year-old plant is but 9 inches or 10 inches high, yet very bushy; this little specimen has never been without flowers since last May, and to-day it has plenty of buds that may open any bright day, and it is in this condition after three spells of frost, as much in one case as 10°. During the time I have grown it here there have been some trying winters, but the plant, which is fully exposed, has survived the worst, and that without the slightest protection.—J. Wood, *Kirkstall*.

Repotting Roses previous to forcing.—I do not advocate the repotting of all Roses immediately before forcing. What I advise and practise is to repot as soon as the wood is ripe, allowing the plants to remain in the open for some weeks longer and gradually draw root into the new soil. In the earlier portion of his article Mr. J. C. Clarke confirms me in this. When a plant has become thoroughly pot-bound and the soil is exhausted, there can be no question but that there is considerable advantage in judicious repotting. I do not find any greater tendency to extended growth of a flowerless character upon Roses repotted as I described than if left undisturbed. The whole secret of this lies in securing well-matured wood.—R.

THE PAST ROSE SEASON.

PROVIDED work has been properly attended to as it became seasonable, there should really be little to do among Roses during December, and with the exception of mulching and otherwise affording a slight protection against severe frosts, we may dismiss the present and take a look back upon the past Rose season.

The year 1893 is over as far as Roses in the open are concerned, although I can still (December 2) cut one or two from sheltered nooks upon walls. Last week I cut a really good flower of A. K. Williams, and the colour was as dazzling as during July or August, while the Chinas and one or two Teas most closely related to them have but just ceased blooming. The extreme earliness of such varieties where they were sufficiently sheltered from the frosts of April and May, together with their continuous blooming until November, must rank among the pleasures of the past season. All Roses, except the early summer bloomers of Hybrid Bourbon type, such as Charles Lawson and Blairi, and the strongest growing Hybrid Perpetuals under pegged-down treatment, have afforded a very lengthy supply of flowers. I do not call to mind any year when we were favoured with a better autumnal display. A second pleasing feature has been the general excellence of many of our oldest favourites, several of which were becoming almost unknown, and had been made the subject of much comment respecting their supposed deterioration. Beauty of Waltham, Duc de Montpensier, Senateur Vaisse, Xavier Olibo, Marie Rady and Duchesse de Caylus have been produced in their best form, while some of the more extolled and newer introductions entirely failed to keep up their prestige. In addition to a grand season for the later crops of Tea Roses, we have had much more depth of colour in the Hybrid Perpetuals

than is generally the case during a hot and bright summer. Indeed, the grand and glowing colours of Horace Vernet, Louis van Houtte, Duchess of Bedford and Eclair have been most remarkable. Turning to the maroon coloured Roses, we find scarcely any burning of their petals; therefore, the generally accepted theory that those of the Prince C. de Rohan, Abel Carrière and Victor Hugo shade delight in a cool season has been amply refuted during the one just passed. I do not remember to have seen a single blossom presenting the dull brownish appearance usually attributed to burning. Her Majesty, Mme. Lacharme, Alba Rosea, Comtesse de Serenye and Duchesse de Vallombrosa were all excellent with me during the bright summer of 1887, and it would naturally seem that the past would have suited them equally well. It was not so, however, nor did I secure a single flower in the slightest degree approaching to those of 1887. A circumstance which surprised me very much was the way the buds of these were scorched and withered by the heat, and yet the darker varieties of equally double form entirely escaped this evil.

Looking further back into the year—February and March—we had grand prospects, as the wood had come through the trials of winter in a most satisfactory manner. At pruning-time we had great hopes of a good Rose season, but these were quickly destroyed by the phenomenal heat and drought, these being rendered more injurious by a succession of sharp frosts at night. The plants broke into new growth vigorously, but the almost tropical weather, combined with drought, soon had disastrous effects, and the growth was in many cases blistered by the sun, while the roots could not find the needful moisture. Even where fortunate growers were able to supply water in almost unlimited quantity, the results were by no means so satisfactory as might be desired. Artificial watering when used as a further aid to genial showers is very valuable, far more so than when we are having a spell of extra bright weather. The relief from sunshine afforded during a few passing showers seems particularly grateful to plants in full growth. It was during the first or second week in April that I gathered my first blooms from the open air, and these consisted of Gloire de Dijon, Rêve d'Or and Reine Marie Henriette. At the same time we were having a series of sharp frosts, which were seriously affecting the growth of plants in the open borders. On south walls the effects were not so noticeable, probably because the heat of the wall from the remarkably bright sun we were having day after day was sufficient to protect them until the sun got round again. The majority of cut-back plants produced their summer crop during the earliest weeks of June and were much too forward to be of service in the exhibition tent; nor were there many blooms of sufficient quality to meet the high standard Roses have now reached, and I think many must have been grievously disappointed with the Rose shows of 1893. A few people in the north had really good representatives of the leading varieties, and Messrs. Harkness and Sons set a record it will be difficult and almost impossible to beat.

Undoubtedly the Rose of the year was Horace Vernet, which gained the medal as being the premier H.P. bloom in the nurserymen's divisions both at the Crystal Palace and Worksop. This Rose was introduced in 1866. Dupuy Jarnain was sent out in 1868, and gained the medal in the amateur classes at the Crystal Palace. Here we have two old Roses coming to the front and beating the host of

grand varieties introduced since their advent. The remaining in the amateurs' classes went to that fine Rose Mrs. John Laing. Although the Teas were by no means so good as might have been expected, the finest Mme. Cusin ever staged was shown this and The Bride being the two medal Teas at the metropolitan show. Mme. Hoste won both in the nurserymen's and amateurs' divisions at Worksop. There is one notable coincidence about the medal Roses, and that is the fact that the late M. Guillot gave us two which carried off four of the medals, and another winner in Mme. Cusin. No raiser has distributed a larger number of grand varieties, and his death on September 6 of this year was deeply and widely regretted. Three gold medals were awarded for new Roses, and although we might reasonably have expected the past summer to have been favourable to Marchioness of Londonderry, I believe from information received and also from its appearance at the Crystal Palace show, that we saw very poor specimens of its usual form. It is an ivory-white, of immense size, and short, robust growth. This and Mrs. Sharman Crawford were both staged by the raisers, Messrs. A. Dickson and Sons, of Newtownards, Ireland. The latter variety is bright pink with a shade of soft lilac, and from its form and habit promises to be a good useful Rose. The champion growers for the year exhibited their new sport from Heinrich Schultheis under the name of Mrs. Harkness, but it was not so good as I saw it at Chester the previous year. The third gold medal went to Turner's Crimson Rambler, a Rose which will be extensively grown. It is an extra vigorous grower, and blooms in huge clusters of deep scarlet. Gustave Piganeau was the most prominent Hybrid Perpetual of recent introduction, and for twelve of any one sort it took all three prizes. This, together with the fact of its being the premier Perpetual in the two previous shows, at once stamps it as a grand acquisition.

One of the lessons of the year is the advisability of planting a good selection of varieties, many erstwhile favourites having almost entirely failed. Nor should Horace Vernet and Duchess of Bedford be planted by any who look for a permanent Rose of quality and freedom of bloom. This is one of the evils of Rose exhibitions, as many are led into purchasing varieties of little merit for general cultivation solely on account of the position they occupy upon the exhibition board. Deep cultivation, summer mulching, and judicious watering have all been necessary if good blooms were to be secured. Although the growth seemed at a standstill during the early part of July, and had a far more matured appearance than we often see in October, a few genial showers induced the Roses to push out new growths which carried the best general crop of the year. Plants which had a puny appearance, and looked as if their growth had finished, are now well furnished with wood, which has matured very well. The seedling Brier stock increases in favour, and has been particularly useful this season, its deep roots enabling the plant to make a much better stand against drought than those of the Manetti. Although the growth of Roses was much earlier than usual, the extreme dryness had the effect of making the stocks late in arriving at a sufficient size. My own were not budded until the latter part of August and during September, but the grand autumn allowed them to set firmly to the stock, and at present they have a very promising appearance. The attacks of insects and mildew were not so bad as we have experienced in former years,

although some few localities were as usual more affected than others. Birds have long been great favourites with me in the Rose garden; even the sparrow, mischievous as he often is in picking off the buds and tips of shoots, will eat the aphids and maggots with avidity. True, there are some seasons when they do not attack them so persistently; but during the early part of May and June, when aphides were most prevalent, I frequently noticed the sparrow very busy among them. The warblers and tits, also the gold-crested wren and several other small birds, did me good service in this respect. Red spider, red rust, and thrips were less conspicuous than usual during the autumn months, a most fortunate fact when we remember that this period was really the Rose season of 1893. More than once I feared mildew would ruin the crop, but the plants broke through from its attacks in a very gratifying manner. RIDGEWOOD.

Climbing Roses in Suffolk.—Some climbing Roses which were planted in the spring of 1889 on the south front of Ampton Hall, the residence of Mr. J. Paley, near Bury St. Edmunds, have made such remarkable progress, that a record of their growth may be useful. As the gravel terrace comes right up to the building, provision had to be made for the Roses by making a narrow border surfacing this with gravel after planting. This border is 2 feet wide and 2 feet deep resting on brickbats, mortar rubbish, and the like for drainage. Equal parts of mellow clay, top spit from pasturage, well rotted manure and mortar rubbish were well mixed for making the border, and this has suited the plants so well that they have almost covered the whole frontage, the crops of flowers being very large and the blooms individually very fine. The following notes give the heights to which the plants have reached, and one or two other particulars about them. Bouquet d'Or has reached the roof 24 feet from the ground, and turned under the eaves for another 3 feet. Belle Lyonnaise, Gloire de Dijon, Mme. Berard, La-marque and Beauté de l'Europe are all about 20 feet high, and each has done so well that it is hard to say which is best, but Mme. Berard and Gloire de Dijon have been grand each year. Mme. Eugène Verdier, Mme. Alex. Bruel, Mme. Delpaul and Maréchal Niel come next with a height of 18 feet, and all have done well. William Allen Richardson is about 10 feet high, but during the past two years has not done so well as it did before; this, I think, is more the fault of the variety than anything in the cultivation, as I have always found that this Rose does badly after the first two or three years from the bud. Rêve d'Or from some unexplained cause has done worse than any, so I should imagine there is something wrong with the stock of this plant, as this variety does well in another part of the same garden.—J. C. TALLACK.

The vagaries of Roses.—There can be no doubt that Roses do vary considerably in different soils and localities. Duc de Magenta in one part of the grounds does well, and from the plants very fine blooms suitable for exhibition can be cut, while in another part of the nursery it fails altogether. Jean Pernet is another Tea which behaved in the same way. Ten to fifteen years ago I grew Dr. Andry well, but now it has suddenly ceased to give flowers at all approaching the quality of those I used to secure. Dr. Andry still figures very prominently in many first prize stands, nor have I heard others complain of its deterioration in any way. Souvenir d'un Ami, too, does not yield the same percentage of good blooms as formerly, and I could name many similar instances. In a friend's garden Pierre Notting is one of the finest and most reliable Roses, while in another Empress of India does well. Neither of these succeed with me. Cloth of Gold has given me a few good blooms this season; the first for a number of years. But in a garden not far from this it has been simply grand for the last fifteen

years. Horace Vernet is a poor grower with the majority of cultivators, yet in Mr. Mawley's garden at Berkhamstead it does well. Edith Gifford seems to do well with almost everyone but myself, while Captain Christy, one of my best and strongest Roses, thrives but indifferently well with neighbouring friends. Doubtless soil, stock, and position have a great influence upon Roses; still it is strange there should be so much difference under apparently similar culture and conditions. I could also name several instances of Roses refusing to open or coming quartered in some gardens, however varying the seasons may be, while the same varieties are remarkably constant and reliable in others.—RIDGEWOOD.

DOES SOIL CAUSE CANKER IN ROSE TREES?

I CANNOT say whether it does or not, because in all my experience I have never seen canker on any other Rose but Maréchal Niel, but from what we read in THE GARDEN with regard to this terrible disease, it appears to me pretty clear that soil does cause canker in Roses. For more than twenty years I had charge of a garden where such kinds of Apples as Ribston Pippin, Emperor Alexander, Lord Suffield, and Warner's King could not be kept free from canker, do what I would to them, yet I never saw any other Rose but the one I have mentioned affected in the same way. Five years ago I made a new garden, and planted many sorts of Apples and Pears as well as Roses. Canker has shown itself in many cases in the fruit trees, but not on the Roses in the open. That being so, it is very plain that all soils have not the same influence. My Maréchal Niel Roses under glass suffer from canker to a serious extent. What, however, concerns me most just now is a statement made in THE GARDEN recently by a competent and reliable writer that he had several well-known Roses besides Maréchal Niel that were affected by canker in the same house. This, I think, goes to show that the cause lies in the soil. While I think it is quite safe to conclude that some kinds of soils do promote canker in Roses, it is pretty clear that they differ in their composition considerably, sufficiently, in fact, to make all the difference between a serious attack and a light one. What this difference may be I do not know. At the same time it is evident that such information would be valuable, as it would enable cultivators sometimes to avoid those soils that predispose to canker. I would not, however, purposely avoid a soil because Maréchal Niel cankered in it, as I do not think that is any guide. Canker is undoubtedly an inherent constitutional defect in the Maréchal, and we must make the best of it; but when the same disease attacks other sorts, it seems to me that it is time to endeavour to trace the cause. It is well known that there have been at different times many remedies suggested for the cure of canker on the Maréchal Niel Rose. A few years ago scoring the stem with a knife for the purpose of allowing the bark or rind to expand more freely was given as a certain cure, but I have proved that the remedy is of no value whatever. I do not believe there is any remedy to prevent canker attacking the stem near the surface soil, but I do believe that above that point it is possible to stop it by preventing mildew from injuring the tender bark of the young shoots. I am satisfied that when the growth is attacked by mildew and the fungoid growth is allowed to remain long enough to do its work, canker frequently develops upon the parts so affected.

J. C. CLARKE.

Market flowers and fruits.—Chrysanthemums are very abundant and cheap, but the quality generally does not seem to be up to the usual standard. All the colours that are to be found among Chrysanthemums are represented in Covent Garden, but certain shades of yellow are most called for. A clear lemon-yellow is in high demand just now. Among whites, Mlle. Lacroix

is in high favour with the florists. Anemones, including the brilliant A. fulgens, are coming in in quantity from the south of France, also Violets and the Acacia called mimosa in Covent Garden. This is now very cheap, and has this year come in some weeks earlier than usual. The little Gladiolus-like Schizostylis coccinea seems to be growing in favour. In brilliancy it is only equalled by zonal Pelargoniums, which are remarkably fine and abundant for the time of year. Roman Ilyacincths are very good. Tea Roses from France are sold at about sixpence a dozen, and home-grown Van Thol Tulips are finer and cheaper than is usually the case in December. Grapes continue to be cheap. Black Hamburgs are over, to the regret of fruiterers generally, who prefer them to the tough-skinned Alicante, which forms the bulk of the supply from this time forward. Gros Colman is also in the market, but not plentiful as yet. St. Michael Pines are very fine, and so cheap, that retailers can sell them at about three shillings each. The best English Apples, such as Wellington, Ribston Pippin and Blenheim Orange, are disposed of largely at fair prices, but inferior kinds make very little, retailers showing a decided preference for the American Apples.—J. C. B.

Carnation Horace is one of the finest winter-flowering Carnations we have. It was sent out in 1892, received a first-class certificate at the Chiswick trials, and is in every way satisfactory. The colour is a rich scarlet, in the way of Winter Cheer. I like it better than the latter; it is stronger, and I think a little more free-flowering. This grand Carnation will certainly be very popular as soon as it is better known.—R.

ORCHIDS.

SPOTTED FORMS OF ODONTOGLOSSUM ALEXANDRÆ (CRISPUM).

I HAVE just received from Mr. Hunter, of Edinburgh, a fine spike of what appears to me to be the typical form of the plant figured by Bateman before he recognised this as being the plant that Lindley had named O. crispum. The spike bears fifteen flowers, which are pure white, flushed at the back slightly with purple and with a few spots of chestnut upon the lip. With this there comes a fine flower of a form which was named by Professor Kranzlin in the early part of the present year O. crispum (Hunter's var.). It certainly is very beautiful, the flowers being large and full, the sepals nearly as broad as the petals, the latter slightly toothed, ground colour white, all heavily spotted with chestnut, leaving the tips clear. The lip, which is of the true typical character, is white, heavily blotched in front with the same colour as the petals. These fine spotted varieties have been mostly found in the neighbourhood of Pacho, where Blunt first found them, and from whence so many of the fine forms sent out by Mr. Shuttleworth also came. The following are the best and most distinct of the many fine forms of this plant:—

O. ALEXANDRÆ COOKSONI is a fine form, which, like Hunter's variety, has the ground colour pure white, heavily blotched and spotted with brownish crimson. The lip is also of the same colour, having in addition a golden yellow crest.

O. ALEXANDRÆ DUVALI.—This is a very fine form, having large flowers, which are heavily tinged with purple on the outside, the inside of the flowers being pure white, the sepals and petals each bearing one heavy blotch of rich chestnut in the centre. The lip also has one bold blotch of the same colour in front and some few smaller ones round the crest.

O. ALEXANDRÆ MUNDYANUM.—This is a fine variety, which I saw a year or two ago flowering in the establishment of Mr. Seader at St. Albans.

It is a noble flower, heavily splashed on the back with magenta-purple, in front white. The sepals and petals are all heavily blotched with reddish purple, while the lip also is much spotted with smaller spots. It is one of the finest forms of this truly beautiful plant.

O. ALEXANDRE WARNERI.—This, although one of the early forms, is amongst the best of the spotted kinds. It is a bold and handsome flower, round and full, measuring upwards of 3 inches across. The petals, much broader than the sepals and prettily toothed, are of the purest white, whilst the three sepals have each some six or eight medium-sized spots of rich cinnamon grouped in the centre, the lip being white, with a yellow crest and spotted with the same colour as the sepals. This bears a raceme of some ten or fifteen flowers, which are tinged with rosy carmine behind and make a superb display.

O. ALEXANDRE TRIANE is a somewhat similar form, but with smaller blooms, and the sepals are not so distinctly spotted, but more blotched.

O. ALEXANDRE STEVENSI is also a very fine form, marked very much in the same way as Hunter's variety, but the spotting is heavier and the colour more decided. The form known as

O. ALEXANDRE GUTTATUM has a smaller flower with narrower sepals and petals, which are all prettily undulated, with a bright paper-white ground, the sepals being heavily blotched and spotted with bright chocolate. The petals have one solitary spot on each; the lip also is densely spotted.

O. ALEXANDRE VEITCHIANUM is a grand form, in fact the best of all. The flowers are large, the sepals and petals broad, beautifully toothed and undulated, the margins pure white, with a feathery zone of rosy purple, blotched with very dark crimson. The large lip is white with a yellow centre, slightly spotted. One plant of this magnificent variety has only been found, and is now in the collection of Baron Schröder, The Dell, Egham, where it is a fitting companion to the superb form of *O. Pescatorei Veitchianum*.

There are numbers of spotted forms, but those noted above are, I consider, the best. *Odontoglossum Alexandre* does best in pots that are thoroughly well drained, using for soil good brown upland peat fibre. The plants, which should be elevated above the rim of the pots and be potted firmly, should be surfaced with some chopped ends of living *Sphagnum* and kept in a cool house, the best being one with a northern aspect. Much controversy has been raised on this question, some persons preferring a house with a southern aspect and endeavouring by shading to counteract the sunlight. This, however, signally failed. The best lot of *Odontoglossums* and other cool Orchids which I have ever seen was in the late Mr. A. J. Buchan's garden at Southampton. The plants were grown in a north house, kept nicely moist, with a free circulation of air. The temperature seldom fell below 48°.

W. HUGH GOWER.

Saccolabium giganteum.—H. Jameson sends me two varieties of this species. We are told that this is a very common plant in Cochin China, and also in the Burmese territory. It first flowered in the Bishop of Winchester's garden at Farnham Castle under the name of *Vanda densiflora*. It was then a very rare plant, but recent importations have made it of late years very common. Of the forms sent, No. 1 appears to be the variety known as *illustre*, having larger flowers, and, as "H. J." says, "on the fully formed spike the flowers are widely separated." It has a very bright coloured lip, with larger and brighter coloured spots on the sepals and petals. This form was introduced by M. Linden about ten years ago. No. 2 seems to be the ordinary typical plant, which has bright rich purple spots on a waxy white ground. I cannot help thinking that the cause of this shortening

of the spikes of bloom arises from some maltreatment when they are developing. The same thing has occurred with me in several species of this family, but mostly in the case of *S. giganteum* and *S. violaceum* when they flowered through the winter months, at which time there is more dryness in the atmosphere than in the summer months, when most of the other species bloom. I cannot but think it arises from this cause, for some plants which I had removed to a hotter and moister situation all developed spikes a foot or more long, whilst the majority of those left in the ordinary atmosphere of the house produced many short and deformed ones such as those sent. I would advise "H. J.," or anyone else growing this species, to treat it to a greater amount of heat and moisture as soon as the spikes of bloom begin to appear.—G.

Cypripediums—"T. B." sends me several flowers of Lady's Slippers for a name. No. 1 appears to be a very good form of *C. Meirax*, which was first obtained by Mr. Robert Warner. No records have been kept of its parents, but evidently *C. venustum* was one of them. No. 2 looks like a good form of the Veitchian hybrid *C. radiosum*, which has for its parents *C. Lawrenceanum* and *C. Spicerianum*. It has a pure white dorsal sepal, the base stained with apple-green, with a broad purple stripe in the centre and stripes of a paler hue on either side. The petals are deflexed and undulated, light green with brownish veins, lip brownish purple suffused with pale green. No. 3 is a magnificent form of *C. insigne punctatum violaceum*; it is not new, but it is one of the very best of the old forms. It was figured in THE GARDEN, Vol. XXI., t. 444. No. 4 is another hybrid raised by the Messrs. Veitch, called *C. vernixium*, a cross between *C. Argus* and *C. villosum*. It is a pretty flower, but now it has been superseded by many other kinds.—G.

Trichosma suavis (*J. Forbes*).—Thanks for the nice bunch of this pretty little fragrant Orchid, which was formerly named *Ceclogyne coronaria* by Lindley, and *Eria coronaria* by Reichenbach. It is a curious little plant, growing about a foot high, and being quite destitute of pseudo-bulbs. The sepals and petals are waxy-white, the lip being also white streaked with purple. There are several varieties of the plant, the flowers of some of them being much darker than others. I have seen a form in which the petals were marked the same as the lip. This was in the collection of Mr. Tautz when he had his fine collection at Shepherd's Bush. It has been grown in the Cattleya house by a great many people, but as the plant was found at a high elevation on the Khasia Hills, I like to grow it with the *Odontoglossums* of the crispum group. It should be potted in peat fibre and chopped *Sphagnum* Moss with which has been mixed a little turfy light loam.—G.

Lælia amanda.—C. Giles sends a flower of this plant saying it appears to be quite new. This plant has already been named by Reichenbach, and it obtains the name in some gardens of *Cattleya Rothschildiana*. It was introduced by Mr. Wm. Bull, of Chelsea, about twelve years ago, and it is a supposed natural hybrid between *Cattleya intermedia* and *Lælia crispa*. It is a very choice variety, having large flowers some 6 inches across, the sepals and petals rosy lilac, the lip being of the same colour in front, veined with a deeper colour, becoming rosy purple towards the base. It is of Brazilian origin.—W. H. G.

Lælia Marriottiana.—This is a very welcome addition to the winter-blooming species and seems intermediate between *L. autumnalis* and *L. furfuracea*, although imported by Mr. F. Horsman, of Colchester, as *L. majalis*, which it certainly resembles somewhat in habit of growth. The silver-skinned pseudo-bulbs are as large as pigeons' eggs and bear two slightly twisted green leaves. The peduncle is 18 inches to 2 feet in length and bears from three to five flowers at its apex, the weight of which causes the scape to arch over very gracefully. The sepals are ovate-lanceolate in form, 2 inches or so in length by half an inch to three-eighths of an inch wide; petals 2 inches long,

rhomboidal in form and overlapping the upper sepal. Both sepals and petals are of a bright soft purple-rose colour, the lip being ivory white, the connivent side lobes tinted with rose-lilac, the central lobe being deep rose-purple. The crest of two erect plates on the disc of the lip is white, having a yellow blotch or suffusion near its termination. Inside the base of the lip and near its apex there are a few slight purple or rosy markings, and the column is white, tinged with rose colour. It first bloomed in Sir Wm. Marriott's collection, after whom it has been provisionally named. The flowers are sweet-scented, especially at night. Its culture would appear to be similar to that required for *L. majalis*, *L. autumnalis*, *L. albidula*, *L. furfuracea* and other allied species, viz., an intermediate temperature with plenty of air and sunshine, abundance of water during growth and a cool and dry season of rest after the growth is fully made.—F. W. B.

Lycaste Skinneri gloriosa (*Thos. Hilby*).—The above is the name of the very fine variety just to hand. The flower measures upwards of 6 inches across. I have seen larger flowers. The spreading sepals are waxy white, suffused with pink, and the petals, which are hooded, are of a deep rose colour, the lip white in front, marked with rose at the sides. There are many varieties of this fine species. Mr. Skinner used to think the *Lycaste* would stand a greater amount of cold than *Odontoglossum crispum*, but it appears to thrive best and to flower more freely when treated to about 5° more heat. At least that is what I have experienced.—W.

Cypripedium Leeanaum (*G. Cooke*).—This was originally obtained between *C. Spicerianum* and *C. insigne* Maulei, and it has the pure white dorsal sepal stained with green at the base of the former parent and some of the spotted lines of the latter, the petals all more or less tawny with reddish veins slightly decurved; lip brownish purple with darker veins. This is a very free growing plant and an abundant bloomer, its bright flowers making a fine show. It likes the warmth of the Cattleya house, which I consider quite hot enough for it with a nice moist atmosphere all the year round.—W. H. G.

Cymbidium giganteum.—A highly coloured and large flower of this fine autumn-flowering plant comes to hand from "J. D." The flower measures 5 inches across, the sepals and petals being beautifully streaked with purple upon a greenish yellow ground; the large lip bright golden yellow, having a row of crimson spots near the margin. It is curious how these old favourites are obtaining a standing again amongst Orchid growers. Better varieties exist now than was the case some years ago when the flowers were much smaller and the sepals and petals were green.—W. H. G.

SHORT NOTES.—ORCHIDS.

A fine Vanda cœrulea.—"M. M." sends a very fine form of this plant. The sepals and petals measure some 5 inches across and are of a fine lavender blue, veined with a deeper colour, the small lip of a deep violet-blue. The sender says the spike had twelve flowers on it and that the plant has been grown cool, with an abundance of air.—G.

Cattleya Dowiana.—G. Kremer sends me a fine flower of this species, which has a somewhat novel appearance. In addition to the tips being tinged with purple, the veins of both sepals and petals are of a deep rosy purple. It is not new, however, as I have seen the same or similar markings upon one or two occasions, but it is well deserving careful attention.—W. H. G.

Odontoglossum Alexandræ with branching spikes.—C. Holt sends a part of a branching spike of what he thinks is a form of this species. Yes, it is a genuine typical form of the species, and a very good one, having broad sepals and petals nicely spotted. I have heard many people assert that all the branching forms are hybrids and that they are poor things, but the branch sent upsets both statements.—W. H. G.

TREES AND SHRUBS.

THE ANGELICA TREE.

(ARALIA SPINOSA.)

THERE are several of the hardier species of *Aralia* from China and Japan that well merit culture wherever choice shrubs are grown, and the plant illustrated in the accompanying engraving is one of the best for certain aspects and positions. Its light and feathery pinnate foliage, reminding one a little of that of the *Ailantus* or of *Dimorphanthus mandschuricus*, is different in effect from that of either, and most effective as seen backed by foliage of a dense and darker green hue such as that of evergreen Oaks or Hollies. *Dimorphanthus mandschuricus* is really a geographical form or variation of *Aralia chinensis*. *A. spinosa* is a native of North America and is much harder than *A. chinensis* (= *A. canescens* of gardens). The specimen of *A. spinosa* here shown was grown in Devonshire, and seems to have a Yew tree or some other conifer as a background. In the College Gardens at Dublin there is a very fine specimen of *A. spinosa*, into the centre of which a bird-sown green Holly bush has grown so as to conceal the naked and gnarled stems of the *Aralia* in a pretty way. The general appearance is that of a Holly bush with *Aralia* branches protruding in all directions, and in August or September, when the point of each thorny shoot bears a panicle of its ivory-white flowers above the Palm-like tufts of leaves the effect is a very distinct and effective one, and quite unlike anything else in the way of flowering shrubs or small trees. Another species of *Aralia*, now placed by modern botanists in the genus *Fatsia*, is *A. Sieboldi* from Japan. This has the advantage of *A. spinosa* in being evergreen and not deciduous, as is that species.

In all mild and sheltered localities *A. Sieboldi* well deserves a place as being one of the largest leaved of all our evergreen shrubs. The one secret as to the successful growth of *A. Sieboldi*, however, is to plant it behind a north wall or in shade, and not in the full sunshine. One of the finest plants I know of *A. Sieboldi* grows on a rockery on the north side of a house in the Northumberland Road, Dublin, and as it has a dense background of Ivy and is near to the public road, it attracts the attention of many passers-by, and is an object lesson to all interested in the planting of sheltered town gardens with a northern exposure. Here I had failed with *A. Sieboldi* until Mr. Woodall, of Scarborough, who has travelled in Japan, kindly told me of this plant having such a great liking for a cool shady corner and not a sunny exposure. *A. spinosa*, on the contrary, cannot well be placed in too sheltered and snug a position, although it withstands wind well if it gets plenty of sunshine. Its quaint habit and effectiveness are well shown in the illustration, and those who plant for effect cannot well afford to disregard its unique character of growth.

F. W. B.

Mr. Mayor, of Paignton, Devon, who kindly sent us the photograph from which the engraving was made, sends us the following notes concerning it:—

The tree was planted long before I came here, and is nine years old. It seems rather a slow grower, is entirely deciduous, unlike *A. Sieboldi*, which is only partially so. It is one of the last to break into leaf and first to drop its foliage, which, however, assumes beautiful autumnal tints. It sends up suckers freely, which help to hide the stem. Together with other members of its own family, *Dracaena australis*, *Chamærops humilis*,

Phormium tenax, *Eucalyptus globulus*, and *Bambusa* of sorts, it gives to a garden a sub-tropical appearance rarely seen in cold, clayey districts, but common in Devon and Cornwall.

Cornus sibirica Spathi is a variegated shrub that has withstood well the recent hot summer. This is not always, unfortunately, the case with variegated things, the sun burning the leafage in such a way as to quite disfigure the shrub. *C. sibirica Spathi* is a comparatively new variety, the leaf golden yellow in colour, except an irregularly shaped green blotch in the centre, which well sets off the golden shade. It is a great point in a variegated shrub that its leafage is even richer under a burning sun, as this year.

The Sweet Bay in Scotland.—At Tongue House, on the west coast of Sutherland, at one time the residence of the Lords Reay, now the

but every few years a severe winter comes which cuts them down. It is only in sheltered, mild places, like Tongue, that the Sweet Bay grows into good specimens. It would be interesting to hear of good plants in other mild, sheltered places on the coast. In the garden at Tongue fine clumps of *Schizostylis coccinea* usually keep on flowering till close on Christmas.—D. MELVILLE, *Dunrobin Castle Gardens*.

USELESS AND UGLY PINES.

In the catalogues nothing strikes us more than the number of useless and ugly Pines which are there offered for our delight. It is not only that we have to deplore the tender trees of California, which in their own country are beautiful, though, unhappily, not so in ours, but it is the mass of distorted, unnatural, and ugly forms—the names of which disfigure even the best catalogues—that is most confusing and dangerous. Of all the Pines brought to England which have become popular, the greatest failure is the Norway Spruce, which we see everywhere in Sussex and Surrey in a diseased state, save by streams or in wet bottoms. The Norway Spruce, where it does well, is a beautiful tree, and even a stately one; but we know that in nine cases out of ten in the home counties it will not grow well, although good specimens may be seen here and there in deep and moist soil. But what shall we say of its wretched varieties—dwarfed, compacted, starved, inverted? Even the careful Mr. Anthony Waterer, who knows the hardy conifer from the tender one, and many other valuable facts, puts some of these trees down as suitable for the rock garden, of all things in the world.

In one foreign catalogue we see no less than twenty-eight varieties of the Norway Spruce, in all sorts of dwarf and monstrous shapes—two of them, indeed, dignified with the name *monstrosa*—not one of which should ever be seen in a garden or plantation. The true beauty of the Pine comes from its size and dignity, as we see it in old

Firs that clothe the hills of California or Spain or Switzerland. It is not in distortion or in green pincushions we must look for the beauty of the Pine, but rather in storm-tossed head and often naked stem, and all these ridiculous forms should be excluded from gardens and from nursery catalogues, too.

Another most unfortunate tree in this way, as helping to fill our gardens with graceless things, is the Western Arbor-vitæ (*Thuja occidentalis*). This, which is a very hardy tree, but never a dignified one, even where it grows in the north about Lake Superior and through the Canadas, is, unhappily, also hardy in our gardens. We have not the same objection to make against it that we have against the Spruce, because it really does thrive and form a hedge or tree of some size; but it has none of the qualities of a great Pine. Yet we regret to see this in one catalogue in no less than twenty-three forms, all dignified with Latin names, all of them absolutely useless



Aralia spinosa. Engraved for THE GARDEN from a photograph sent by Mr. C. L. Mayor, Paignton, Devon.

property of His Grace the Duke of Sutherland—presently occupied by the resident agent, Mr. Box—there is an old garden containing many interesting plants not commonly met with. The climate is mild. I believe there is more than an average rainfall along all the west coast, but Tongue is very favourably situated in a bay, sheltered from the north by woods and rising ground, open to the south, and to the mild influence of the Atlantic and the Gulf Stream. On the front of the house is a fine old plant of *Lonicera caprifolium lutea*, the yellow Italian Honeysuckle, covering a considerable wall space and flowering profusely. The flowers are much larger than those of the common Honeysuckle and more pyramidal in shape. In the garden, on each side of an old doorway, two Sweet Bays are in luxuriant health. They are each 9 feet 6 inches high and 27 feet and 23 feet in circumference. They are a handsome pair, and I do not remember to have seen better anywhere in Scotland. Sweet Bays do well enough when the winters are mild,

for the true pinetum, and though they may have some value as bosses of green in the garden, they are confusing to those who wish to get the true Pine.

There are beautiful things, new and old, worthy of the name of Pine without filling our gardens with monstrous absurdities, many of which are variegated. Of all the ugly things we know, nothing is worse than the variegated conifer, which usually perishes as soon as its variegated parts die. It often seems a bush full of wisps of hay.—*Field*.

THE PHILLYREAS.

IN some books several of the Phillyreas are regarded as distinct species, but by Loudon they are referred to in the following terms: "All the kinds in cultivation are nothing more than varieties of one species." Considering that the most distinct of all the Phillyreas—*P. Vilmoreniana*—was unknown to Loudon, most people will, I should say, agree with the above quoted remarks, as there is no very wide difference between the numerous forms in cultivation, while seedlings from any of them may vary a good deal from each other. They are certainly very ornamental evergreen shrubs, most of which are of a neat compact habit of growth. Their leaves are especially numerous and of a deep shining green tint. For some reason or other they are not often planted; why it is difficult to say, as the number of hardy evergreen shrubs is somewhat limited; indeed, judging by the way Laurels are grown almost to the exclusion of other shrubs, one would think that there was little else but Laurels at the option of the planter. There seems to be an impression that the Phillyreas are tender, but they are certainly as hardy as many subjects whose ability to resist our winters is never questioned. *P. media*, which is considered by Loudon to be the typical species, was, according to the same authority, introduced in 1597, and several of its varieties about the same time. They are all natives of the south of Europe. The wood of these Phillyreas has been recommended as a substitute for Box for wood engraving, the larger size being one especial point in its favour. The most recently introduced species is *P. Vilmoreniana*, also known by the specific names of *laurifolia* and *decora*. It is very distinct from the older forms, the largest leaves being nearly 6 inches in length, of a dark green tint, and leathery in texture. A specimen of this at a little distance bears a certain amount of resemblance to a Portugal Laurel. The flowers of this are white, sweet-scented, and about May borne for a considerable distance along the shoots. They are succeeded by small Plum-like drupes, which when ripe are quite black. As above mentioned, all the Phillyreas are as hardy as many subjects that are not considered at all tender; still, an exceptional winter will in some cases injure them, but *P. Vilmoreniana* has passed unscathed through our most severe winters. There must have been some thousands of this sold within the last few years, so that it is now tolerably common. Like its allies, this Phillyrea can be readily grafted on to the Privet, but plants obtained in this way are not always satisfactory, and as seeds are frequently ripened and cuttings strike root without difficulty if kept close in a cold frame, there is no need to increase the Phillyrea by grafting. T.

Primula Forbesi.—This new and charming species was in bloom recently at Chiswick. Visitors to the meeting of the Royal Horticultural Society on November 14 will remember that it was shown and certificated, but the plant had been previously exhibited by M. Vilmoren, of Paris, at the December meeting last year. We scarcely think that *P. Forbesi* will become a very popular plant, but it is worth a place in all good collections. It was found both by the Abbé Delavay, a French missionary, in Yunnan, China, where it grows in marshes and rice fields, and by Col. Sir H. Collett, who discovered it in Eastern Burmah, where in the Shan States it

grows at a considerable elevation. It is quite a new plant, having been introduced in 1891. The flowers are produced in abundance in verticillate whorls, an almost perpetual succession being maintained. In form one may compare them to those of *P. farinosa*, and the colour is pleasing—rich rose-lilac, set off with a small deep orange-coloured eye. Apparently this species is easily grown. The leaves are small and quite overshadowed by the slender stems, which produce from three to six whorls.

FERNS.

FERNS AS TABLE PLANTS.

FERNS as plants for the dinner table as well as for other uses in vases have scarcely held their own since Palms, Dracenas, Aspidistras, Crotons and Aralias have become so general. I cannot really see, however, why this should be the case. There are many Ferns which are admirably suited for use in these ways, some of which are quite unique in their way. Take for instance a well-grown Silver or Golden Gymnogramma, or the same of *Adiantum Farleyense*; these are each quite distinct from anything else that is usually grown or accepted as table plants. In many ways Ferns are exceedingly useful when in pots from 3 inches to 6 inches in diameter. In order, however, to have such plants in the best presentable condition they should not be crowded together or be in any way overshadowed by other and larger plants. What is wanted is a symmetrical well-balanced plant not in any case drawn on one side; such a plant upon a table would look far from well. Again, plants of dense growth are not so desirable on the whole; for instance, a plant of *Adiantum Farleyense* or of *A. cuneatum* when in this condition (the whole of the surface of the soil being probably covered with rhizomes) would present too heavy an appearance. Plants in order to be the best suited for table uses should be grown on from the seedling state or from quite small divisions, so that the growth is concentrated in the one crown. Thus *Adiantum Farleyense* (again quoted as an example) if grown on from a single crown makes a far better decorative plant than if there be a mass of crowns in the one pot. It is a fallacy to suppose that when a plant has been once grown into what is desirable that it can be kept so for any great length of time. The *Adiantums* particularly will increase their crowns; thus the dense mass of smaller fronds results in due course. There are not in my opinion any Ferns better suited for the dinner table than the *Gymnogrammas*; both of the two well-known colours, the silver and the gold, harmonise well with other surroundings upon a well-appointed table. Take, for instance, the best of the silver section, *G. peruviana argyrophylla*, grown on the system advised from the seedling state with a good strong crown, so as to secure fairly large arching fronds; no better plant could be chosen where blue and gold prevail in the other accessories. Take again *G. Laucheana* or *G. Alstoni* as representing the golden kinds; these suit the silver plate admirably and do not in any way look heavy or dull. Quite distinct from these is *G. schizophylla gloriosa*, a lovely variety when well grown and when displayed to the best advantage; its long drooping fronds make it just the plant for a tall silver vase similar to those used as wine coolers. These are about the best of the *Gymnogrammas*. Of the *Adiantums*, besides *A. Farleyense* and *A. cuneatum*, note should be made of *A.*

Collisi, which is at its best during the autumn, the fronds then assuming a delicate bronzy tint. *A. decorum* is excellent from single crowns, so also is *A. concinnum*, a Fern that is not nearly enough grown; this dies down in the autumn. *A. gracillimum* is another suited for the purpose, and the same applies to *A. mundulum* as well as *A. scutum*. Several of the *Pteris* family are strongly to be recommended; *P. argyrea* is a case in point in which the advantage of a single crown is well displayed. *P. tremula* is another excellent table Fern, being essentially useful during cold weather by reason of its hardiness. *P. tremula elegans* is a more slender growing form of the preceding, with crested pinne. *P. cretica Mayi* is the best of this species as a table plant, being very light and elegant in its habit of growth. The old-fashioned Ribbon Fern (*P. serrulata*) should not be overlooked, nor any good forms of the crested varieties of this species. Of the *Aspleniums*, one of the best for the purposes under consideration is *A. laxum pumilum*, which has finely cut fronds of a pale glaucous green, being also a compact growing plant. *A. eucurium* is a beautiful variety; it is not sufficiently known; the growth is very light and somewhat slender, but the fronds are quite self-supporting. *A. nobilis* whilst in a small state is another capital variety. This gives about a score. Others could, of course, be named, but those quoted will give a sufficient indication of what is best suited to use as a table Fern. Plants intended for this purpose should be set aside so as to preserve them intact. They should not be overpotted in any case; this is a mistake. Where it is possible a marginal line of *Selaginella denticulata* may with advantage be pricked in around the rim of the pot, but its growth should not be allowed to exceed reasonable limits. Ferns as table plants during the winter can be strongly recommended; they do not take up much room, hence in removal from their growing quarters they may easily be placed in boxes to secure them against any injury. FILICES.

Acrostichum drynarioides.—In general habit this much resembles the *Aglaomorpha*. It is, however, quite distinct botanically; the spore cases, instead of being in round masses, are continuous, and cover the whole of the under surface of the long narrow terminal segments of the frond. As in *Aglaomorpha*, the lower portion of the frond is always barren and much broader. It is a most desirable Fern, but not nearly so well known as it deserves to be. It is found in Penang and the Solomon Islands, and will succeed well under the same treatment as recommended for *Aglaomorpha*. I may mention that the barren fronds so closely resemble those of *Polypodium heracleum*, that at first sight one may easily be mistaken for the other; the fructification is distinct, and adds much to its beauty.—A. HEMSLEY.

The Bear's-paw Fern (*Aglaomorpha Meyeniana*).—This beautiful Fern, to which a first-class certificate was awarded by the Royal Horticultural Society on November 28, is well worthy of the honour. The name was originally applied to it by Schott in 1835. In 1836 Prezl named it *Psygium*, and in Hooker's "Species Filicum" it is included with the *Polypodiums*. It is a native of the Philippine Islands. The fronds are produced from a short thick rhizome which is covered with brown woolly scales, which have given rise to its popular name, Bear's-paw Fern. In well-matured plants the fronds are from 2 feet to 3 feet long, the lower part pinnatifid, and when fertile the upper portion is pinnate and contracted, giving it a striking appearance; the fronds are of good substance. This distinct Fern thrives well in a moderate stove temperature. It may be grown in pots or as a basket Fern. I find the latter suits it best. When grown in pots the pot should

be filled up well so as to keep the rhizomes well above the rim. Rough peat and loam with plenty of sand, and good drainage, or some Sphagnum Moss may be used for potting. Plenty of moisture at the roots and a humid atmosphere are essential. It may be increased either by division or from spores. Seedlings, which are very slow at first, but which after they once get a good start grow freely, make much the best plants, as the rhizomes branch out more. —A. HEMSLEY.

TROPICAL FERNS AT KEW.

THE true Fern lover may at Kew not only find the tropical Ferns well grown and in as healthy a condition as can be wished, but he also will have many opportunities of satisfying himself that the most has been made of the peculiar habit of many of them. These plants have been carefully studied, their natural propensities have been particularly noticed and then very properly acted upon. Every possible advantage has been taken of the predisposition of many of the species, and it is owing to these repeated observations that we note the pillars or columns in the warm house beautifully clothed with the elegant foliage of various species of Lygodiums, the shoots of which attain extraordinary dimensions and extend from one column to the other, forming natural and very graceful festoons. The species employed for that purpose is the beautiful, strong-growing *L. dichotomum*, a native of Hong-Kong, the Philippines, Ceylon, and the Malay Islands. Its leaflets, 8 inches to 12 inches long and nearly 1 inch broad, are of a dark green colour, leathery texture, and of a bright shining nature. *L. pinnatifidum*, also a native of the Philippines, Ceylon, the Himalayas, and North Australia, is also a most useful plant for that particular purpose. Although somewhat in the way of *L. dichotomum*, it is readily distinguished from that species through the pale colour of its foliage, which is of a softer texture and also of a more or less hairy nature. Another very striking species is *L. japonicum*, which in gardens is usually found under the name of *L. scandens*, and which is extensively grown for the value of its long, slender, flexible shoots for decorations. The foliage of this species, though smaller in all its parts and of a more papery, tender nature than that of the foregoing, is remarkably pretty and produced in great abundance. Besides the beauty of their barren fronds, Lygodiums are also particularly attractive through their singular and pretty mode of fructification, which is disposed in the form of spikes, either in separate leaflets or in lax rows along the edges of the leafy ones. But it is only when grown to a large size and usually when planted out that these beautiful Ferns, which thrive apace in a compost of fibrous loam, peat and sand in equal parts, show themselves to advantage and produce their fertile fronds in quantities sufficient to attract attention.

Another mode of furnishing the space between the glass roof and the plants below consists in the use of

HANGING BASKETS

of various sizes. In that respect, again, very good hints may be taken from the plants employed in the tropical ferneries at Kew, where, besides the conventional *Aspleniums*, *Davallias*, and *Nephrolepis*, one cannot fail to admire the huge baskets of *Adiantum cuneatum grandiceps*, a beautifully crested form, of garden origin, of our common *A. cuneatum*, and particularly well adapted for this mode of culture through the elegantly drooping habit of its fronds, which is the result of the presence of heavy tassels situated at their extremity. *Adiantum Moorei*,

better known in commerce as *A. amabile*, under which name it was sent out by Messrs. J. Veitch and Sons some twenty years ago, is another subject of great beauty; this lovely species, native of Peru, is provided with slender underground rhizomes, which, when the plant is grown in baskets, protrude in every direction, and from which its elegant pale green fronds are produced in great abundance. The lovely *Gymnogramma schizophylla gloriosa* is also well represented at Kew, where very handsome baskets of it may be observed in various parts of the warm house—the finely-cut lace-like foliage of that beautiful Fern, native of Jamaica, forming a most pleasing contrast with the neighbouring plants, having coarser or less divided fronds. It may not be out of place to remind the reader here that this beautiful Fern thrives best in a light compost of fibrous peat, chopped Sphagnum, and silver sand in about equal proportions, and that this being a soil of a very open and porous nature, abundant and frequent supplies of water at the roots are required at all times of the year, without which treatment its beauty soon fades. *Asplenium longissimum* is another Fern which, when grown in baskets, usually attracts the attention of the visitor, and it must be admitted that its culture in private establishments is not nearly so extensive as it really deserves to be. This beautifully pendulous species, native of Penang, Java, Borneo, and the Mauritius, is, of all known *Aspleniums*, the one best adapted for growing in baskets of large dimensions; its very elegant fronds, each 2 feet to 3 feet long and provided with leaflets 2 inches to 3 inches long, are abundantly produced from a thick and slightly creeping rhizome, and being of an evergreen nature, the plant is furnished at all seasons with long lasting fronds of a dark green colour and of a shining nature. They usually produce at their extremity young plants, from which it may easily be increased. We have in *Selaginella Galeottii* one of the most beautiful plants adapted for growing in hanging baskets in a warm house where the atmosphere is tolerably humid, and nothing can be more ornamental and at the same time of easier culture than this lovely species of a slender nature and most elegant habit, of which magnificent baskets, perfect balls of verdure, captivate the attention of the visitor in the tropical fernery at Kew. It is a native of Mexico, producing trailing stems 1 foot to 2 feet long, from which its finely cut foliage of a bright green colour is produced in great abundance. Its propagation, like that of other *Selaginellas*, is readily effected by means of cuttings, and all it requires is an abundance of water at the roots all the year round.

Among the most striking Ferns which are grown in pots, we may mention, besides the highly ornamental *Marattias* with their massive fronds of a nature and of a habit totally different from other Ferns, some really grand specimens of the following

LARGE-GROWING KINDS:

The rare *Acrostichum aureum*, a beautiful semi-aquatic Fern of large dimensions, found in a wild state in swampy places all over the tropics of both hemispheres; *A. drynarioides*, from Penang and the Solomon Isles, and *A. osmundaceum*, a species from Ecuador and South Brazil, and perhaps the handsomest of all the known *Acrostichums*. E. J. Lowe states ("Ferns British and Exotic," vol. vii., p. 151) "that it climbs more than 20 feet up trunks of trees," of which it is said to eventually take entire possession. *Blechnum volubile* is a most singular Fern of a distinctly climbing nature. It is a native of the West Indies,

Brazil and Peru, and from its outward appearance greatly resembles a gigantic growing Lygodium. The uncommon and always beautiful *Brainea insignis*, from Hong-Kong, is represented at Kew by several remarkably fine specimens, their heads of foliage being well proportioned to the dimensions of their trunks, which are of a comparatively thick nature and very seldom straight. *Lindsaya*, or *Davallia retusa*, under which name it is better known in gardens, is also in grand condition, the pale green colour of the leafy portion of its beautiful fronds forming a striking contrast with the claret colour of their stalks. The Malayan *Didymochlena lunulata*, the deservedly popular *Microlepia* or *Davallia hirta cristata*, various *Gleichenias*, mostly of Australian origin, *Lomarias*, and a unique specimen of the curious upright-growing *Polypodium irioides*, whose home extends from Northern India to Fiji, New South Wales, Zambesiand, and the Guinea coast, are also plants which never fail to attract the attention of the visitor. The same remarks apply with equal force to the beautiful *Acrostichum* or *Stenochlena scandens*, the majestic *Pteris moluccana* with elegantly pendulous ample fronds, and many other more or less rare and distinct kinds too numerous to be enumerated here. Among the

SMALLER GROWING FERNS

of special interest we note the plain-leaved miniature tree-like *Asplenium hjiense*, the transparent and filmy-looking *A. resectum*, and the extraordinary *A. scandens*, of most peculiar climbing habit; the diminutive and rare *Cassebeera triphylla*, the pretty *Cheilanthes farinosa*, and *C. (or, as it is better known in gardens, Adiantopsis) radiata*, the curious *Pteris ludens* and *P. sagittifolia*, besides a host of other species the names of all of which cannot be given here.

One of the principal features in the tropical ferneries, and one which adds great charm to the place, is the mode of culture adopted for *Platyceriums*, which are planted in cork, built so as to imitate a tree on which *P. æthiopicum* or *Stemmaria*, Hilli, Willincki, and the magnificent *P. grande* all appear to be in as natural a state as could possibly be devised

OBSERVER.

Four good white Crocuses in flower now are Boryl, with a few purple lines on the perianth segments, a golden yellow stigma, and white anthers; *Cartwrightianus albus*, pure in colour with a blood-red stigma and yellow anthers; *hyemalis*, with a few dark lines on the outer segments, a much divided stigma which looks like a little tangle of fine gold wire, and black anthers; and *Obesi*, with a single narrow purple line along the back of each perianth segment, a much divided deep orange stigma, and black anthers. They are all strong-growing, very hardy kinds. The recent sharp frosts appear to have done them no harm. *C. Imperati* opened its first flowers on Nov. 28, the earliest date I remember. —T. SMITH, *Newry*.

Carnations (Malmaison) at Whittinghame.—I herewith send you a photograph of a portion of a house filled with the deep pink Malmaison Carnation. The house contains over 300 plants, a large proportion of them being in 11-inch pots and the remainder in 6-inch pots. The photo was taken at the end of October, and it will be seen that the plants are partly in bloom. The large plants are now (end of November) in full bloom, each having from eight to twelve flower-stems, with flowers almost equal in size, but deeper in colour than those produced during summer. The layers were put down in June, 1892, potted into 3-inch pots when rooted, shifted into 6-inch pots in October and again into 11-inch pots in February. They flowered in due course during May and June, were

turned into cold frames until the middle of October and then housed as shown; consequently they have flowered twice during the year. The smaller plants are layers of the present year, but put into 6 inch pots as soon as well rooted and housed along with the large plants. Of this kind we have nearly 1000 either in bloom or throwing up their flower-stems, so we shall not lack plenty of flowers all winter and spring. The plants, large and small, are in robust health.—JOHN GARRETT, *Whittinghame, East Lothian.*

THE ROCK GARDEN.

CHOICE ALPINES AND OTHER PLANTS SUITABLE FOR THE ROCK GARDEN.

HAVING described the different methods of constructing rocks for various purposes, and having also dwelt on the planting of them, I will now enumerate the plants themselves. I will confine my remarks about plants chiefly to the most practical mode of cultivation, and the relative positions such plants should occupy in the rock garden, limiting botanical distinctions to a mere statement of size and colour in the case of plants not so generally known, and omitting descriptions altogether in the case of those well known. Neither can I profess to give anything like a complete list, but the plants here enumerated are almost without exception only such as have come under my own observations, and which I have repeatedly planted in rock gardens of every description.

In planting a rock garden it is not sufficient to know that this or that plant will grow to such and such a height or that the flowers are of such and such a colour, but the probable behaviour of the plant after planting is of the utmost importance. It is necessary to know whether the plants will spread quickly or slowly, whether they may be planted close together or should be kept far apart, whether growing downwards over stones or upwards would show the plant to the best advantage, whether a position on level or sloping ground would suit it best, or whether shade or bright sunshine would be most congenial to its existence, &c.

Although localities differ, and plants doing well, perhaps, in a certain position in one particular place may be found in a less flourishing condition in apparently a precisely similar position elsewhere, yet some material difference will be found to exist on closer examination, and an approximate adherence to the general cultural hints here given may be of service to those who have had but a limited experience in adorning rock gardens, and may help to guard them against mistakes which would be fatal to the plants.

From the list of plants given below I have purposely excluded all those that make tall growth, also such hardy perennials as are adapted more for borders or margins of shrubberies adjoining the rock garden than for the rock garden itself. Although taller plants of exceptional grace or beauty may be well suited to adorn the rocks here and there either as isolated specimens or grouped together, I propose to deal with these separately later on, and I will here deal almost exclusively with plants growing only a few inches in height.

SMALL PLANTS OF SLOW GROWTH SUITABLE FOR THE MOST SELECT PART OF ROCK GARDEN.

When planting a rock garden it is often difficult to know what to select from the enormous number of varieties. Hand-books and catalogues often give descriptions of plants which

although perhaps strictly correct, leave the inexperienced amateur in great doubt whether this or that plant is suitable for his purpose. The consequence is that neat and choice plants are too often killed by the more rapid encroachment of their neighbours of coarser growth. It is the grouping together of plants which presents the greatest difficulty, because, as a rule, too little is known of the mode of growth of the plants used and the space required by them. Even among plants only an inch or 2 inches in height some would cover a square yard of space in the same time that other dwarf plants would cover a square of scarcely 6 inches. I will, therefore, endeavour to enumerate the principal kinds of plants which are suitable for the most select part of the rock garden, and spread so slowly that they may be safely planted within a foot or less of each other without the danger of overcrowding for many years at least, and as the position the plants should occupy is after all the most important point, I have enumerated them in groups according to their requirements. Particularly rare and expensive kinds may be planted singly, but that mountain



No. 1.—*Phyteuma comosum* planted sideways in vertical fissures exposed to the sun.

plants generally look most effective when distributed in irregular groups or masses has already been pointed out. In the chapter devoted to the planting of upright or abruptly sloping fissures (see THE GARDEN, Sept. 16) I mentioned the fact that these fissures should always be the first to be dealt with in planting, and I will, therefore, deal with the plants for the most select part in the following order:—

1. CHOICE PLANTS OF THE SLOWEST GROWTH SUITABLE FOR PLANTING SIDWAYS IN UPRIGHT OR ABRUPTLY SLOPING FISSURES.

(a) PLANTS FOR SUNNY POSITIONS.—*Androsace helvetica*, *A. cylindrica*, *A. pubescens*, *A. pyrenaica*, *A. sarmentosa*, *A. villosa*, *A. Chumbyi*, *A. lanuginosa*, and *A. lanuginosa Leichtlini* will be found suitable. Of these *Androsaces*, *A. sarmentosa* and its variety *A. Chumbyi* spread more rapidly than the rest, and can scarcely be called slow-growing plants, and the same might be said of *A. lanuginosa* and its variety *Leichtlini (oculata)*; they are, however, so beautiful, that they cannot be excluded from the select part of the rock garden.

A. helvetica is perhaps the slowest and neatest of all. The varieties mentioned do exceedingly well in very narrow fissures filled with one part of gritty soil to three parts of limestone. *A. villosa* prefers limestone to any other rock. *Cerastium lanatum villosum* is a neat woolly kind lately introduced from Siberia, and must not be confounded with that coarse and rapidly spreading plant, *C. tomentosum*. The genus *Edraianthus* contains many gems of slow growth, whose Campanula-shaped blue flowers are among the choicest blooms of spring. Planting sideways in upright fissures seems to suit them better than any other position. The best are *E. croaticus*, *E. dalmaticus*, *E. caudatus*, *E. graminifolius*, *E. tenuifolius*, *E. serpyllifolius*, and *E. Puvillio*. The last-named variety will stand exposure even to the full south, but *E. dinaricus* prefers a westerly aspect. *Eritrichium nanum* is another gem well worthy of the most select corner. This lovely fairy Forget-me-not, like most plants covered with hairy pubescence, enjoys a particularly dry place in winter, and is one of the choice things considered most difficult to grow.

It should be planted sideways in an upright or slanting fissure fully exposed to the sun, but protected against winter rains by a projecting ledge of rock. The pretty little Cheddar Pink (*Dianthus cæsius*) is, perhaps, the best of this numerous genus for growing in a fully exposed upright fissure. *Geranium argenteum*, with its handsome silvery leaves and pink flowers, deserves a place among the choice things, though its growth would be somewhat quicker than most plants in this list. A space where it can spread to about 18 inches and a dry sunny position should be given to it. *Phyteuma comosum* does remarkably well planted sideways, but so that the roots can penetrate deeply into the narrow crevice. The illustration No. 1 gives a good idea of the peculiar shape of the flowers. *Paronychia argentea* is a striking plant with its peculiar silvery bracts, but unfortunately not quite hardy except in the southern counties. The number of Saxifrages suitable

for vertical fissures in a sunny position is so great, that I must be content with naming only a few of the choicest and best for the select rock garden, such as *S. aretioides*, *S. Boydi*, *S. Burseriana*, *S. cæsia*, *S. Frederici Augusti (luteo-purpurea)*, *S. lantoscana superba*, *S. longifolia*, *S. paradoxa*, *S. squarrosa*, *S. cochlearis*, *S. valdensis*, *S. calyciflora*, *S. diapsenioides*, *S. Rocheliana*. Most of these choice varieties prefer a little chalk or old mortar mixed with the soil, notably that queen of Saxifrages, *S. longifolia*, the planting of which was illustrated in the chapter dealing with vertical fissures (see THE GARDEN of Sept. 16). Most of the Stonecrops spread too quickly to be tolerated in the select part of the rock garden, but I would mention two kinds of very slow growth, viz., *S. brevifolium* and *S. latinervium*. Another very dwarf and pretty kind for forming a neat carpet between taller plants is *S. dasyphyllum*. The Houseleeks, too, are excellent for filling vertical crevices fully exposed to a scorching sun. Among the prettiest of them is *Sempervivum arachnoideum*, which, though plentiful everywhere, deserves, nevertheless, a

good position. *S. Powellii* and *S. Lagerri* are somewhat rarer kinds of the same type. *S. triste* has larger rosettes, of a deep bronze colour. *S. pumilum* and *S. globiferum* are also to be highly recommended. Besides these there are many scores of other varieties, most of which, however, would be more suitable for fissures in large rocks. *Silene exscapa* is a little gem for the select rock garden. It has a dense, hard cushion of leaves and rose coloured flowers. Though enumerated among plants requiring a sunny position, it should be at least slightly shaded against the midday sun. Of the genus *Umbilicus*, *U. spinosus* must be reckoned among the tiniest mites, while *U. chrysanthus* increases in size more rapidly. Both are very desirable and well suited for the driest and sunniest position.

(b) FOR SHADY OR PARTLY SHADY POSITIONS.—The number of plants suitable for vertical or abruptly sloping fissures in those portions of the rock garden which are on the north and west side, or are otherwise partly shaded by rocks, is not so large as that of plants requiring a sunny position, but they include some of the

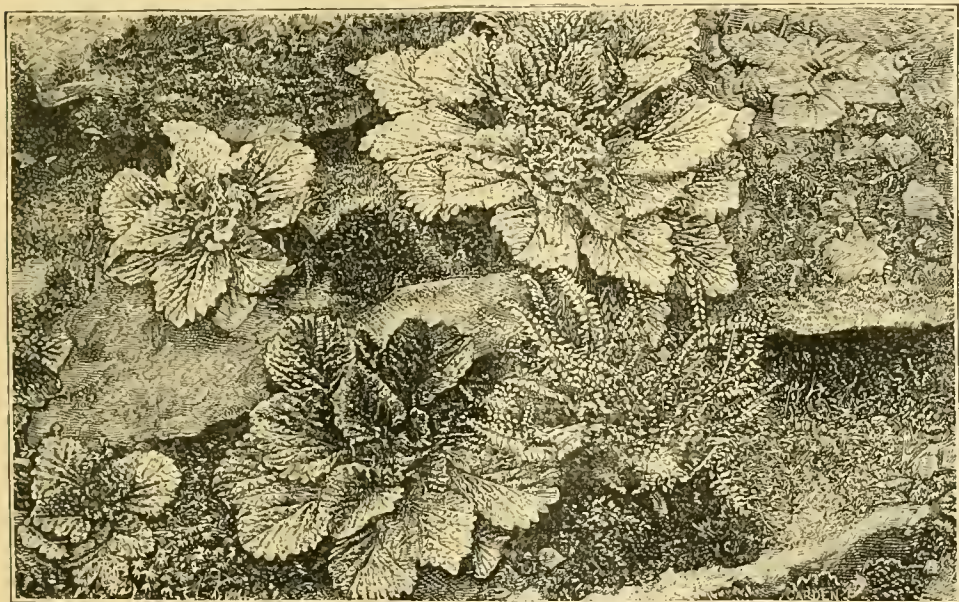
garden should be without. It thrives best in an upright fissure on the shady side of rocks and loves abundance of moisture, but is, nevertheless, very averse to having water resting in the centre of its rosette of leaves, and requires, therefore, to be planted sideways. *R. pyrenaica alba* is still rare and expensive. *R. Heldreichii* has hairy leaves and requires less shade and moisture than *R. pyrenaica*. *R. serbica* is distinguished by paler coloured flowers. The number of *Saxifraga* thriving in a shady position is very large, but as most of them spread too rapidly to be admitted into the select part of the rock garden, I will here only mention *S. juniperina*, *S. sancta*, *S. aspera*, and *S. pyrenaica superba* as being among the neatest kinds and suitable for upright fissures. *Silene acaulis* and *S. pumila* thrive best in a sloping fissure with west aspect. *S. exscapa* requires a little more sun.

Exeter.

F. W. MEYER.

(To be continued.)

Campanula Portenschlagiana robusta.—I am inclined to think that this extra vigour is



No. 2.—*Ramondia pyrenaica* planted sideways on shady side of rocks.

choicest kinds, of which I will enumerate a few of the principal varieties. Of the *Androsaces*, the species *A. ciliata*, *A. Lagerri*, *A. Chamejasme* and *A. Vitalliana* are the most suitable for the purpose indicated, though it must be borne in mind that none of them require shade in the proper sense of the word, but only protection against the mid-day sun. They are, therefore, admirably adapted for a position with a north-east or north-west aspect. *Haberlea rhodopensis* does best in moist peat on the north side of the rocks, as without shade and moisture it would soon shrivel up and die. Its bright rosy-lilac flowers with white throat make it a most desirable plant for the part reserved for the choicest things. *Linnaea borealis* is a minute trailer, with pretty evergreen leaves and white flowers tinted rose. A very large number of *Primulas* is most suitable for the upright or slanting fissures in half-shady positions; among the best and choicest are the following: *P. Allioni*, *P. Clusiana*, *P. denticulata*, *P. Floerkeana*, *P. glutinosa*, *P. marginata*, *P. minima*. *Ramondia pyrenaica* (see illustration No. 2) is a plant that no rock

more a matter of soil and situation than variety. Here in very sandy granitic loam it never becomes vigorous, but always remains a close tufted mass. Two or three years ago in a garden near Belfast, where the soil is stiff and cold, a bed was edged with it. It at once took so kindly to the situation as to run through and strangle the Box and grew right through the Pansies, with which the bed was planted; in fact, took complete possession. I have in my mind another garden near Dublin where it grows in the most vigorous way, making shoots 12 inches to 18 inches long. In this condition one might readily mistake it for a distinct kind.—T. SMITH, *Newry*.

An effectual trap for earwigs.—Each year these garden pests seem to become more numerous; indeed were not stringent means adopted for their eradication much valuable produce would annually be destroyed. I know of no better trap for them than the old-fashioned one, viz., short lengths of Broad Bean stalks placed in and around their haunts. If these are examined each morning they will be found to contain numbers of the insects, when they may be killed by sharply tapping the stalks on the edge of a bucket containing boiling water. If this plan is followed up, their numbers will soon be considerably reduced.

When Peaches on open walls are attacked, the traps should be tucked in between the branches and the brickwork, and for *Chrysanthemums*, laid horizontally either amongst the growths or on the pots.—J. CRAWFORD.

CHRYSANTHEMUMS.

CHRYSANTHEMUMS AS SHOWN.

I HAVE taken the following notes of *Chrysanthemums* at various shows within the past week or two, and from quite different localities. The London season may fairly be said to have opened with the Crystal Palace show on November 3 and 4. At this exhibition the most prominent feature undoubtedly was the excellent condition in which the Japanese section was represented. No one would, I think, have ever dreamed, much less have foretold some fifteen years or so back, that the results of the present day could have been attained unto. No one can dispute that there has been a marked improvement during the past five years; what the next five years will bring forth is almost premature to forecast. There were not very many of the older varieties represented in quantity at the Palace which a few years back could have been counted by the score. There are, on the other hand, a few that promise to hold their own for years to come by reason of their most distinctive features. These are Edwin Molyneux, which I have never seen better than at this show, more especially the half-dozen which won the premier prize in a keen competition in the class for one variety only. Stanstead White in the same class was shown in beautiful form, very pure in colour, and not excessively large. Avalanche, another grand variety for almost any purpose, was hardly up to the usual standard of excellence, but there is no white in its way that can equal it. Comte de Germioy is not nearly so often shown now, but on this occasion it was in its best possible condition. Sunflower was well represented both in the half-dozen class and in the singles; it is very distinct, and its rich colour a great assistance in brightening up a stand. Mrs. C. W. Wheeler was in a few cases shown well, with remarkably broad petals. Although an excellent variety, Mme. Clemence Audiguier, of which I did not note one good bloom, was almost if not quite absent from the best stands. It is a beautiful flower when well grown and very distinct, but no doubt its height is largely against it; in my own case it was never better than this season. Val d'Audorre was hardly to be seen; I did not observe more than two good blooms. Thunberg, through being somewhat of a late variety, was not *en evidence*. Mr. H. Cannell, considered by some to be finer than the last named, was also conspicuous by its absence. Pelican, itself a late variety also, was represented by only a few. Harman Payne was, in a few cases only, shown in good condition. Of varieties introduced within the past five years there was an abundance. Etoile de Lyon was shown in better condition than usual, not so coarse or so large; it did not, therefore, stand out conspicuous by reason of its size. M. E. A. Carrière was staged in its best condition; so also was Mrs. Falconer Jameson, which has no doubt taken in a measure the place of Harman Payne. Mlle. Marie Hoste is a decided acquisition, very distinct; this was also in first-rate form. Vivand Morel is another variety that will undoubtedly be seen for years to come; it was to be seen in almost every stand and in beautiful condition, a little variable in shading, it is true, but more often than not in its richest colour. Florence Davis I have seen better, but on the whole no fault could be found with its quality. Miss Annie Hartshorn was in several instances of the very best; its favourable appearance would no doubt increase its popularity. W. H. Lincoln was probably never seen finer, the blooms full and rich in colour. President Borrel (in nearly every case mis-spelt Borel) also stood out very prominently;

the blooms were large and massive. Turning to the varieties of 1892, no variety surpassed or even equalled Col. W. B. Smith; its appearance so strongly in such excellent condition will further increase its popularity; its colour, a light terracotta, is quite distinct, whilst the blooms are of fine proportions. It ran Edwin Molyneux very hard for the premier place in the one variety class. Lord Brooke, although not shown in such numbers as the foregoing, was nevertheless to be seen in very fine condition; it is a noble flower and of a very pleasing colour, the combination of yellow and bronze being so attractive. I am disposed to think it should be classed with the incurved varieties, however, for between it and M. R. Bahuant there is but little difference in form, the former having the broader petals. Wm. Seward, one of last year's introductions, maintains its character as one of the richest crimson coloured varieties. G. C. Schwabe has also come out well this season, and bids fair to be a useful variety. Of varieties more curious than beautiful, but little was seen of Louis Boehmer or Mrs. Alpheus Hardy; in spite of the trumpeting they received they do not maintain their popularity. Turning to the

INCURVED VARIETIES

as shown at the Crystal Palace, one would be inclined to think that the season had not altogether suited them. Those old standard varieties of the Queen of England family have been seen much finer, but on the other hand those of Mrs. Rundle were to be found in good form in at least one winning stand. The Princess of Wales section has held its own; the type, also Mrs. Coleman, Miss Violet Tomlin, Mrs. Heal, and Miss M. A. Haggas were all staged in good form. Of varieties more recently introduced, Mons. R. Bahuant stood out prominently as one of the very best, which it undoubtedly is; the half-dozen premier blooms were really models of an incurved flower. Baron Hirsch, introduced last year, was also plentiful; this also bids fair for popularity. Mme. Darrier was staged by a few exhibitors in very commendable style; it is very distinct. Mrs. Robinson King I did not observe in any stand; its doubtful distinctiveness from its parent the Golden Empress of India renders exhibitors cautious as to staging it. Another new variety, but probably one classed with the Japanese section of incurved, is Robert Owen; this also was not prominent. The season does not appear to have been favourable to Refulgens, which last year was the premier variety in the half dozen class, it is so rich and distinct and well worthy of a place. I only noted one good bloom. Jeanne d'Arc was, on the other hand, shown plentifully and in excellent condition. Of other sections there were not many that attracted notice by reason of their superiority save the one only exhibit of twelve single varieties; these were truly lovely and were as attractive if not more so than the best of the Japanese varieties. As their names have been given in the report of the show, it is only necessary now to allude to them. They can be most strongly recommended for cut purposes for vases in home decorations, also for bouquets and other made up arrangements. The exhibitor of these is to be strongly commended for the manner in which he staged them. Amongst the large-flowered Anemones, Delaware is well worthy of notice; it has a fine centre with broad guard florets. Mrs. Judge Benedict, another comparatively new variety, claims notice; its rose tinted florets and sulphur-yellow centre make it very distinct. Of the Japanese Anemones, M. Pankoncke should be noted; its broad purplish guard florets and somewhat lighter centre, also the beautiful build of the flower, are strongly in its favour. In the pompon section note should be made of the beautiful examples of the old, but still unsurpassed forms of Cedo-Nulli as seen in the dwarf specimens, the white, the golden and the lilac varieties being shown in the best possible condition. In the pompon Anemone section the most prominent variety of all was Mme. Montels, which although introduced in the fifties still holds its own. In

THE WESTERN DISTRICT,

on the borders of the Bristol Channel, the Japanese kinds still assert their supremacy, although not in such a marked degree as at the Crystal Palace when compared with the incurved varieties. The most striking kinds of the former at the show in question were Sunflower, which was in several instances remarkably fine, taking the premier position for six blooms of one variety as well. Mlle. Marie Hoste was shown finer than I have before seen it, one flower of this variety proving to be premier bloom in the show, it being a superb flower. Etoile de Lyon was also far above the average with deeply coloured flowers, although not excessively large. Vivand Morel, which as compared with the foregoing was larger, was also staged in excellent condition, but most variable in colour. Excelsior, a new variety of last year, was singularly good; it is most distinct and a decided acquisition as a front row flower. Puritan also stood out as a conspicuous variety. Avalanche, as before at the Crystal Palace, was not so good as in former seasons (it is to be hoped that this beautiful Chrysanthemum is not degenerating). Thunberg, which I do not think was staged last week, was here very plentiful and in its best style, rich in colour and very full. Mr. H. Cannell, which closely resembles the foregoing, being on the average larger, but with shorter petals, was also staged in first-rate condition (every stand of eighteen or twenty-four flowers should at least have one of these two distinct varieties). Glorioso in several instances was staged in its best style; I have not seen it so good for a long time; this also is very distinct. Sarah Owen was also represented by fine blooms, richly coloured. Lord Brooke was not shown so well as it has been seen this season. Mrs. Falconer Jameson, however, was staged in excellent form. The contrary was, however, the case with Stanstead White, whilst Col. W. B. Smith was not so good as it has been seen, the blooms appearing to be at least a week too old. Turning to the incurved varieties in the same show, there was a marked improvement since last week. These were decidedly better than at the Crystal Palace. One which was shown in the best condition was the Princess of Wales (in its various forms), to one of which, Mrs. Coleman, was awarded the premier prize as the finest incurved flower; a finer one I have not seen, it being of great depth and very full. This variety was to be met with in several stands. The Princess herself was also in the best possible condition, winning the first prize for six blooms of one variety. Miss Haggas and Violet Tomlin of the same family were both shown well. The Queen family were again comparatively weak, the best being Empress of India, which was good. Barbara, another kind often overlooked as not large enough, was seen to good advantage. Jeanne d'Arc was larger and finer than usual; it appears to be a season suited to its requirements. M. Bahuant was not so good as usual, but Lord Wolseley was staged in several instances remarkably good. Another variety seldom seen so good was Empress Eugénie; it was a prominent feature in several stands. Enamel, like the latter an old variety, was also staged well. The Anemone, the reflexed, and the pompon varieties were not staged in any quantity, the first being the best of these. Arrangements for effect in baskets were, however, a most pleasing feature, several excellent exhibits being produced. No flower lends itself so readily to decorative uses as the Chrysanthemum at this season of the year. It is a wonder considering this that more encouragement is not given by those who frame the schedules.

Returning once more to the

LONDON DISTRICT,

I was pleased to see in at least one local show an excellent competition for the prizes offered for Japanese varieties (twelve) to be shown with 15 inches of stem, to be staged as grown and in glasses or bottles of water. This proved to be a most interesting class, and several remarkably fine flowers were exhibited. In looking closely through the premier lot, not a second-rate flower was to be seen. This style of staging is really worthy of

more attention, the addition of the leaves being a marked improvement. At the same show there was a keen competition for the prizes offered for large-flowered Anemone varieties; these, where attention is given more particularly to their culture, appear to have enjoyed the past season. I never remember to have seen better on the whole. At another local suburban show the premier Japanese bloom was a grand one of Lord Brooke—a position I have not previously seen it occupy. It is, of course, to be taken into consideration that it is a new variety which has probably not yet been seen at its best. I am strongly disposed to think that it has a brilliant future before it. At yet another suburban show the groups were remarkably fine, quality of flower being one of the specifications in the schedule. Although this in a measure precludes the use of some of the best decorative varieties, no fault could be found with the way in which the best groups were arranged. The premier group was arranged in the manner advocated in these columns last autumn, viz., with the back well raised and the front equally as dwarf. It seems strange that exhibitors, on the whole, cannot see that by so arranging their plants they can get more on the same space with less overcrowding. These groups had to be finished off in the front with small-leaved plants so as to hide the pots, which is an excellent proviso, for pots (sometimes dirty ones) and sticks (not always painted) cannot be considered as being conducive to good effect. At this show six blooms of Sunflower, rich in colour, large in size and quite fresh, were placed first for any kind of Japanese, the second best being Vivand Morel, deeper in colour than usual. In the corresponding class for one variety of incurved, Queen of England, grand blooms, not over-large, but beautifully finished, stood the exhibitor in good stead; half a dozen John Salter, however, ran the former very close. The Japanese throughout in this case were very fine. This was notably so with Etoile de Lyon, which I never remember to have seen so good in any previous season, there being more refinement in the flowers. Mlle. Marie Hoste, Mme. Thérèse Rey, Lord Brooke, Col. W. B. Smith, G. C. Schwabe, and W. H. Lincoln all maintained their previous good reputation; so also did Emily Dale, Miss M. Haggas, Empress Eugénie (a beautiful variety, not nearly enough seen), Jeanne d'Arc, Violet Tomlin, and Princess of Wales amongst the incurved. One excellent addition was in this instance made to the schedule, viz., a class for cut Chrysanthemums in bunches for cottagers; for the prizes there was a keen contest, showing that such classes have only to be provided in order to secure competition.

Turning away from the metropolis once more, this time to

THE NORTH,

one could but be struck with the grand display of cut blooms in a large number of classes, the amateur growers in this case entering keenly into the fray. The finest flowers, both of Japanese and incurved in the largest classes, were from southern growers, a noteworthy fact; whether they will maintain the same position another season remains to be proved. At this show the finest incurved flowers shown so far this year out of London (at the National) were to be seen; they were models of good culture (and of patience also in the after dressing). In this exhibit it was difficult to point out individual blooms, all being alike good. Both the Queen and Princess families were strongly represented. The example of Lord Alcester in this stand won as the premier incurved flower, a grand bloom and very fresh; it was, however, run very closely by a unique flower of Hero of Stoke Newington. Of the Japanese section, Charles Davis, the bronze sport of Vivand Morel, won the premier prize, but it was run very closely by other grand blooms, notably by Etoile de Lyon. Others of this section which stood out well were Mme. Thérèse Rey, Col. W. B. Smith, Mlle. M. Hoste, and Mme. Baco (the last extra fine). A novel, but excellent departure was made at this exhibition in offering prizes for twenty-four blooms of Japanese arranged on a given space in

an effective manner with other accessories. The first prize was most deservedly awarded to a beautiful arrangement in an informal manner of grand blooms interspersed with dwarf and fine-foliaged plants. More of this kind of staging should be shown. The groups in the same show were remarkably good, totally different from what one is accustomed to see down south. Upon a given space the exhibitor is at liberty to do his best with Chrysanthemums combined with other fine-foliaged plants, the result being most beautiful groupings, mere mass of flower in no case being relied upon. It is a pity that such a group as the premier one could not be sent to one of the London shows as a pattern of good and tasteful arrangement. GROWER.

Chrysanthemum Mrs. Robinson King.—I note in the last issue of THE GARDEN that this sport from Golden Empress of India is alluded to as having been shown at the Aquarium, the colour being given as deep orange-red. Surely this must be a mistake, or else it has sported again. I saw it only once, at least it only attracted my notice once. This was at a local metropolitan show. The bloom in question was rather flat, much after the form of Jardin des Plantes, whilst it was in colour as near like that old favourite as could be, the only variation being in size and in the petals. Mrs. Robinson King is much larger than Jardin des Plantes and the petals broader. I was at the Hull show, but did not note it there even shown well. It may quite possibly have been shown, but with such a crowd of admirers around the stands there it was not possible to investigate every exhibit. The N.C.S. supplement to "Official Centenary Catalogue" gives the colour as rich yellow; this well describes it.—H.

Chrysanthemum exhibiting: a suggestion.—It has often occurred to me that a dividing line between each exhibit of forty-eight, thirty-six, twenty-four or eighteen cut blooms would greatly assist in the general effect of an exhibition. To do this, why should not each exhibitor in these larger classes provide either two or three small plants of not more than 1 foot in height? At the most three would be sufficient for each such exhibit, as only one side by each competitor would have to be so divided. Light Palms, as Cocos Weddelliana and Areca Intescens, or light ornamental Grasses, as Eulalia japonica variegata or Carex riparia, as well as the variegated form, or the narrow-leaved Crotons or the finer of the Aralias. Any of these plants could thus be used in a most pleasing fashion. Such divisions would assist the judges also as dividing lines to a good purpose. I fancy I can hear some of the exhibitors saying that it would give them needless trouble, but none of the plants need be larger than 3-inch pots, or at the most 4 inch. Three of these would not occasion much more labour, but the effect of the show would be enhanced.—SOUTHRON.

Chrysanthemums at Chicago.—The exhibition showboard, concerning which there was some discussion a year or two ago in America, appears to have been banished entirely from the World's Fair Chrysanthemum Show in Chicago last month. The current number of the *American Florist* contains twelve illustrations of the exhibits there, many of them being of cut blooms, which are represented as being staged in vases. The flowers which seem to have caused the greatest attraction are The Queen, George W. Childs, Beau Ideal, Mermaid, Mrs. Higginbotham, Robert McInnes, Mrs. J. G. Whildin, L'Enfant des deux Mondes, Harry Balsley, and Vivand Morel. Among the principal exhibitors such well known American Chrysanthemum specialists as J. C. Vaughan, Nathan Smith and Son, E. G. Hill and Son, and W. N. Rudd find a place, and altogether the exhibits were a most representative lot. They came from both the Atlantic and Pacific coasts, from Canada on the north to New Orleans on the south, there being twenty-one States represented. The report of the show is accompanied by a list of varieties exhibited, which at a rough computation may be taken at 110, almost all of them being of American

origin, and a number far less than we should have expected. The principal varieties from this side of the Atlantic were M. R. Bahuant, H. Cannell, Charles Davis, Jeanne Délaux, Domination, Bertha Flight, L'Enfant des deux Mondes, Kate Mursell, Robert Owen, Mlle. Thérèse Rey, William Seward, Source d'Or, and Vivand Morel.—C. H. P.

Incurved Japanese Chrysanthemums.—The increase in the number of Japanese varieties of Chrysanthemums is so rapid, that sufficient is now obtainable to make a full class of thoroughly incurved flowers in this section. This type of Japanese bloom may not meet with favour universally, but some people prefer them to any other kind. For my part I look upon varieties of the type of Belle Paule and A. H. Neve as being more typical of the Japanese flower; these possess grace and fulness of petal without being too stiff in appearance. Types of Japanese like Elaine and Maiden's Blush for example are not nearly so pleasing as those above-named, for the reason that they are too stiff in appearance, reminding one too much of the ordinary reflexed varieties. The following varieties belong correctly to the incurved section, and are not like many that were included when a class was formed for this section a few years since, and before varieties were as numerous as they are at the present time. Many sorts incurve their florets as they expand; for instance, E. Molyneux and Boule d'Or, but when fully developed they present a different appearance. The former is quite reflexed in character, and, therefore, in my opinion not entitled to be classed as an incurved Japanese. Foremost in this section is Robert Owen, probably the best of all belonging to this type; in colour it is orange-yellow, with a bronze suffusion. Louise, peach, or deep blush; George Savage, white, hirsute florets; Eda Prass, lilac, turning to blush; Rose Wynne, rosy pink; Amos Perry, rich yellow; Viscountess Hambledon, silvery bluish-pink; Miss Anna Hartshorn, bluish-white; Lord Brooke, rich bronze; L'Ami Etienne, pale lilac; Pearl Beauty, pearly white; Vice-President Calvat, crimson-red, reverse dull gold; Beauty of Castlewood, surface deep red, reverse orange-amber; Comte de Germiny, nankeen-yellow; Mrs. C. H. Wheeler, golden reverse, suffused red and bronze; Pelican, creamy white; Thunberg, rich yellow; Mrs. C. H. Payne, rosy blush, large and full; Mrs. Libbie Allen, clear yellow; Professor Wittmack, bright rose, paler reverse; Japonais, bronze-yellow; and Mrs. E. W. Clarke, purple-amaranth, belong to this class. All the varieties belonging to the hairy section come under the head of incurved Japanese.—Mrs. A. Hardy, Louis Boehmer, Queen of the Hirsutes, L'Enfant des deux Mondes, and W. A. Manda being the most important.—E. M.

Exhibition of decorative Chrysanthemums.—In many places this winter there will be an early scarcity of these flowers, at least from a decorative point of view. In ordinary seasons these who grow entirely on the big bloom system may look around, but in vain, for good supplies for drawing-room embellishment after the middle of December. Even the latest varieties when grown on this principle, are past and gone by the time the same sorts grown on the dwarf and many-branched system are coming into use. Large, highly-fed blooms are, moreover, much softer in texture, and quickly succumb to fog and damp. I am confident that if many who need cut flowers in quantity at the commencement of the new year would grow a few dozen plants in the old-fashioned way and not disbud, they would find them so useful, that in future they would double their number. My own plants which are grown for cutting only are never disbudded, and in spite of the forward season are only now coming to their best. My mode of retarding is, however, in part responsible for this. About the first week in October I arrange the plants in beds of four rows each, with paths between, afterwards fixing upright posts on either side, and carrying rafters horizontally from one to the other. Canvas fixed on home-made rollers is then extended over the framework each evening, and securely fastened with strong cords. Side walls are also provided of the same material

and fastened by loops to tenter hooks. These in windy weather remain untouched for days together. Treated thus till the leaves are off the Peach trees, the earliest varieties come into bloom quite as soon as wanted, while the later sorts not having been unduly excited follow on and flower at their proper season and in their best condition. It is astonishing how much frost the plants will stand with impunity if sheltered in the manner described; whereas if exposed to it, especially when in a wet state, their ruin is not only complete, but speedy.—J. CRAWFORD, *Coddington Hall, Newark.*

Chrysanthemums in paper collars.—Twenty years since it was the fashion at northern shows to display all cut blooms at exhibitions upon paper collars, or, what is perhaps more correct, upon bouquet papers. Gradually, however, the fashion died out to a great extent. I had no idea that it was still practised, but a visit to the late Sheffield autumn exhibition proved that the absurd fashion still exists. I cannot say positively in how many stands these frills were upon the flowers, but a considerable number of northern exhibitors still adhered to the fashion. Fancy a pure white bloom like Mlle. Lacroix or Empress of India being encircled with frilled white paper reaching fully 3 inches beyond the flower. In the large open classes these hideous accompaniments were not to be found, but in the minor or local classes they were common.—E. M.

GOOD DECORATIVE CHRYSANTHEMUMS.

THOUGH note-taking is very universal at the various exhibitions of Chrysanthemums, it by no means follows that it is the best way to get a selection of varieties for supplying the greenhouse with a good display of flowers during the autumn, as many of those most suitable for growing into bush form do not bear large enough flowers to compete with the giants that are to be seen at the various shows, though they yield an enormous quantity of small or medium-sized blooms, which for cutting are invaluable. What are usually referred to as semi-early or October-flowered Chrysanthemums are extremely useful, forming as they do the advance guard to the great bulk, which are at their best a little later on. Though the time of blooming varies somewhat according to the season, yet the following may be depended upon as a good selection for early flowering:—

Mlle. Lacroix, the well-known white, with its two sports, Annie Clibran, pink, and Mr. Charles E. Shea, yellow; M. William Holmes, crimson; James Salter, lilac-mauve, and its white form, Lady Selborne; Lakme, orange-amber; Mme. la Comtesse Foucher de Cariel, golden orange; Alexandre Dufour, purple; Bouquet de Dame, white; Bouquet Fait, pink, and its salmon sport, William Robinson; La Charmeuse, purple; La Vierge, large pompon, pure white; L'Île des Plaisirs, red; M. E. Pynaert van Geert, golden yellow; E. G. Henderson and Son, crimson and gold, with the old Elaine, pure white.

Other varieties that come in with the bulk of Chrysanthemums, but are now rarely seen on the show table, though they make grand bushes, are—

Alice Bird or Buttercup, a beautiful rich yellow reflexed bloom; Cullingfordi, crimson; Dr. Audiguer, amaranth-red; Edouard Audiguer, purplish maroon; Elsie, a beautiful reflexed cream-coloured flower; La Nymphe, pink; Marabout, a white pompon, fringed like a Pink; Marie Stuart, a little white Anemone that blooms in great profusion; M. Crousse, that gives immense numbers of small bright crimson Japanese flowers; Mrs. James Carter, with creamy Thistle-like heads of bloom, very unlike any of the others; Père Délaux, brownish crimson; President Hyde, rich yellow; Source d'Or, the popular market variety, of a deep golden tint; Tokio, scarlet-crimson, one of the brightest of this tint, and invaluable for cutting; with the pure white single-flowered variety Jane and its yellow counterpart.

Though many of the above were at one time to be seen at the various exhibitions, they have been ousted from their position by larger blooms, which are at the present time all the rage, though it

must be said that many of the newer forms even with very large blooms are much dwarfier in habit than was at one time the case, and consequently many of them are very desirable for growing into bush form. A selection of a few large-flowered Japanese for this mode of culture would include

Avalanche, white; Alberic Lunden, carmine-crimson; Cesare Costa, crimson; Col. W. B. Smith, old gold; Edwin Molyneux, crimson; Etoile de Lyon, lilac-rose; Florence Davis, white, tinged green in centre; Gloire du Rocher, reddish orange; Kentish Yellow; Mme. de Sevin, rosy purple; Mlle. Marie Hoste, white; M. Bernard, amaranth; Mrs. F. A. Spaulding, nankeen; Mrs. G. C. Schwabe, pale rose; Mrs. Falconer Jameson, bronzy orange; Phœbus, rich buttercup-yellow; R. C. Kingston, purple; Sunflower, yellow; Vivand Morel, mauve; Val d'Andorre, chestnut-red; W. Tricker, distinct rose; W. H. Lincoln, yellow; and Louis Boehmer.

Many of the new varieties sent out during the present year are of good sturdy habit, among them being—

Beauty of Exmouth, white; John Shrimpton, velvety crimson; Charles Davis, rosy bronze; William Seward, deep crimson; Princess Victoria, creamy white; Middleton Clarke, crimson-red with golden reverse, and white Louis Boehmer. All of these belong to the Japanese section, the new incurved varieties being much less numerous.

Where flowers are required late in the season the following are among the best to grow for that purpose—

Boule de Neige, hybrid pompon, pure white; Golden Gem, reddish bronze; L. Canning, pure white; Princess Blanche, cream; Lady Trevor Lawrence, white, and its primrose-coloured sport, Kate Mursell. Of incurved varieties, Princess Teck, white; Mrs. Norman Davis, yellow; Hero of Stoke Newington, pink; and Miss Marechaux, white, are all good. T.

Chrysanthemum Mary Anderson.—This is undoubtedly the most popular of all single-flowered varieties, and no wonder when its numerous qualities are taken into consideration—the perfection in form of its flowers, the delicate tint of colouring, the free manner in which its blossoms are borne, coupled with the compact habit of growth. At the Birmingham autumn exhibition held in the Town Hall this year, Messrs. Thomson had a pyramid 8 feet high and 5 feet wide at the base of this Chrysanthemum. Eighteen plants in 6-inch pots were employed in building it. The blooms were of full size, one only on a shoot. The whole gave one the impression of a huge pyramidal plant, rising out of a base of small flowering and fine-foliaged plants. Behind this pyramid were arranged Palms, making a splendid background for the delicately tinted Chrysanthemum blooms. Again, at the Lincoln Chrysanthemum show this variety was effectively employed to form the base of two mounds in a first prize group of miscellaneous plants. Above the Chrysanthemums towered remarkably well-grown single-stemmed Crotons and Dracænas, the effect being charming. The Chrysanthemum pots were hidden by a row of Adiantum Farleyense intermixed with Caladium argyrites as a relief.—E. M.

Chrysanthemum groups at Torquay.—At the autumn exhibition at this fashionable southern resort a very effective method of treating the groups of Chrysanthemums is employed. In the large room connected with the Bath Saloons the competitive groups are arranged in circles on the floor. The conditions of competition are that not less than eighteen varieties shall be included. Ferns are allowed for the front, which does away with the necessity of exposing the Chrysanthemum pots, as must be the case where no other plants are allowed. The group in question is confined to a diameter of 8 feet. Another is provided also 1 foot less in size. Still another is arranged for in the schedule to consist of but twelve varieties, thus providing ample opportunity for all classes of cultivators. In any of these groups the Chrysanthemums are not to exceed 6 feet in height. This is a commendable restriction, as it is an inducement to cultivators to employ dwarf growing varieties. The centre of each group must consist of one tall

Palm or fine-foliaged plant. This addition is a great help in relieving the otherwise uniform surface of the groups. Alternately with these groups others are arranged with miscellaneous plants in the form of a square and raised 1 foot above the floor, which admits of small drooping plants being included in the margin. The tallest plant in these groups must not exceed 10 feet. Along the sides are exhibits from nurserymen in the neighbourhood consisting of groups of Palms, winter-flowering plants, Orchids and Chrysanthemums. These make a pleasing foil to the gay colouring in the centre, and certainly add to the beauty of the display. The room is abundantly lighted, and as the exhibition is generally favoured with sunshine, the effect is most charming. Abundant space is provided for promenading amongst the groups, and as they are seen at all points, there is no opportunity for exhibitors to display the forest of bare stems, sticks, and pots too often to be found in some Chrysanthemum groups. Considering that private gardens of large size are but few in the neighbourhood, the display got together annually is certainly creditable.—E. M.

Chrysanthemums at Glasnevin.—The largest and best group of plants grown under what is known as the bush method, or perhaps more correctly speaking the natural style of growth, I saw last month at the Botanic Garden at Glasnevin. One large lofty house was devoted entirely to them, and a magnificent display it was; some hundreds of plants were on view. Here could be seen not only the newer varieties, but older ones, as James Salter, Bonquet Fait, and the like that are hardly ever seen now-a-days at exhibitions and seldom in private gardens. The rage now-a-days is for those sorts that give the largest blooms. Considering the unsuitability of the summer quarters Mr. Moore has for his plants—a position facing north, behind a range of high houses and partly overhung by tall stately trees as well—the wonder to me is how he obtains so good a display. Many persons wonder why the plants are not here cultivated to produce the orthodox large blooms, but under the adverse condition of the summer quarters I think Mr. Moore justly grows what is the most suitable for his purpose and convenience. Those persons who know what the requirements of Chrysanthemum plants are for the production of large blooms know perfectly well that if the plants are not matured by thorough exposure to the sun, it is impossible to obtain the finest results. The plants in question are topped but little, if any, and are simply allowed to grow away in a natural manner. Disbudding of the flowers is not practised, the result being a mass of bloom from all varieties alike, which is creditable to all concerned and immensely appreciated by the public, as was apparent by the numbers present at the time of my visit, one cold day toward the end of November. I was told that on a Sunday afternoon the crush was so great, that the greatest difficulty was experienced in getting through this Chrysanthemum house.—E. MOLYNEUX.

SHORT NOTES.—CHRYSANTHEMUMS.

Chrysanthemum Snowdrop is a charming little pompon, the flowers small, neat, and pure white, with a yellow centre. It is very free.

Chrysanthemum Mrs. Bourne is a Japanese raised by Mr. Owen, with florets of tremendous length and rather broad. The colour is light rosy mauve, with a silvery reverse.

Chrysanthemum Mme. Rozain.—A Japanese incurved variety raised by Rozain-Boncharlat. A big solid bloom with very long florets, of a rosy mauve shade. This is one of the best French varieties of the season.

Chrysanthemum Marion is a delightful pompon kind. It should be taken as a model for this section, the flowers being small and of exquisite shape, whilst the colour is of a deep orange shade, the petals a little fimbriated.

Chrysanthemum Putney George, a reflexed variety, has been well shown this autumn. It

is one of the finest of its class for colour, the flowers large and crimson, the reverse of the florets golden yellow and tipped with the same shade.

Chrysanthemum La Nymphe is rarely seen in collections. It is a Japanese variety, or Japanese reflexed, and when grown with little stopping of the shoots is very beautiful, the flowers not large, but pleasing in form, and lilac-peach in colour. The habit is comparatively dwarf, and a wealth of bloom is produced.

Chrysanthemum Marion Dingle.—English seedlings are always interesting. This variety was raised by Mr. Robert Owen, of Maidenhead, from seed saved from Stanstead White. It is a Japanese variety of large size, with very long florets. The colour is pure white, with just a faint shade of green towards the centre.

Chrysanthemum Le Colosse Grenoblois.—Without exception this variety, raised by M. Calvat, is the largest flower ever seen in England. As shown at a recent meeting of the National Chrysanthemum Society it was rough, ugly and coarse; but if it can be shown in presentable form by English growers, its size will unquestionably give it a place on the show-boards at our principal exhibitions. The florets are numerous, but rather narrow, and the colour is white and rosy.

GARDEN FLORA.

PLATE 940.

HIMALAYAN RHODODENDRONS IN IRELAND.

(WITH A COLOURED PLATE OF R. ROYLEI.*)

SIR JOSEPH HOOKER in the concluding sentence of the preface to his noble work, "Rhododendrons of Sikkim-Himalaya," says "their headquarters are on the lofty ranges of the Eastern Himalaya, where the mild and moist atmosphere is eminently suited to their habit." It is only where these conditions prevail that an adequate idea of the beauty of these plants can be obtained, and of what they must be in the gorges and sheltered spots of the lofty Himalayas. Coming from a high elevation and from a pure and moisture-laden atmosphere, coddling and confinement are thoroughly distasteful to them, and the starved and stunted specimens so frequently seen in pots give a very poor idea of what the same species may be in our climate when growing in the open air in suitable soil. The climate and soil of parts of Ireland seem to suit them admirably, and in Wicklow, Cork, Donegal, West Meath, and other counties rich and representative collections are to be found. Probably the best private collection of species of Rhododendron, with the exception of that formed by the late Mr. Mangles, is to be seen in a Wicklow garden, to the owner of which the plants are a source of immense interest and thoughtful care. It was in this garden that the accompanying plate of Rhododendron Roylei was painted. The plant from which the branch was cut forms a compact bush some 7 feet high, which about the middle of May was covered with small trusses of deep purplish red flowers, with a peculiar bluish sheen on the lower portion of the outside of the corolla tube, and formed a sight not easily to be forgotten.

* Drawn for THE GARDEN in the garden of Mr. Acton, Rathdrum, Co. Wicklow, by H. G. Moon. Lithographed and printed by Guillaume Severyns.



BRANCH OF MIMULUS

A layer from this plant, which is in a moist and more sheltered position, is nearly 9 feet high, and when standing beside it and looking through the flowers towards the sun, a rich and brilliant effect is produced, quite different from that of looking down on the flowers. This species—if it be accorded the dignity of specific rank—is rather more delicate than such species as *R. arboreum*, *R. barbatum*, or *R. campanulatum*, and should, therefore, be planted in a more sheltered position. It

given in *THE GARDEN*, September 24, 1881 (page 328). *Rhododendron barbatum* is a very welcome species, as its brilliantly coloured heads open in March, and it is sufficiently hardy to stand in an exposed position. The flowers should be protected from severe frost, which causes them to turn black. The largest specimen in this Wicklow garden is 15 feet high and as much through, and each year it flowers very freely. Not less brilliant are the flowers of *Rhododen-*

A large plant of *Rhododendron grande* (argenteum) had 93 expanded heads of white flowers on May 17, 1890. It was then 13 feet high and stood alone and unprotected in a plot of Grass sheltered by large Silver Firs, which formed a noble background to a noble plant. The old bark peels off the stems of *R. grande*, as in the case of *Arbutus Andrachne*, leaving a smooth and polished surface. The distinct colour of the foliage and young branches, as well as of the flowers of *R. Thompsoni*, places it in the very foremost rank in the species of hardy *Rhododendrons*. It is a very free grower; the individual flowers are large, deep blood red in colour, and of a peculiar waxy texture. It flowers a little later than most of the species already mentioned. In this Wicklow garden the following amongst the rarer species of *Rhododendrons* have proved to be perfectly hardy: *R. calophyllum*, *R. campylocarpum*, *R. Falconeri* var. *eximium*, *R. Hodgsoni*, *R. Keysi*, *R. niveum*, *R. Shepherdii*, *R. triflorum*, and *R. Wightii* (true).

As before stated, it is not only in Wicklow that the species of Himalayan *Rhododendrons* flourish in Ireland. The finest plant of *Rhododendron Keysi* is probably that in the rich collection of Mr. Gumbleton at Belgrove. Near Fermoy, Sir R. H. Kinahan has a very good collection of species and hybrids, some of the specimens being very large and in perfect health. In the Co. Westmeath there is at Knock Drin a good collection of species growing very freely. Most of the species at Knock Drin have been raised from seed collected by the owner or sent to him from India, and their history is known from the date of sowing the seed. In Donegal, on the shores of Lough Eske, Mr. Wallace has collected together many choice species, and it is really surprising to note how they grow in well-drained bog land. *Rhododendron Aucklandi* makes shoots nearly 18 inches long, clean, and healthy, and *R. Thompsoni* is a glorious sight here when in full flower. On the Grass slopes near the house are some very fine specimens of *R. arboreum* and its varieties with pink and with white flowers. Mr. Henry Hart, in another part of the same county, is forming in a sheltered position in a wood a large grove of Himalayan *Rhododendrons*, and here again one notes with astonishment how freely they grow in the Donegal climate; in fact, with the exception of small tracts of Co. Wicklow, they grow more vigorously in Donegal than in any other part of Ireland.

A feature in many gardens throughout Ireland is the number of fine specimens of *Rhododendron arboreum* and of its varieties, as well as some fine seedlings from *arboreum*. These plants attain very large dimensions, 10 feet to 20 feet high and as much through; they flower very freely, and are very hardy—one of the best and hardiest forms being that with pink flowers variously spotted and of various shades of pink, intermediate in appearance between the plants figured in "*Rhododendrons of Sikkim-Himalaya*" under the names of *R. Campbellii* and *R. lanceifolium*, but not having tubercles on the petioles as in



Rhododendron Keysi.

delights in moisture about the roots. *Rhododendron Dalhousiae*, *R. Edgeworthii*, and *R. Nuttallii* are the only species which have proved not to be hardy in Wicklow; true, they have lived there for several years, but they get crippled by spring frosts, do not flower, and eventually dwindle and die. In this garden *R. Aucklandi* grows into a bush 12 feet high, carrying numerous heads of large white flowers, which are sweetly perfumed, and were it not for its rather straggling habit it would probably rank as the finest species of the genus. A coloured plate of it is

dron fulgens, which open soon after those of *R. barbatum*, but the habit of the plant is quite different. It forms a spreading bush 4 feet to 6 feet high, the underside of the leaves being covered with beautiful white tomentum, which changes to brown as the leaves get older. The flowers of these two species suffer much from attacks of the bluecaps and blackcaps. Attracted apparently by the brilliant colour, they visit the flowers and soon discover the rich store of nectar, to get at which they tear the flowers to pieces, so destroying many fine trusses in a short time.

the latter species, and having the under side of the leaves silver, not brown.

F. W. MOORE.

Botanic Gardens, Glasnevin.

THE WEEK'S WORK.

ORCHIDS.

I WAS looking over a very fine collection of *Cypripediums* the other day and was much interested, not only in the varied forms and colours of the flowers, but also in their long lasting character both for cutting and when left upon the plants. These warm house *Cypripediums* are so easily grown, that anyone can manage them. A temperature of 60° in winter with a moderate amount of moisture in the atmosphere is what they like. They are also easily increased. I bought a small plant of *C. Spicerianum* some six or seven years ago, and I have now fifteen plants, which are large enough to be divided again, so that the number may be more than doubled. In the collection I have alluded to the variety occupying the most prominent position was *C. Lceanum*, the varieties *giganteum* and *superbum* being the best. Many Orchid fanciers have produced these garden varieties by crossing the best forms of *C. insignis* with *C. Spicerianum*, but I have not seen any to surpass the forms which were raised by Messrs. Veitch in their Chelsea nursery, and named *superbum* and *giganteum* respectively. They are mainly distinguished by the large size of the dorsal sepal and the purity of the white thereof. The variety *T. B. Haywood* is always in flower at this season of the year, and now the plants are strong, the flowers have greatly improved not only in size, but in brightness of colour. *C. T. B. Haywood* is a cross between *C. Veitchii* and *C. Druryi*, and therefore the colours cannot be very rich. It is well known how difficult it is to obtain plants of *C. Fairrianum*, nor is it an easy species to grow well. I remember a good grower making the remark that the only Orchid he ever saw benefited by drip from the roof was *C. Fairrianum*, and in winter, too; this may give some clue to its culture. My object in alluding to this species, so much coveted by Orchid fanciers, is to recommend *C. Niobe*, which has been produced by crossing *C. Fairrianum* and *C. Spicerianum*. An old garden hybrid, *C. vexillarium*, is also good, with a good deal of its parent, *C. Fairrianum*, in the dorsal sepal.

Amongst desirable Orchids in flower at the present time is *Caelogyne barbata*; it is not one of the easiest to manage, and cannot be said to be free flowering. I saw it the other day in Messrs. Veitch's nursery with fifteen flower-spikes on one plant, and seven to nine flowers on each spike. The varieties of *Cattleya labiata* which are now passing out of bloom are being succeeded by *Lælia anceps*, of which many of the ordinary varieties are now in bloom, with a few plants of the beautiful *L. anceps Sanderiana*. The white forms of *L. anceps* are flowering much better with me than they have yet done; why I cannot say, except that they require much sunlight when making their growth, and this they had in greater abundance than usual last summer. I believe the plants do better when the roots are made outside the pots in which they are growing. This is unavoidable, as each new growth pushes out so far ahead of the last formed one, differing much in this respect from the ordinary variety, which forms quite a compact, neat-habited plant. As giving variety, the following *Oncidium*s are useful at this season of the year: *O. cheiroporum* is a charming little Orchid, which I find does very well in the cool house in summer, but should be placed in the *Cattleya* house in winter. The delightful fragrance of the flowers is much appreciated at mid-winter. I grow it in small pans suspended from the glass roof. *O. pulvinatum* is also producing its long spikes of small yellow flowers very freely; so also is *O. Forbesi*, which does not always succeed; the flower-

spikes seem to exhaust the plants if allowed to remain year after year until the flowers fade. I have just been admiring some handsome spikes of bloom which have been cut from plants which have produced similar spikes six years in succession. They were grown in a low span-roofed house in pots and placed very close to the glass roof, the temperature being such as *Cattleyas* flourish well in. *Cymbidium giganteum*, also in flower, is altogether distinct from *C. Lowianum*, but in growth and the general treatment required they resemble each other. There are other Orchids in flower, some of them a little out of season, such as *Lycaste Skinneri*. *Lælia autumnalis* is yet very bright, and I saw a pure white variety in Messrs. Veitch's nursery during the past week. In the cool house there are always varieties of the popular *Odontoglossum crispum*; contrasted with it and suspended from the roof in pans and baskets are numerous well-flowered plants of *Sophronitis grandiflora*. This pretty little Orchid is not only valued as a cool house Orchid, but being so nearly allied to the *Cattleyas* and *Lælias* can be fertilised with their pollen, and from it have been obtained some of the most valuable garden hybrids, as its rich deep reddish crimson tint is uncommon and not known at all in the *Cattleyas*.

Cattleyas often assume a yellowish tinge from various causes. One is from a white scale, which at first may work unseen underneath the thin papery covering which partly envelops the pseudobulbs. If the leaves begin to change from their deep green to a paler green, fold back this covering which closely adheres to the bulbs, and if there is any fluffy appearance underneath, there is the scale, which can be easily removed with a sponge and soft soapy water. This troublesome parasite does much mischief to other Orchids, besides *Cattleyas*, if it is not observed in time and promptly dealt with. *Cattleyas* also suffer sometimes by being kept over-dry in winter. They should certainly be allowed to become dry at the roots in winter before having water given to them, but if this withholding of water is too much practised, then the leaves will show it before the bulbs shrink much. Thrips also do much mischief before it is observed, and plants that are very liable to be attacked by this active little parasite should be periodically dipped in a solution of tobacco water. The best way to keep *Cattleyas* clean is to fumigate them well with tobacco smoke in winter. Over-heating the hot-water pipes and over-dryness in the atmosphere will also cause many plants to become unhealthy.

J. DOUGLAS.

THE KITCHEN GARDEN.

SNOW'S WINTER BROCCOLI.—If the weather should prove mild this variety might be left where growing, but as this is uncertain and also as a moderately severe frost would spoil the young heads as they are forming, the better plan would be to form some kind of protection, so as to guard against injury. If any deep or cool pits are available, the plants could be lifted and placed in these. Here they will grow and form useful heads if kept well ventilated. In few gardens, however, can glass protection be afforded. If the plants are taken up and laid in carefully on a sheltered border, but not too closely together, and a rough framework erected over the whole, so as to carry mats, and in case of a spell of very severe frost an additional covering of litter or Bracken, every one will form a useful head at a season when they will be sure to be appreciated.

BURNT REFUSE.—The value of this useful material cannot be over-estimated, not only for working into the surface for the various crops at seed-sowing time, but also, if it could be spared, for Peas, this assisting the crops wonderfully on those soils where the haulm is apt to grow weakly. I have a fire going continually summer as well as winter, and although this is not convenient in all gardens, yet at this season of the year all rubbish, prunings, and so forth should be collected together and be well charred, not over-burnt until they become red, but just sufficiently to crumble down.

A large heap of this mixed with night soil and allowed to stand for twelve months and at the end of this time turned, will form a good top-dressing for Roses and Vine borders. All rubbish which has been collected together during the summer months should now be well turned over, forking out the coarse to be burned. Some freshly slaked lime mixed with the whole will assist in destroying the grubs.

BURNING SOIL.—The addition of burnt soil to heavy clay land assists wonderfully in getting it into free working order. Of course a plentiful addition of burnt refuse and other like materials will answer the purpose, but such material is not always at hand. The soil in the process must only be charred, not burned red. Soil-burning is not at all difficult. The first process is to make a fire of small coal as a feeder to other smaller fires. A ring of clay or rough lumps should be formed about 3 feet across, and within this space make the fire. When well alight, add some lumps of rough soil, sprinkling some small coal amongst them. As this becomes alight add other clay and small coal until the heap is formed. If the fire should burn through, this must be stopped by adding some clay and fine coal. When it is seen that the mass is burned sufficiently, it must be opened out and spread over the surface. Land which is being broken up and in which there is a deal of Couch Grass in the top layer forms good material for burning.

PREPARING FOR FORCING.—A good supply of leaves should be collected together for forcing, for although these may not be required for a few weeks, yet by having the materials which will be required for the purpose well in hand, there will not be any hindrance. Even where the forcing of vegetables is mainly carried out by the aid of hot water, a supply of fermenting material composed either of fresh leaves or leaves and litter combined cannot be over-estimated. Suitable soil should also be collected. It is not often convenient, nor is it advisable to use fresh soil. Old Cucumber and Melon beds, potting soil and such like material will suit admirably. Leaf-soil and burned refuse, or even old Mushroom bed manure should also be added, the whole making a suitable compost for the forcing of vegetables.

A. YOUNG.

FRUIT HOUSES.

LATE GRAPES.—As might be expected, the wood on late Vines has ripened well, and the foliage is falling away almost as freely and evenly as leaves part from Chestnut trees. Whether the crops shall be still left hanging on the Vines or be cut and bottled ought to depend upon circumstances. The bunches keep better in a snug dark room than they do in a house where the temperature fluctuates considerably, or which cannot be kept uniformly cool and dry. By careful attention the temperature might perhaps be kept at from 45° to 50°, and the house quite dry, but even if the Grapes do keep well under these conditions it would be much better for the Vines to be lightened of their crops and be given a thorough rest during January and February. While yet there is a considerable number of Apples and Pears stored in an ordinary fruit room, this is scarcely the place for Grapes to be hung in, but it might answer well when it can be kept drier, constantly dark, and more nearly air-tight. Mineral and soda-water bottles, or any half-pints made of clear glass, are the handiest for suspending Grapes in, as in this case it can always be seen whether or not the wood to which the bunches are attached reaches well into the water. Nothing but clear hard water need be used, and there is no sense in changing this, a little fresh being carefully added whenever required. See that the bunches swing clear of the bottles, and that every decaying berry and all rubbish are cut out directly they are seen.

PRUNING VINES.—There ought to be no further delay in completing the pruning of all the successional Vines as well as any of the late ones that have been cleared of bunches. Very hard pruning in the case of the laterals is the surest way of

keeping the spurs short, but it is possible to over-do it, neatness not being the sole aim. If the laterals are shortened to the first bud, this being close up to the old wood, the chances are the bunches resulting will be somewhat small, and in some instances there may be no "shows" at all. If the laterals of Black Hamburg, Madresfield Court, Foster's Seedling, Muscat of Alexandria, Alicante, Alnwick Seedling, Gros Colman, Lady Downe's, Mrs. Pearson, Mrs. Pinco's Muscat, and other free-bearing varieties are shortened to the second bud, this usually being about 1 inch from the old wood, there is little likelihood of bunches being either scarce or too small. If extra fine bunches are desired, then the plan of cutting to the first large plump bud, no matter how far this may be situated from the rod, should be tried. Buckland Sweetwater, unless the roots are confined to a small border, Gros Maroc, Golden Queen, Duke of Buccleuch, and Gros Guillaume usually produce the finest bunches from young canes, what is known as the long rod system of training and pruning answering well with these comparatively shy bearers. The next best plan is to prune to a plump bud, or say to the third or fourth from the old wood. By keeping the spurs a good distance apart, or sufficiently so for two lateral growths to be laid in, one being from the back bud, foreshortening can be practised every winter, and no unsightly spurs be formed accordingly.

PRUNING YOUNG VINES.—Any that are at all feeble, as well as the majority of those newly planted, ought to be freely shortened back with a view to promoting a much stronger growth next season. Supernumeraries, or those that are to be cropped heavily for one, or at the most two seasons and then rooted out, ought to have been stopped when about 9 feet in length and no pruning be needed now other than cutting out all laterals. When young permanent Vines are growing strongly there is no wisdom in pruning the leaders severely, the foundation of straight and strong rods being laid by leaving them to a good length, heavy cropping being avoided. When the leading canes measure 2 inches or rather less in circumference, they may safely be left to a length of 7 feet, this length being added to or lessened according to the size of the canes. All laterals on quite young canes should be cut cleanly out and those on the older wood be shortened as advised in the case of established Vines. As previously intimated, the wood is well ripened this season, but those who have any doubts about the wounds closing sufficiently to prevent bleeding when sap movement commences should dress them with either Thompson's styptic or ordinary painter's knotting.

CLEANSING AND DRESSING VINES.—This ought to follow closely upon the pruning. It should be thorough, but not quite so drastic as former generations of gardeners considered indispensable. It is a very great blunder to denude the rods of their natural covering in the shape of old, as well as new bark, and there ought therefore to be no skinning, scraping and polishing, as of old. Quite the loosest of the bark may be removed, especially near the spurs, but no more than this, and certainly no exposing or cutting into the fresh bark. All this was previously done with a view to searching out insects and their eggs, lurking places for the former also being stopped. The same desirable end may be attained with far less trouble and with greater safety by simply giving the rods a thorough scrubbing with quite hot soapy water, and if there is any doubt about this being a sufficient precaution, following with a dressing of Gishurst compound, 8 czs. of the latter being dissolved and then mixed with one gallon of clayey water and well brushed in, this also being a mild preventive. If mealy bug has shown itself, first scrub the rods and then dress with a mixture of gas tar and clayey water, a quart of the former being enough for adding to a gallon of the latter. This should be kept well mixed, and ought to be thin enough when cold to admit of its being brushed into every crevice. There is really no perfect and safe remedy for mealy bug for winter application, but the one given answers well if what few escape are hunted for frequently after the

Vines have commenced active growth. The present is a good time to paint the woodwork of vineries, and failing this it should be scrubbed with hot soapy water, the glass cleaned, and the walls dressed with hot lime water. All rubbish should be cleaned out, inside borders loosened, the much trampled soil taken out and a rich top-dressing given. If the borders are at all dry let the top-dressing follow a good watering.

PLANTING VINES.—Early in February is a good time to plant ripened canes, but if advisable to defer planting to that period of the winter it would be unwise to put off the preparation of the border till just before it is wanted. Advantage should be taken of comparatively dry, open weather to collect the requisite quantity of fresh turf, or other soil of a good loamy character, and also wood ashes, charred soil, charcoal, and old mortar rubbish. If for an outside border, keep it all in a heap on dry ground and cover with corrugated iron or shutters, so as to ward off the rains. Inside borders may well be formed at once, and the soil will then be somewhat warmed by planting time. No particular soils or mixtures are absolutely necessary, but the following compost can be strongly recommended. To every six cartloads of turfy loam, roughly chopped up, add a cartload each of nearly fresh horse droppings, wood ashes, charred soil and charcoal mixture, and old mortar or lime rubbish, two bushels of dry soot, and three hundred-weight of mixed ground bones. This, well mixed and firmly put together on a well-drained bottom, ought to grow Grapes to perfection.

PRACTICAL.

PLANT HOUSES.

FORCING PLANTS AND SHRUBS.—Where there is the prospect of a considerable demand for cut flowers or plants even during January and early in February, it is now time to be making arrangements for early forcing. To defer the starting and then have to excite the plants in more heat than is good for them is bad practice. It not only weakens the plants, but causes the flowers to be more flimsy; hence they do not last so well. An early vinery just about being started, or a Peach house under the same conditions, will be very suitable for many of these plants. The moist atmosphere with not too much fire-heat is far better than a higher temperature. A bed of leaves to plunge the pots in would be an additional advantage, a genial moisture always arising therefrom, which is admirably suited to forced plants. Those should be chosen for first early forcing which are known to respond readily when placed in warmth. Lilacs will do this very satisfactorily, no sorts for early work surpassing Charles X., a well-known kind, and Mme. Legraye, a pure white variety with fine flowers and solid trusses, equally as profuse as the first named, and one which I think will be a formidable rival to it if it does not even find more favour when better known. Established plants of *Azalea mollis* will now start kindly into growth. I say "established," for these are infinitely better for early work than newly potted ones, the buds of which drop at times in an annoying fashion. Another promising plant for early forcing is *Cerasus Watereri*, which does not yet appear to be sufficiently known; it is a vigorous growing variety with large double blossoms, white, with a blush tint at times. This double Cherry should be noted. *Prunus sinensis flore-pleno* (the double Plum) when established in pots also forces well, but it is none too plentiful in gardens. The only *Rhododendrons* that should be started yet are *Nobleanum* and *Early Gem*, both of which are pre-disposed to flower extra early. The *Guelder Rose* when well prepared is also reliable; so is *Deutzia gracilis*. Thoroughly well-established plants of *Tea Roses* will also start kindly now, choosing the most reliable kinds. *Gloire de Dijon* is one of these; *Isabella Sprunt* is another. It is a waste of material to attempt to force such as the finer *Rhododendrons*, *Andromeda floribunda* or *Kalmia latifolia* yet. A relay of the other kinds above mentioned should, however, be in a cool house or

where the frost can be kept from them, so as to be in readiness for a succession. Of Indian *Azaleas* there is no white to beat *Deutsche Perle* for fine individual blooms or the old *indica alba* for a profusion of flower. *A. amona* should not, of course, be overlooked, nor should *A. obtusa*, its companion plant, with bright red flowers. Of other sorts, *A. paniculata*, with variegated blossoms, is very free. These are all better than having to resort to the later kinds thus early in the season. In dealing with these *Azaleas*, look sharply after thrips, for if placed in vineries it may be the beginning of trouble that will afterwards be regretted. If a proper forcing pit can be arranged for, it will be all the better; ventilation can then be given when needed and other items of culture better controlled than in either vineries or Peach houses.

BULBS.—Roman *Hyacinths* are flowering well this season, with more secondary spikes than usual. These when potted early come on so much more kindly, it being then an easy matter to regulate the supply. A splendid succession to this valuable kind is the straw-coloured French *Hyacinth*, which has beautiful clear pale yellow flowers. It is a welcome change to the preceding in colour, there being no other early yellow variety that can at all approach it. With us it is now showing flower. Roman and Paper-white *Narcissi* are easily got into flower at this season. Grand *Monarque* should be grown more for early flowering, being very reliable; we shall cut it in January. The common double *Daffodil*, potted early and well rooted outside, will now be quite fit for forcing, but too sudden a change must not be given; ours are coming on strongly in a Peach house. The earlier sorts of *Hyacinths*, other than those already alluded to, should now be fit for uncovering (if it be not already done); these should always be placed by themselves, so as to be easily accessible without disturbing the main batch. In the course of a week or two it will then be possible to start them in a tolerably strong heat. See to it that the main batch is well protected if frost set in at all severe. For this reason I prefer when I can spare the room to have them in frames. Where an early growth has been obtained upon *Freesias* these also will bear gentle forcing; they seem this year to be growing more kindly than usual. Early started *Lilium Harrisii* will now bear more heat, but care should be taken that the soil does not get saturated. A forcing pit or an early vinery will be a good place for them. Where the *Cape Tuberoses* are grown for an early supply the growth should now be well on the move; if a steady bottom heat can be given, these plants will appreciate the assistance thus afforded. These would come on well in a Pine stove or Cucumber house, a brisk temperature suiting them. *Lilies of the Valley* will start all the better if in a bottom heat of 85°, the crowns being covered with cocoa fibre or Sphagnum Moss to keep them equally moist. Crowns of these must for the present be chiefly relied on.

JAMES HUDSON.

BOOKS.

THE ORCHID SEEKERS IN BORNEO.*

THIS is a book of adventure admirably suited for boys or young men interested in the wonders of tropical vegetation as they sit around the winter's fire. We cannot compare the work with "The Plant Hunters" of the late Captain Mayne Reid, for example, but it is interesting as dealing with a newer country and different scenery. The plot is a simple one and the scene is that of Borneo fifty years ago, when the late Sir James Brooke was establishing the presidency of Sarawak. The anomaly of engrafting a modern plot upon an older scene, period and action is not a matter of

* "The Orchid Seekers: A Story of Adventure in Borneo." By Ashmore Rattan and Frederick Boyle. Illustrated by Alfred Hartley. London: Chapman and Hall, Limited. 1893.

so much consequence; but we had expected from its title this story would have been more artistically told and that it would have had a much better ending than it really has.

The scene opens in the hothouses of an Orchid importer—a Mr. Ryder—who had heard a story of a wonderful blue Orchid being seen in Borneo, as told by an eccentric old sailor named Bounce. An Orchid collector—Ludwig Hertz (in whose one-armed personality the reader may perhaps think he recognises the late veteran collector, Herr Roezl)—is by Mr. Ryder commissioned to go to Borneo to find the fascinating “blue Orchid,” and he finally embarks on that wild goose chase, with Bounce as guide and Mr. Ryder’s two sons as amateur assistants. We do not think that there are many mothers so bold and brave as Mrs. Ryder, who so complacently allows both her sons to embark on such a risky adventure. In Singapore Bounce distinguishes himself by killing a Malay who is “running amok,” that is, he is mad and striking with his dagger or kris at everyone he meets in the streets until he is himself cut down. Then the party get afloat and experience a brush with pirates before they land at the capital of Sarawak and make the acquaintance of the Rajah—a quiet Devonshire gentleman who founded the little kingdom of Sarawak and made Kuching, or “the town of the cat,” the thriving little port it is to-day.

After Kuching there are expeditions into the interior and escapades among monkeys, deer, pigs, snakes and alligators. Again, they are in danger from hostile natives, and then in fear of the Chinese settlers and traders, who have their secret societies and treacherous spies everywhere; but the story itself must be read in order that it be fully comprehended. As a traveller in the country named, one feels that but scant justice is done to the luxuriant and abundant forms of life and the beautiful scenery that is so often to be seen in that sunny land. We find nothing particularly local in the descriptions, if we except Sarawak, nothing of Brunei, the capital, the great water city of Borneo—the “Venice of the East,” and there is but little mention of the great mountains of the country, and nothing at all relating to that misty paradise of the giant Pitcher plants—the gigantic mountain range of Kina Balu, the “Chinese Widow” mountain in North Borneo, for the absence of which even the glimpse of the enchanted “Valley of Bidi” cannot quite compensate us.

Tropical life is to be seen at its best in Borneo the Beautiful, and one could well spend a lifetime there among its birds or butterflies alone. The Coleopterous insects or beetles are also very large and varied, and the fresh and salt water fishes of the Malay Archipelago are a revelation in size, form, and colouring to one in the main accustomed to the sombre-hued sea fruits of our northern shores. Even the splendid fish market at Venice pales into insignificance as compared with that at Singapore or at Bruni. But most of our readers will be more interested in the plant treasures of the country, and here they may, perhaps, be a little disappointed, even if not led astray. There are several species of Vandas met with in Borneo, Vanda (Renanthera) Lowi, for example, but V. teres of the Indian continent is represented there by V. Hookeri, and it is extremely doubtful whether Dendrobium macrophyllum has ever been found in Borneo, and the actual habitat of Cirrhopetalum Meduse is unknown, although it came to England from Singapore, in which island I have searched for it in vain, although aided by the most acute of plant-hunting natives. Nor is Cypripedium Fairieanum a native of Borneo, where Herr Hertz is made to discover it at p. 256.

In the introductory note or preface we are told that when Mr. Ashmore Rassin, one of the two authors, formed the idea of writing this story for the “Boy’s Own Paper,” he consulted Messrs. Sander & Co., of St. Albans, who referred him to Mr. Frederick Boyle, a gentleman who was on the staff of the late Rajah Brooke in Sarawak many years ago. Hence the technical details, the outline of the tale, are his, and for all statements

therein, historical, local or scientific, Mr. Boyle is responsible, and we are left to infer that Mr. Rassin erected the literary superstructure on Mr. Boyle’s facts. The result is an interesting book for young people, or others who wish merely for an amusing tale, but the book seems a little disappointing to one who knows a little about Orchid seeking in Borneo and of the vast and beautiful country itself.

After all, however, one must not take a story book like this too seriously, and to those who know nothing of Borneo and its people, it may teach a good deal that is worth knowing. The authors are to be heartily congratulated on having produced a work in which the adventures are not only possible, but probable as well, for most of them are even to-day by no means exceptional.

Sarawak, where the scene is laid, is to-day a little independent state, ruled by a nephew of the good and gentle Rajah alluded to in this story. Our readers may remember that the late Miss North paid two visits to the Court here, and it was from this territory, near the mines, that Mr. Everett brought to her the first specimens of the wonderful Nepenthes Northiana, some time afterwards introduced by Curtis, the collector for Messrs. Veitch. Here also Sir Hugh Low discovered at the warm springs near Peninjan the lovely Renanthera Lowi, and Cypripedium Stonei platyanium still lingers in the tree tops of that sunny paradise.

One very pleasant custom of the native Borneans is their love and respect for their jungle or forest flowers, or as Mr. Boyle pleasantly puts it at p. 388—

Malay servants have a pleasing habit—not learned from their masters—of setting bowls full of fresh flowers about a room every day. Not unfrequently new species have been discovered in this manner, for those people, so indolent as a rule, will give themselves trouble to find and gather flowers that please the eye. When Mr. Bentley (the manager of the antimony mines) rose one morning the bowl already stood upon his dressing-table as usual, but instead of a variety of blooms it was filled with one species—long sprays of a bright blue Orchid. Mr. Templar, managing director of the Borneo Company, had asked him to send home any striking plants which the natives declared uncommon. This gentleman’s collection was one of the best in Europe at the time. No Orchid so striking had Mr. Bentley ever seen, and the Malay “boy,” observing his interest, volunteered the statement that neither he nor any of his comrades recognised the flower. It grew upon a Tapong tree within a few yards of the bungalow. Mr. Bentley must have passed beneath it a thousand times, but that morning only had its buds unfolded. Though sprays enough had been gathered to deck the tables and to adorn the head of every servant a great mass remained. The plant was duly sent to Mr. Templar, who returned a cheque for £100. But when his collection was sold the “blue Orchid” of Borneo had vanished, and it has never been heard of since.

Since the period alluded to in this story many parts of Borneo have been diligently searched by collectors, but Bounce’s “blue Orchid” has not been again seen. Low, Lobb, St. John, Burbidge, Veitch, Curtis, Boxall, and others have alike failed to find not only this rarity, but many others supposed to exist in the wild forests of that luxuriant land.

Those interested in the flora of Borneo should not fail to consult Low’s “Sarawak,” a work now rare, but rich in facts; also St. John’s “Life in the Forests of the Far East,” and Burbidge’s “Gardens of the Sun.” Miss North’s “Recollections of a Happy Life” contains also many notes of her sojournings in that island, and her sketches of its fruits and flowers can be seen in the “North gallery” at Kew, while specimens of musical instruments, weapons, shields, paddles, specimens of natural history, and the gigantic Nepenthes pitchers from Kina Balu can be seen in the Veitchian museums at Chelsea.

With the exception of its erratic scientific information and its rather tame conclusion, this book has our hearty commendation, and is just the book to be given as a present to boys.

TUAN BUNGA.

THE ORCHARDS.*

In the preface to this work the author states that his object in bringing out the small treatise under notice is “to introduce a commercial industry much needed at the present time which will give from the soil a profitable return for capital and labour invested.” Now if this book had been published ten or more years ago, Mr. Cranston might with some reason have written about the introduction of a new industry, but at this comparatively late date he is distinctly behind the times. Not only is he very much behind with his advice, but the treatise itself is not up to date. It consists principally of generalities, instructive particulars, and which should comprise diagrams to aid the novice in planting, woodcuts to better guide the tyro in grafting, as well as forms of trees, and illustrations of insect pests, and the different forms they assume, being completely absent. Several very good books on the subject of fruit growing for profit have already been published, some cheaper, some dearer than Mr. Cranston’s, and it ought to have been the latter gentleman’s aim to surpass these in as many ways as possible. Instead of reviving the, comparatively speaking, time-honoured platitudes about the great advantages of hardy fruit culture as compared with ordinary farming, and which has not yet been wholly proven, the author would have done better to have enlarged and given reliable advice as to what should be done with the fruit after it is grown. It is all very well to point out that “mid-season and soft fruits sell best, and should be sold off immediately they become fit, the market, however, being watched and prices ascertained before they are offered for sale,” but the question is, what can be done with the fruit when buyers cannot be found? In all directions we hear complaints of the great glut in the markets, much fruit not even paying for the cost of picking and sending to the markets. What is wanted is some perfected scheme of distribution, and it is in that direction that would-be benefactors of the occupiers of small holdings should turn their attention. This season the trees flowered so strongly and profusely, that heavy crops of most kinds of fruit were had in spite of the unfavourable weather experienced during the flowering period, and, judging from the present state of the trees, there will be nearly or quite as much bloom next year. If, therefore, those who profess to have the welfare of British farmers at heart will grapple with the difficulty of getting rid of the fruit at remunerative rates after it is grown, they will have done good service. All cannot set up jam factories nor adopt the various methods of drying, candying and canning briefly touched upon by Mr. Cranston; and even if they could, it is very doubtful if they would find a ready sale for their products. That there are many towns and villages in non-fruit-growing districts badly supplied with perishable fruit there is no disputing, but how to reach them is the difficulty.

At the commencement of Mr. Cranston’s treatise sound advice is given as to the improving of old orchards, many of which are undoubtedly in a wretched plight at the present time. Our forefathers failed to use good judgment in their choice of sites, crowding of the trees also being a great mistake that ought to have been remedied by their present owners. This is what the author of “The Orchard” says on the subject, and which will be generally agreed with:—

In many districts will be found orchards planted in the worst possible situations, often in low, damp, or wet grounds, shaded frequently by large trees. In other instances may be seen plantations growing underneath woods, where no sun can shine upon them for half the year. Again, we often find orchards planted on very exposed situations, upon hard, poor brashy ground, open to winds from every quarter, and the trees driven and growing in every conceivable form and position. There is very little chance for trees to thrive or return any profit to the growers under such conditions, and before our

* “The Orchards. Fruit Culture for Small Holdings.” By J. Cranston, King’s Acre, near Hereford.

orchards can become as profitable as they should be this state of things must be remedied.

Suitable sites and soils are among the principal factors in ultimate success with fruit trees, but all are not in a position to either pick and choose or even vary their sites so as to be prepared, as at Toddington, for all emergencies. The advice then to the effect that fruit trees should be planted on every holding "throughout the length and breadth of the land," as being more profitable than corn growing, is, to say the least, mischievous and misleading. It is said that everything can be proved by figures, and Mr. Cranston, in common with those who have advised before him, places some very glowing returns before his readers. Will they bear testing? I am strongly of opinion they will not. Why one of the best managed fruit farms in Gloucestershire was only paying 5 per cent. on the outlay eight years after the start was made, and yet not a particle of fruit was wasted, the bulk of it being bottled or preserved. In this

his. That orchards in some localities do pay well must be conceded, but I am afraid the old saying that "fools build houses which wise men buy" will be varied to the effect that "greenhorns plant orchards only for others to step in and take the profits." If those that plant cannot hold out till the orchards are beginning to be remunerative, the chances are those that succeed them will have the best of the bargain. This points to the necessity for legislation in the direction of an improvement in the Land Tenure Act, the outgoing tenant receiving compensation for unexhausted improvements in the shape of young fruit trees. The security of tenure may now be had as tenant or freeholder under the Small Holdings Act; but what about the compensation for the fruit trees when a tenant can no longer "keep his head above water?"

The selections of varieties of all kinds of hardy orchard fruit are thoroughly reliable, being almost identical with those published by several other

and Pears must be left on the trees until they are fully matured before being gathered, and those intended for storing away must be gathered when fully ripened, otherwise they become shrivelled and lose in weight and quality." Now when we speak of fully ripe fruit, it is usually supposed to be quite fit to eat or at its best, but this ordinary acceptance of the meaning of the word does not find favour with Mr. Cranston, ripeness, according to his ideas, being when the fruit parts readily from the tree and before the chemical changes requisite for rendering it fit to eat have taken place. If novices leave their fruit hanging on the trees till they think it fully ripened, they will spoil a lot of it, and some better advice ought to have been forthcoming in "The Orchard." W. I.

FLOWER GARDEN.

RICINUS ZANZIBARENSIS.

Thus, the seeds of which were received from East Africa, represents an entirely new and distinct class. The plants attain great dimensions, presenting a splendid aspect with their gigantic leaves, which surpass in size and beauty all the species and varieties hitherto known. The seeds are also very distinct, they being of a large size and of new and exquisite tints. *R. zanzibarensis* produces light green leaves of 2 feet to 2½ feet across, with whitish ribs, and may in its general appearance be compared to a luxuriantly growing giant *Aralia Sieboldi*. The stem, branches, and fruit are also of a light green colour; seeds beautifully speckled carmine on a delicate pink ground. *R. zanzibarensis maculatus* is equally handsome and of the same large dimensions as the preceding variety, but differing in the colouring of the leaves, which are coppery bronze when in a young state, changing afterwards to a dark green with reddish ribs; stem and branches coppery-brown; seed white, blotched brown. *R. zanzibarensis cinerascens* has very large leaves of a brownish-purple, changing to dark green with lighter ribs; stem reddish brown; seeds grey, speckled blackish-brown. *R. zanzibarensis niger* has bronze foliage passing into dark green with reddish ribs; stem light brown with a glaucous hue; seeds black.

We have to thank Messrs. Haage and Schmidt for the electro as well as the description of the various forms of this new Castor-oil Plant.

FLOWER GARDEN NOTES.

As the time is now at hand when all flowering deciduous shrubs will have to be carefully headed back where at all events they are encroaching upon surrounding subjects, it may be advisable to give the reminder that as nearly all of them strike readily from cuttings, a good stock can by this means be easily secured. The type and varieties, for instance, of *Deutzia scabra*, *Weigela rosea*, *Ribes sanguineum*, *Philadelphus coronatus*, *Althæa frutex*, one or two of the *Hydrangeas*, and *Forsythia suspensa* are examples of beautiful and useful shrubs. Cuttings of these and others of a similar nature may after the pruning be inserted firmly in a compost consisting of one half sandy loam and the other half fine leaf soil. It is best to put them in some kind of rough frame and give them the benefit of an old light during very bad weather. The substitution of the best of such flowering shrubs for the masses of common and other Laurels that were planted so largely in many pleasure-grounds in bygone days is always a step in the right direction, and they may also be recommended for positions in the more open wild garden, whether it be in large beds on turf, or on large open borders facing dense shrubberies, hitherto devoted, perhaps,



Ricinus zanzibarensis.

case the orchard sites were varied, the soil suitable, few or no mistakes were made in the selection of varieties, and every inch of ground was fully utilised to the extent of hundreds of acres. Isolated cases, or a few particular crops, do not prove anything beyond the fact that there are a few "good hits" occasionally. It should also be remembered that the holders of small farms cannot all adopt the system of forming mixed plantations, but the majority would have to be content to go to work more on the old lines. What it would cost to prepare and plant an acre or more of ground is stated by the author, who also gives an approximate estimated yield per acre, as well as other good reliable information, but quite forgets to add how long the planter has to wait, or whether one year or twelve years, before the tempting figures are reached. I will do Mr. Cranston the justice of adding that his estimates are moderate compared with those of others that have appeared previously

authorities; but if the author could not consistently furnish a novel selection, he might and ought, at any rate, to spell the names of those he has given correctly. In the Apple lists he adopts both methods of spelling Beefing, has Quarrenden for Quarrenden, leaves the final "e" out of Reinette, has Tylor's for Tyler's, Wykin for Wyken, and spells Pear Durondeau Durondeaw, this not comprising all the mis-spelt names. In another place, when advising upon root-pruning, we are told to "dig well underneath so as to get at the large 'top' roots," instead of tap roots, this being a very bad oversight indeed. An author who preceded Mr. Cranston on the same subject, that is to say, the cultivation of hardy fruit for profit, overlooked Damsons entirely beyond one brief valueless reference, but he made no such blunders as are apparent in "The Orchard." Yet another instance by way of substantiation of this assertion. On page 53 Mr. Cranston states that "late Apples

almost entirely to annuals. In either case a good arrangement in planting in lieu of the mixing usually practised is to devote each large bed or a large portion of border to a separate family in its several varieties. The display hitherto furnished by the annuals may be continued, all shrubs being planted sufficiently wide apart to allow for a sowing between them, selecting for choice the dwarfier annuals. The floral display of the earlier shrubs, as the Ribes and Cydonias, will naturally be past before the annuals come, but in this case the occasional clumps of foliage rising above the bright carpet of flower will afford a pleasing contrast to the same. Suitable annuals would be the new dwarf Candytuft, *Clintonia elegans* and pulchella, *Limnantes Douglasii*, *Saponaria calabrica*, the Portulacas, *Silene pendula* compacta, the miniature French Marigolds, the compact strain of Petunia and a few others. Where the planting of occasional ornamental trees in connection with flower garden and pleasure ground is in contemplation I should like to suggest the advisability of a very careful consideration of surroundings before the trees are placed in position. Both in the case of coniferæ and deciduous trees there are situations ruined by injudicious planting, blocking out nice bits of landscape with large specimens, or partially filling some bold slope with such things as the smaller *Cryptomerias* or *Thuja*s where Silver or Douglas Firs or a few of the biggest deciduous trees would be far preferable. Half-a-dozen conifers that may be recommended as being suitable specimen trees are *Cedrus deodara*, *C. atlantica*, *Cryptomeria japonica*, *Abies Morinda*, *A. brachyphylla* and *A. concolor violacea*. It must, however, be borne in mind that suitability of soil on the one hand and possibility of shelter on the other are important factors to be considered in the planting of some of the choicer coniferæ; their chance of longevity, or at any rate their annual rate of progress, is materially affected thereby. Striking examples of both the above qualifying factors are close at hand, in firstly the Deodars and the Japanese Cedars. In the case of the Deodars we have in one part of the grounds trees barely 40 feet high, but girthing 7 feet just above ground level, whilst others are not more than three parts the size in girth, but have run up straight as gun barrels to a height of 70 feet. Shelter is an important factor towards the successful growth of *Cryptomeria japonica*. So screened by surroundings that it does not come under the influence of driving gales, its leader runs up straight and true; whereas in exposed situations it gets bent and often partially or entirely broken out, so that a shapely specimen is seldom secured. Exotic deciduous trees also vary greatly in habit in different soils and situations; for instance, the different forms of growth in *Ginkgo biloba*, in the Virginian Bay, in the Kentucky Coffee tree, and in the Apple and Pear Service. It is fortunate in the interests of true flower gardening that some of the above trees or others of a like ornamental character are now often called for to fill occasional sites in large gardens as opposed to the umbrella-like Bays and Portugal Laurels that were so much in favour a quarter of a century ago.

DAFFODILS.—Where Daffodils in quantity are naturalised in the flower garden and cut flowers from the same are required as early as possible, it is a good plan to leave a coating of autumn leaves on one or two large clumps in sufficient quantity to keep out the frost. I had ample testimony last season of the value of this in the case of some covered Tenby Daffodils which showed a considerable length of grass when the leaves were removed at the end of the January frost; they came straight away without further check and were very quickly in flower. Any positions between lawn and shrubbery where the turf may be in an indifferent state, owing perhaps to the heading back of large shrubs, will serve admirably for the naturalisation of Daffodils in variety, and if the stock of these is somewhat limited, I have found it a good plan to make a thin planting of the small-leaved *Periwinkle* any time from now through the winter when the state of the ground permits, and then dot in the Daffodils at the end of the following

summer. If, as suggested above, they are in considerable request as cut flowers, the selection of varieties at planting time must be made with the idea of securing a lengthy season.

Claremont.

E. BURRELL.

NELUMBIUMS IN AMERICA.

I AM very pleased to see the interest taken in aquatics in the old country, but I cannot but think that some of your contributors do some guessing, as certainly "W. W." does in THE GARDEN, Nov. 11 (p. 435). As far as my experience goes in handling Nelumbiums, although many report failures, no plants are more readily transplanted or raised from seed. Tubers are preferable, as they will establish themselves and bloom profusely the first season. Although hardy in a sense, yet I find that, disturbed early in the season and exposed to changes of temperature, they invariably suffer, and failure when planted is often the result. Tubers dug on the arrival of spring are a little excited, and when conditions are favourable for active growth, there is little risk attending such planting. That such tubers will travel well and stand a journey of several hundreds of miles I can verify, for I have sent tubers from New York to the Northern States on the Pacific, a distance of over 3000 miles. I have sent to Madeira and also to the Imperial Gardens at St. Petersburg with success. The establishing in pots, as "W. W." states, will not do at all. Nelumbiums raised from seed invariably flower the second year, although I must admit there are exceptions; but *N. speciosum* and *N. s. roseum* will flower from seed the second season, but not grown, as "W. W." suggests. Seed planted in March and placed in a tank with water at a temperature of 70° will germinate in from seven to ten days, and just as rapidly as the seedlings grow should they be repotted or placed in pans of good rich loamy soil, and by June 1 they will be strong plants. As soon as sub-tropical bedding can be carried out, Nelumbium plants should be planted out by the edge of the pond in shallow water and the shoots (main runners) headed for deeper water. Here they can have three months' summer growth, with the result (barring unforeseen accidents) that they will take care of themselves, with the prospect that they will appear again the following April or May. If plants (seedlings) instead of being planted out in the pond are placed in tubs and stood in warm quarters outdoors, they will also make rapid growth and mature tubers that will bloom another season. I do not advocate growing Nelumbiums in tubs, as they, with all other aquatics, are voracious feeders, and the probability is that the plants would soon get starved out in a tub, and failure would be the result.

W. TRICKER.

Dongan Hills, N. Y., U.S.A.

CAMPANULA MURALIS.

So highly do I appreciate Mr. Wood's notes, that I was extremely reluctant to criticise in any way that on the Bavarian variety of *Campanula muralis*. I am glad to find that I must to some extent have misunderstood the tenor of his remarks, and that it is on account of the increased size, colour and succession of flowers that the slightly increased vigour is appreciated. One of the beauties of the alpine garden is the dwarf habit of so many of its occupants, and one is reluctant to see these

discarded for more vigorous growers. I have only had my plant for a short time, and it is just possible that it may not be the same as that spoken of by your correspondent. I hope, however, to test this, but in any case a flower which commends itself to such competent judges as Rev. C. W. Dod and Mr. Wood do not deserve to suffer from neglect. The question of nomenclature, which I have raised by a chance remark, is not at all new to me, and all who have experienced the difficulty of endeavouring to unravel the mysteries of the names of the dwarf *Campanulas* will appreciate the points involved. Mr. Wolley Dod has told us in his admirable article on *C. garganica* on page 506 that he has reduced nearly a dozen names to the two species *C. Portenschlagiana* and *C. garganica*. No doubt this is correct from a botanical point of view, but should we want to obtain the dwarf *Campanula*, which is known to several nurserymen as *C. muralis* and as distinct from *C. Portenschlagiana*, for what are we to ask if it is to be absorbed under either *garganica* or *Portenschlagiana*? From a garden point of view it is distinct enough, although in view of the authorities adduced by Rev. C. W. Dod and Mons. Correvon, the name may not be strictly correct. My attention to the difference between the two plants was first attracted by the drawing of *C. muralis* in Maund's "Botanic Garden," vol. iii., plate 121, where a plant is figured which is distinct from *C. Portenschlagiana*. In the descriptive letterpress it is said "It has been called *Portenschlagiana* by the German botanists Romer and Schultes, but is quite distinct from that species as figured in the "Flora Græca." I had considerable difficulty in obtaining a plant which appeared to correspond with the engraving, but I believe that I have now in my garden the one thus figured by Maund. It is of considerably dwarfier habit than *Portenschlagiana*, has more open flowers, and is at least distinct enough to deserve a name to distinguish it from the other. In general appearance it appears to have more resemblance to *C. garganica*, but its habit of rooting is like that of *Portenschlagiana*. Another thing which I have observed is that *C. garganica* is very liable to be destroyed by slugs in my garden either in the seedling stage or when of full size, while *C. Portenschlagiana* and what I am growing as *C. muralis* have complete immunity.

In view of the confusion of nomenclature, might I venture to suggest to Mons. Correvon the desirability of dropping the name of *muralis* as applied to the larger form generally known as *Portenschlagiana*. I hope Mr. Wood will give us his opinion regarding a distinct name for the plant, which he also seems to grow as *muralis*.—S. ARNOTT, *Rosedene, Carse-thorn, Dumfries, N.B.*

I have read with much interest the remarks of your numerous correspondents upon the Bavarian Bellflower, which after all is not found in Bavaria. My interest is still growing, and I should feel extremely obliged to any of your readers who will tell us what *Campanula muralis* is. It is figured in Maund's "Botanic Garden," vol. vii., No. 603, and also again in Wooster's "Alpine Plants," plate 43, fig. 1. Here we have a charming little Bellflower, not at all common in cultivation at the present time. It is not *Campanula Portenschlagiana* of Romer and Schultes, a name adopted by Alphonse de Candolle in his "Exhaustive Monograph of *Campanula*," published in 1830. Neither is the plant in question *Campanula garganica*, which is also figured in Maund's "Botanic Garden," vol. vii., No. 587, and also in Sweet's "British Flower Garden," vol. ii., p. 252. *Campanula muralis*, as figured in the above-mentioned books, is much more allied to *Campanula garganica* than to *Campanula Portenschlagiana*. It is an evergreen plant with smaller

leaves than *Campanula garganica*, but the individual flowers are much larger, not so deeply cut, of a pale blue colour, and borne on erect flower-stems. The leaves are glabrous, crenate, reniform on short foot-stalks. Some years ago I received a *Campanula* under the name of *C. mollis*, which turned out to be the large form of the true *Campanula Portenschlagiana*, a plant which is fairly common in cultivation. This is easily accounted for, as it is a very free grower, and can be divided almost at any time.

There is an excellent figure of *Campanula Portenschlagiana* in De Candolle's "Monograph of the Campanulas." He mentions two varieties of this plant, one with smooth leaves, generally found in cultivation in this country, and a second, *Campanula Portenschlagiana* var. *velutina*. The ordinary type of this *Campanula* is one of the most persistent bloomers we have; even now at this dull season it is quite gay with flowers in a cold frame. While upon the subject of *Campanulas*, can anyone give me some information about a little *Campanula* which has been doing duty for *C. Raineri* (Romer and Schultes), to which it bears, however, very little relation? It is a very dwarf plant, with yellowish green leaves. It is evidently related to *C. pulla*, but differs from it with respect to its foliage, which is densely covered with hairs. It was for a long time sold for *Campanula* G. F. Wilson, but it is not the variety which the late Anderson-Henry named after Mr. Wilson. The plant is fairly common in collections, and is worthy of a distinct name.—W. H. STANSFIELD, *Southport*.

KITCHEN GARDEN.

EARLY PEAS.

VERY few gardeners now-a-days resort to the old practice of sowing seed in November, preferring rather to raise the requisite number of plants under glass in February or March and to turn these out into the open ground at the first favourable opportunity. In this manner quite as early dishes can be gathered and fairly heavy crops obtained with even less trouble than has to be taken with the late autumn-sown rows. It does not follow, however, that early Peas should not in most cases enter into our calculations at the present time or even earlier; but, on the contrary, preparations ought as a rule to be made for this important crop long before mid-winter arrives. Some soils are so constituted as to admit of their being dug and sown at almost any time, but where there is a fair amount of clay in the soil, or just enough to render it somewhat stiff to work, then it will usually be found necessary to lay it well up to the disintegrating influences of frosts, frosty winds, sunshine and rain sufficiently long for it to get into a free working condition by the time seed has to be sown or plants put out. Anything in the shape of lumpy ground does not suit Peas, or indeed any other kinds of vegetables, and if one turning of the soil is not sufficient to pulverise it to a good depth, then it may well be re-dug long enough in advance of seed-sowing or planting for the lumps brought to the surface to be broken down by a fork, hoe or rake. No mistake will be made in digging in some half-rotten horse stable or mixed farm-yard manure, either being far superior to the poor rotten stuff in the shape of old hotbed material that too often has to be relied upon by private gardeners. If buried a good spit deep it need not be disturbed should the ground have to be re-dug. I find the site previously occupied or newly cleared of early Peas admirably adapted for autumn and winter Broccoli, the first preparation being sufficient to meet the requirements of both crops.

Early Peas are very generally assigned an extra favourable position, or what is thought to be such, viz., a good length of border in front of a south wall. If that is the only raised portion of the garden with a sunny aspect, then it is where the earliest Peas, if we except the very foot of the walls, can be had; but when the more open quarters are also sloping southwards, then the upper portion will grow early Peas to perfection, the south borders being devoted to the production of a variety of other equally valuable crops, including Strawberries. Do what we will or give the benefit of wall shelter and the sunniest of sunny aspects, private gardeners can scarcely beat market growers in the matter of earliness of crops. Too much shelter, coupled with a deep and rich root-run, favours the growth of haulm rather than early productiveness, and that is where the farmers have the advantage. Too much shelter includes the common practice of using stakes for early Peas. Instead of these being necessary for the latter, they might well be wholly dispensed with, a considerable saving in the shape of labour and stakes, when these have to be bought, being effected accordingly. Stakes do not tend to increase production of anything but haulm, and it is my impression that rather the best crops are had from the unstaked rows. There is yet another strong point in favour of doing without stakes. When stakes are used, the rows are mostly arranged from 3 feet to 4 feet apart; whereas if none are to be employed, a distance of 2 feet apart is sufficient for all varieties that do not attain when supported by stakes a height beyond 4 feet. In the open fields Telephone is frequently sown in drills drawn 30 inches apart, and yet the rows never run into each other. After being moulded up the plants grow erect till they become top-heavy, when they gradually settle down till they rest on the ground, after which the points once more strike upwards, the weight of pods they soon after produce not wholly dragging them down again. A mulching of strawy litter would save the pods from being splashed, though this is only a matter of choice, it being a very simple proceeding to rinse any clean that may appear to need it. Only the most reckless picker would greatly disturb the haulm till the end of the crop was nearly reached, and if my experience is any criterion, the picking would commence two days earlier from unstaked rows than from those of the same age and variety growing alongside and supported by stakes. Early Peas are not often too plentiful; it is more frequently the other way, in fact. If, therefore, avoiding the use of stakes admits of nearly double the number of rows being grown than formerly, it follows that the gatherings will be heavier and oftener than would otherwise have been the case. A few rows may well be planted out from pots or boxes, plants thus forwarded under glass usually being a few days earlier in coming into bearing than those resulting from sowing seed direct into the open ground. In order to have a close succession and heavy crops the seed should be sown as early in February as the ground can be got into a good working state.

Pea seed will be considerably dearer than usual, that is if retail charges are increased in anything like the same ratio as the wholesale prices. There is also every likelihood of much old seed finding its way into gardens, and there will be all the more necessity therefore for extra pains being taken with the preparation of the ground for its reception. It is also a matter for consideration whether or not it is advisable to give a trial to some of the cheaper varieties,

or such as the market growers find succeed admirably. I am of opinion we shall never have a thoroughly reliable wrinkled-seeded variety for affording the first gatherings. American Wonder, English Wonder (a great improvement on the latter), William Hurst and Chelsea Gem are all good dwarf, early varieties, but the seed, if sown early in February, is liable to perish in the ground, and such is too often the case with other wrinkled-seeded varieties when sown early. Those varieties with nearly or quite smooth seeds are the best for early sowing, and if not left too long before gathering, the quality is not so very much inferior to that of the early wrinkled-seeded forms. William I. is still one of the most popular varieties for early sowing, and I can also testify to the good quality of Exonian, this being nearly a week earlier. Experienced market growers have formed a very high opinion of Harrison's Eclipse, preferring it in fact to any other early variety. A considerable quantity of good seed of this variety was saved last summer, and being largely bought up by some of the leading wholesale houses, private growers will have no difficulty in getting a supply. It is my intention to sow at least two quarts of Eclipse, and if it succeeds as well under garden culture as it does in the open fields, no mistake will have been made in favouring this sort at the expense of other varieties with more glowing descriptions, and which will be quoted at much higher prices.

W. IGGULDEN.

Spinach in exposed positions.—How much better this vegetable stands severe weather if not coddled in any way and kept clean and thin. I recently saw some beds that had been grown thickly and under trees for shelter present a deplorable condition after 15° of frost; whereas that sown in the open freely exposed is uninjured. For early sowing in the spring a sheltered spot may be beneficial, but I feel sure for the winter supply coddling is a mistake. A well-drained quarter is much better than shelter overhead. Of course, with winter Spinach more depends upon the time of sowing than upon the variety, as nearly every kind is hardy. It is the excessive wet combined with insect attacks at the root that often injures the plant. I only grow the round-leaved or what is termed summer Spinach. It certainly is an improved form, namely, the Victoria, but quite as hardy and more productive than the winter variety, which runs to seed so quickly in the early spring. I find sowing on firm land of great advantage, the growth being hardier, the foliage thicker, and less liable to injury. On our light soil we roll and tread the ground, and after severe frost give a dressing of wood ashes between the rows and a good treading afterwards.—G. WYTHES.

White & yellow Turnips.—In the south of England there is a decided aversion to yellow-fleshed Turnips, and so long as good white-fleshed ones can be had in plenty it is difficult to sell the yellow ones, although they are fully equal, if not superior to the white-fleshed ones. It is now several years since there was such a plentiful supply of good white Turnips fit for market as at the present time. Twenty bunches for a shilling is not a very profitable affair for the grower. There is a glut of green crops as well as roots, for owing to the intense drought there was every appearance of vegetables being scarce and dear; but with the genial rains everyone started planting green stuff or sowing Turnips, the result being that the great heat in the soil, coupled with a mild autumn, caused such a rapid growth that fields and gardens are full of crops ready for market. On examination I find that the best Turnips are the White Stone or Green-top Stone. They are of good shape, very clean-fleshed and tender. Many of the red-skinned sorts are hard and warty and by no means so inviting to the eye as the white ones.

There is still a great quantity of white ones to dispose of, and if severe frost sets in, both Turnips and other crops are rather too luxuriant to withstand it. I have lately pulled a great many of the best white Turnips and laid them in trenches, covering the roots right over with soil, but leaving the tops exposed.—J. G., *Hants.*

Globe Artichokes from seed—In severe winters these have suffered badly, and in many cases seed sowing has been resorted to for the production of stock. It is not advisable to obtain plants from seed if it can be helped, as the seedlings are often so poor that it pays well to obtain suckers or offsets, even if the expense is much greater. The great objection to plants from seed is their inferior quality. In no case have I ever seen a good stock obtained from seed, no matter from what source it was obtained. Those who only have room for a limited quantity and are getting short of suckers would do well to carefully detach the small suckers of this year's growth before covering up the plants. These may be potted up and kept in cold frames, and will make nice plants for spring planting if a small ball of earth is taken with the roots at the time of potting. Little water will be required during the winter. I have also stored in boxes, but prefer potting, as there is a saving of time when planted with a nice ball of roots.—S. H. B.

Deep cultivation.—The past season has proved very conclusively the great value of trenching the soil, or double digging it at least 2 feet deep. On soils of almost every character its advantages have been more or less marked, but on very light soils the effect has been most apparent. Vegetable crops that were put in at the same time on deeply-worked soil as on that dug in the ordinary manner have proved in the one case a success, and in the other a failure. Unfortunately, labour is so limited in many gardens, that deep cultivation is almost out of the question. At the same time, I think an effort should be made to trench at least a portion of the kitchen garden, so that the whole may be done in, say, four years. In my own case from this time until the end of January, whenever weather and time permit, a quarter of the vegetable ground is dug from 2 feet to 3 feet deep, putting any vegetable refuse or manure in the bottom and leaving the surface as rough as possible. Early in February every part of the garden that has been dug is dressed with agricultural salt at the rate of 5 cwt. per acre; this serves several very useful purposes on our light soil, it retains moisture, manures the ground, and destroys vast quantities of slugs and other insect enemies. Possibly the salt would not be advisable on clayey soil, as it would make it still heavier, but for light soils it is excellent. With the exception of Peas, all crops have grown splendidly on the ground so treated, and the long drought has not affected them in the least. Cauliflowers and Lettuce especially have developed into great size on the deeply-worked and salted soil, and are remarkably free from grubs, &c., that spoil their appearance. Since adopting the above method about twelve years ago clubbing at the root has not once occurred amongst the Brassica tribe, though very prevalent previously.—W.

Rotten Celery.—I have never been more disappointed with the early Celery than I am this season. It attained to a good height and was apparently healthy and sound when earthed up for the last time at the beginning of October. It had no rain upon it from that date until I commenced to lift. Yet for all this I have scarcely a sound stick in a row of about one hundred plants. In many instances the centres are entirely rotten. I hoped that the evil would be confined to the white variety, but on examination found the red to be in the same condition. Had the summer been excessively wet and humid, or had earthing-up been performed when stems and foliage were in a saturated condition, I could have understood it; but after such a tropical summer, and considering that the plants only received three or four artificial waterings during the growing period, and that the soil was placed round them when

perfectly dry, I cannot arrive at any definite conclusion as to the cause of decay. I am not the only sufferer in this district, as Celery in many other gardens is similarly affected. It would be interesting to know how it is turning out in other parts of the country, and also whether Mr. A. Young, Mr. Iggulden, or any other correspondent can solve what to me is at present a mystery.—JOHN CRAWFORD, *Coddington Hall.*

ORCHARD AND FRUIT GARDEN.

WINTER TREATMENT OF GOOSE-BERRIES.

REPEATED bad attacks of caterpillars and red spider have so greatly weakened innumerable Gooseberry bushes, that it is advisable in very many cases to root them up and replace with new ones. This may not quite meet the views of those who have charge of the gardens or orchards, as the case may be, but unless the bushes recover surprisingly during the next season, not a few of them will to a certain extent be so far dead as to render rooting out imperative. I do not, however, advise any very drastic measures in the case of comparatively young bushes or any that would pay for being taken in hand with a view to restoring them to a healthy, productive state. It is the ugly old space-filling bushes that have thoroughly exhausted the ground in which they have so long been established, and which are now so debilitated as to be past restoration. Waste no further time or space over these, and expend more labour, manure, and such like on those that will most probably respond to the restorative measures taken. What is wanted is a stronger wood growth, and not till this takes place will the bushes once more produce good crops of fruit. Those that broke very feebly last spring will most probably start even worse next season, that is if the caterpillars or red spider or both together were again at work on what leaves formed. In all such cases I would recommend a rather free use of the pruning knife, as it is very certain this will not entail a loss of crop, for of fruit there will be none worth mentioning, and it will be one step towards promoting a more vigorous growth of young wood. All straggling growths ought in particular to be freely shortened back to better placed inner wood, this admitting of the spaces between the rows being cropped with vegetables or Strawberries if need be. In some instances poverty at the roots has been largely responsible for the weakly growth that red spider so quickly destroyed, and not till the soil has been enriched somewhat will the bushes ever again become really profitable. Private growers too often overlook the fact of heavily cropping fruit bushes being nearly as much in need of manure as ordinary vegetables. For the first three or four seasons well-prepared garden ground is sufficiently rich to support the bushes, but this will not last for ever. Market growers give their bushes a liberal dressing of strong farmyard or stable manure every second or third year, and private gardeners will do well to be nearly as liberal with their manure. It is during the winter that this should be applied, and always in the form of a mulch, it being a great mistake to either fork or dig among fruit bushes generally. Gooseberries are essentially surface rooting, and nothing should be done to either damage or drive the roots downwards. Bushes that are in the habit of forming more young shoots than are desirable do not stand in need of much manure,

but a light mulching would not be wasted on these even, and in any case it is unwise to wait till they show signs of debility before attending to their wants.

We are apt to associate red spider with hot, dry summers, and it is naturally most troublesome at such times. As it happens, however, red spider will thrive in quite a showery season, apparently defying the rainfall no matter how heavy it may be. Caterpillars, again, are equally tenacious of life, while the cocoons resulting are absolutely frost-proof. What the former cannot make much headway against is a solid soil. They can neither enter nor the flies leave it freely, and that is why some places enjoy a comparative immunity from this very destructive pest. In addition to keeping the digging fork or spade out of the soil about the bushes, it is also an old and good plan to make it still closer and firmer by trampling. This coupled with a mulching of manure may, and most probably would, have the effect of minimising the caterpillar attack next season, very few egg-laying flies escaping. One of the oldest and still one of the best remedies for caterpillars that can be tried is spent tanner's bark. Wherever this is freely used among the bushes, caterpillars are conspicuous by their absence; not, however, I think, because of any destructive agency washed down from the bark, but simply owing to its effectually enclosing the flies, supposing the latter duly hatch when the cocoons are thus buried. The bark as it decays affords a certain amount of food for the roots and effectually checks rapid evaporation and cracking of the soil. A good surfacing of soot and lime over and among the bushes acts beneficially enough, but is scarcely worthy of being termed a remedy for caterpillars. There is more to be said in favour of the laborious plan of removing all the surface soil well down to the roots, and to a distance of about 2 feet from the stems, or say as far as the branches reach, and this being either burnt or buried deeply, a considerable number of cocoons will be got rid of. Then if the old soil be replaced by a good rich compost, following upon a dusting of newly-slaked lime, this will further benefit the bushes.

The troubles of Gooseberry growers are not all caused by red spider and caterpillars, bud-eating birds being even more troublesome in some cases. Planting under or covering over quarters already well furnished with bushes with permanent wire-netting-covered structures is a good remedy, this also serving to ward off blackbirds and such like when the fruit is ripe. Unfortunately, we, under such circumstances, shut out our friends as well as enemies, there being some few birds that will even eat Gooseberry caterpillars. Nothing larger than $\frac{3}{4}$ -inch mesh galvanised wire netting should be used, or small birds will undoubtedly force their way through, and the fronts of the structures ought also to be so formed as to admit of lengths, or, say, large netting-covered shutters, being taken down when it is desirable that birds shall find their way in. I must further add that the framework of any such structure must be strong, or otherwise a great weight of snow may break down the lot. Bullfinches are not easily deterred from their feast on Gooseberry buds but both these and house sparrows may be considerably checked by a free use of cheap black thread over and about the bushes. This can be very rapidly attached to the branches by means of Royle's garden webber, the aim being so to distribute it as to greatly impede the movements of the birds. Well coating the branches with a mixture of soot also acts as a deterrent of bird attacks. Use equal quantities of newly-slaked lime and soot,

this being mixed with water and made sufficiently thin to admit of its being distributed with a syringe. If stale lime is used it will not long stick to the wood and buds, and in any case it may be necessary to repeat the dose before the winter is very far advanced. Those who have been in the habit of drawing their bushes up together in the form of a pyramid are advised to still adhere to this very old and very effective preventive of bird attacks. It is a rather rough job, and the two pair of hands that have to do it should be protected with strong leather gloves, and the branches ought to be well bound up together, tar-twine being used for keeping them in position. If properly done no bird can well find its way into the centre, and only a very few of what may be termed the underside buds are ever taken. So troublesome are birds in places, that it is not safe to let down these bushes till the buds are quite green, anticipating this period of growth sometimes leading to the ground under the bushes being strewn with the remains of the birds' expensive feast in less than twenty-four hours after the bushes are opened out.

Early pruning is also a mistake where birds are known to be troublesome, removing a considerable portion of the young wood rendering the clearance of buds on the rest of the bush easy and certain. In all such cases pruning should be delayed either till the most critical period, this being when the buds are just moving, is past, or even a little later. Market growers do not prune nearly so hard as most private gardeners, and they usually obtain heavier crops accordingly. The most they do is to remove much or all of the undergrowth or that which is so near to the ground that the fruit cannot be kept clean, a little foreshortening sometimes delayed till the fruit is large enough to pick and market, and scarcely any thinning out being practised. It is the hard pruning that causes the formation of very much more young wood than is desirable, and the market grower's bushes though large, are never such impenetrable thickets of growth as might perhaps be imagined. W. I.

Apple Adams' Pearmain.—This Apple, frequently met with in old orchards in the west of England, is, I consider, one of the best late dessert Apples in cultivation. It is of fine quality and handsome appearance. Like the majority of late dessert Apples, a warm soil is needed to bring out its highest qualities. This season on our heavy and cold soil it is excellent, the hot weather having suited it admirably. It does well either as a bush or orchard standard, but the leading shoots must be shortened sufficiently in the earlier stages of the tree's growth, or the growth will be rambling.—Y. A. H.

Apple American Mother.—There are few more handsome Apples than this. It is also of fine quality, being tender, and for an Apple having quite a melting flesh with a very pleasant aroma. The only fault I find is that it is not such a free bearer as one would like. It does well either as a pyramid or a bush. It is also well suited for growing as an espalier or even as a cordon.—Y. A. H.

Damsons.—I quite agree with "W." as to Damsons being a most remunerative crop. Whether they are adapted for planting on any class of soil or in any district is, I think, an open question. At least nowhere have I seen the Damson thrive so well as in the west of England and in Kent. In the former district the trees grow to large dimensions, and when I say that I have known trees produce 450 lbs. weight of fruit the value of such trees may be imagined. As regards there being a ready sale, no other fruit crop can be disposed of so readily, the reason probably being that the Damson is not very plentiful in many parts of

England. As stated by "W.," the encouraging of a strong growth is of the greatest importance, there being no fear of the trees failing to bear freely where a strong early growth is made. The Damson is also very partial to moisture at the roots, for although it will thrive just as well in a hedgerow, that is if the soil is suitable, as in the more open ground, yet I suspect on account of this accommodating nature some people have planted it on dry banks; consequently they have failed. Large quantities of Damsons are bought up hereabouts for dyeing. What a useful fruit it is, too, for laying by for winter use, as it may be stored in jars until the following summer. Damsons can be preserved very simply. The jars are filled in with alternate layers of sugar and fruit, and then covered with a piece of paper and placed in a gentle oven to bake. Place them in over-night, and the following morning pour some hot mutton fat over the top, so as to exclude air, and then tie down. Either for making into tarts or, as I prefer, mixed with Apples they make capital puddings or pies.—Y. A. H.

Apple Byford Wonder.—I was pleased to read "W. G. C.'s" note on the above Apple, as from close observation at the recent meeting of the R.H.S. it appeared to be a first-rate variety. The note at p. 502 was opportune, confirming the award recently given it. The variety in question would readily have received a higher award could its cropping qualities have been known. The note referred to speaks highly of it as an excellent cropper, its cooking qualities being unequalled. Being a late Apple is a great point in its favour. Had "W. G. C.'s" opinion been given a little earlier, his remarks would have been appreciated. In the awards to new or little-known varieties of fruit there is often a difficulty as to the habit, bearing, and other points. These should be always given by the senders. I feel sure this Apple will be a good addition to our somewhat limited list of really good late kinds, having size, quality, and productiveness in its favour. The fruits staged were grown on standard trees, an important point for large growers.—S. H. B.

SOCIETIES AND EXHIBITIONS.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 12.

THIS, the last meeting of the present year, was by no means devoid of interest in any department, although the amount of table space occupied was not so much as on some former occasions. Now and then complaints have been made regarding the light of the Drill Hall, and that not without cause, this last meeting being another case in point. With the best appliances for lighting, with the electric light near at hand, it is a wonder that the authorities who have the management of the hall do not take the advantage of it, which one would think they could easily do. In doing this they would in a measure cement the attachment towards the hall which has been formed by many exhibitors, and leave no real cause for an exodus again to South Kensington.

Orchids were represented by a great variety of good things, Cyripediums again standing out in a prominent manner; also some good Cattleyas as well as Odontoglossums.

The floral committee had nothing before it of such excellence as the superbly grown plants of *Nepenthes* from Messrs. Jas. Veitch and Sons; these were splendid features. From the Royal Botanic Gardens came a few rarities of unusual beauty, plants rarely seen in private establishments. A grand display of *Chrysanthemums* remarkably good for so late in the season was made by Mr. R. Owen; these were a most attractive feature. In the way of fruit there was a very fine collection from Messrs. H. Lane and Son, Berkhamsted, the noteworthy feature in which were the perfect finish, fine size and choice selection of varieties

Some excellent selections of vegetables were sent by Messrs. Veitch and Sons, as well as from the Chiswick Gardens.

Orchid Committee.

First-class certificates were awarded to—

LELIO-CATTLEYA NYSA, a hybrid variety of great beauty, the parentage of which was not given. The blossoms have the sepals and petals of a soft blush colour suffused with pale mauve, the lip being large and finely formed, of a dark purplish crimson, with the throat of a golden shade (cut examples). From Baron Schroeder, The Dell, Egham.

LELIA FINCKENIANA.—A very robust growing variety, presumably a hybrid, nearly allied to *L. anceps*, which it in a measure resembles. The one spike bore six flowers, in which the sepals and petals were of a creamy white with a deep mauve blotch on the lip edged with white, the flowers being of medium size. From Mr. Fincken, Hoyland Hall, Burnley.

CYPRIPEDIUM FASCINATUM (C. *Spicerianum* magnificum × C. *hirsutissimum*), in which the outline of the flower, save the dorsal sepal, is characteristic of the last-named parent in colour and spotting, but larger; the dorsal sepal shows its relation to its other parent with a shading of vinous purple; a fine hybrid. From M. Jules Hye Lysen, Ghent.

Awards of merit were adjudged to—

ZYGOPETALUM ROSTRATUM (a species first introduced from Demerara in 1827), the growth of which is dwarf and compact, the labellum being white with dark veins, the sepals and petals of a pale bronzy green; a distinct species. From Messrs. Sander and Co., St. Albans.

CYPRIPEDIUM VENUSTUM MEASURESIANUM.—A very pretty form of the species, the colours being a pale green and golden yellow, totally devoid of the darker colouring of the species, quite a distinct variety both in flower and growth, the pinkish suffusion of the underside of the leaf being absent. From Mr. Measures, Cambridge Lodge, Camberwell.

CYPRIPEDIUM ENONE (C. *superbium* × C. *hookerianum*).—A fine hybrid, with the distinctive markings of both its parents and the size of the former with the colour in a measure of the latter parent, a bold flower, the petals densely spotted, the growth being robust and sturdy. From Messrs. Veitch and Sons, Chelsea.

LYCASTE IMSCHOOTIANA (Lycaste Skinneri × *Maxillaria nigrescens*), the flowers of which are of a pale greenish yellow, densely marked with minute-like coloured spots, the central portion being of a rich golden shade, the growth vigorous. From Mons. Linden, Brussels.

ODONTOGLOSSUM CRISPUM THOMPSONIÆ.—A splendid variety, with large robust arching spike, bearing fifteen flowers of extra size, the sepals and petals being of great breadth, pure white, with a faint blush shading and a few distinct chocolate spots, a fine form. From M. Linden.

CYPRIPEDIUM WURNHAMENSE (C. *Curtisi* × C. *lævigatum*).—A very distinct hybrid, the dorsal sepal taking after C. *Curtisi*, the petals darker, freely spotted, and drooping, the labellum large and extra deep, thus denoting C. *lævigatum*. It is a bold-looking variety, the spike twin-flowered, and the growth vigorous. From Mr. Lucas, Wurnham Court.

CYPRIPEDIUM SALLIERI AUREUM (C. *insigne* × C. *villosum*).—The petals of this bear a striking resemblance to those of the latter parent in every way, whilst the labellum is similar. The dorsal sepal is quite after its other parent, save in the absence of white, the ground colour a pale yellowish green with dark spots. From Mr. Ebner, Woodlands, Beckenham.

Botanical certificates were voted to—

PLEUROTHALLIS SCAPHA.—A very singular looking Orchid, more remarkable than beautiful. From Mr. Measures.

LYCASTE LUCIANA, the flowers of which are shaded with lake, a distinct variety. From M. Linden.

DENDROBIUM GLOMERATUM.—A new species from Eastern Malaysia, with small deep mauve flowers and a dark orange lip. From Messrs. J. Veitch and Sons.

Messrs. B. S. Williams and Son had an excellent group, comprising several good *Cypripediums*, as *C. Io grande*, with distinct dark spotting on petals; *C. Pitcheri* (Williams' var.), a splendid dark hybrid; *C. Sallieri*, a good form of *C. insigne*; *C. Harrisianum*, a fine specimen plant, freely flowered; *C. enfieldense*, a distinct hybrid, with broad petals; *C. marmorophyllum*, with remarkably fine foliage, putting *C. Lawrenceanum* in the shade; *C. robusticum*, a hybrid with dark flowers of a rich shade, after *C. Schroederianum*; also *C. Osbornei*, a dark hybrid. *Lælia anceps*, *Calanthe Mylesiana* and *Oncidium obryzatum* were also shown (silver Banksian medal). M. Linden, Brussels, sent *Oncidium Phalænopsis*, a pretty specimen; *Odontoglossum crispum amplissimum*, a beautiful arching spike bearing fourteen flowers of very pure colouring; *Catasetum virens*, a singular variety with pale greenish white flowers; *Lælio-Cattleya Stehegoleffiana* (*Lælia grandis* × *L. labiata*), the flowers of which were pale bluish, with deep crimson markings on the lip; *Cattleya labiata*, cut blooms; *Cypripedium Robinianum* (*C. Parishii* × *C. Lowi*), with the character of the latter parent in a great measure, and *Odontoglossum guttatum sulphureum*, a fine form, with pale straw-coloured flowers marked with light brown (silver Banksian medal). Messrs. Sander and Co. had a diversified group, containing several forms, greatly varied in colour, of the montanum varieties of *C. insigne*, both the light and dark colours being well represented. *C. Lynchianum* superbum bearing traces of *C. Spicerianum*; *C. Ridolfianum* (*C. Wallaertianum* × *C. insigne*), distinct, with curious dorsal sepal incurved and large in proportion to the rest of the flower; *C. nitens* and *C. Masonianum*, both good forms, were staged. Of other things there were several fine varieties of *Lælia anceps*, as *L. anceps Sanderiana*, one of the best and most distinct; *L. a. Percivaliana*, another beautiful light form; *L. a. alba*, pure white, medium size; *L. a. Oweniana*, with bright rosy flowers and deep purplish crimson lip; and *L. Gouldiana*, nearly allied to *L. anceps*, with rosy-mauve flowers; *Brassia Leeana*, with yellowish or old gold coloured flowers (silver Banksian medal). Messrs. Veitch and Sons sent a choice lot of plants, comprising several hybrids as well as species. Of the latter there was a fine specimen of *Cœlogyne barbata* with twelve good spikes well developed; *Catasetum Gnomus*, a curious dark-coloured species; *Sophranitis grandiflora*, a large panful, freely flowered; *Lælia anceps Sanderiana*, a fine mass, with three strong spikes and fifteen flowers and buds, the expanded blooms being large, the sepals and petals pure white, the lip large and finely marked with violet-purple; *Oncidium pulvinatum*, a pretty species, and *O. cheiroporum*, a dwarf plant, with short spikes of small pale yellow flowers. There were several of the best hybrid *Cypripediums*, as *C. nitens*, with fine flowers; *C. Harrisianum* superbum, the best form; *C. Leeanaum*; *C. T. B. Haywood*; *C. Creon*, extra fine; *C. Pylæus*, after *C. Sedeni*, and *Cattleya Pheidona*, a beautiful pale, almost white hybrid, with a faint marking of purple on the lip. A cut three-branched spike with five fine flowers of *Cypripedium Sedeni candidulum* was also included (silver Banksian). Messrs. H. Low and Co. sent a small group in which were several beautiful examples of *Odontoglossum Roezlii* and the white variety, also a good example of *Vanda Sanderiana* with one spike; *Lycaste Skinneri alba*, with one flower; *Cypripedium Haynaldianum*, a very distinct species, and *C. Smithi* (*C. Lawrenceanum* × *C. ciliolare*), which is much after the former parent; as well as *C. Mrs. Canham*, a large flowered hybrid (silver Banksian). Mr. Wythes, Syon House, sent a quantity of fine spikes of *Calanthe Veitchi*, very richly coloured and well developed. These were very tastefully set up with long fronds of *Adiantum concinnum latum* in an effective manner; *C. vestita* in variety was also included with the *C. Veitchi*, making in

all a first-rate exhibit (silver Banksian medal). Of other small exhibits there were a few fine forms of *Cypripediums*, as *C. Leeanaum superbum*, *C. insigne Sanderæ*, and others from Baron Schroeder's collection. Mr. Vanner, Camden Wood, Chislehurst, sent *Cypripedium Io-Spicerianum* (its parentage denoted by its name), a very pretty hybrid, and *C. pulchellum* (*C. grande* × *C. candidulum*), which comes near to the Veitchian *C. leucorrhodum*, but the pouch is rather darker. Mr. Wigan, Clare Lawn, East Sheen, showed *Cypripedium Wiganianum*, a twin-flowered hybrid with large flowers, presumably a descendant of *C. Harrisianum* × *C. Boxallia*. From Mr. Hainsworth, Blackheath, came a small plant of *Cirrhopetalum ornatisimum*, more curious than pretty. Mr. Lucas had a fine variety of *Comparettia macroplectron*, a beautiful Orchid with Barkeria-like flowers of a pale rosy-purple, also *Dendrobium infundibulum*, a species of which *D. Jamesianum* is the best type; *Phaius marmoratus* (green-leaved form) with pale yellow flowers, was also included. Mr. Ashworth, Wilmslow, Cheshire, showed *Lælia anceps Amesiana*, one of the best forms of this fine winter Orchid, also *Cypripedium Leeanaum superbum* and *Lælia elegans Wolstenholmie*, a choice species. An Orchid of great interest and one now seldom seen was *Lælia exoniensis* (*L. crispa* × *L. purpurata*), one of the first, if not the first hybrid raised in this genus by Messrs. Veitch (the flowers were richly coloured). It came from Mr. Wells, Broomfield, Sale. Mr. Statler, Stand Hall, Manchester, had a small exhibit of *Cypripedium Lucenianum superbum*, which has some resemblance to *C. Boxallia*; from the same source came *C. Leeanaum*, Stand Hall variety. Mr. Measures also showed *Cypripedium Celeus* (*C. insigne* × *C. villosum*), which has a distinctly spotted dorsal sepal. A grand spike of *Cymbidium Traceyanum* came from Baron Schroeder's collection, and received a cultural commendation; it had a number of remarkably large flowers which are very distinct in their markings.

Floral Committee.

First-class certificates were awarded to—

NEPENTHES AMESIANA (*N. Raflesiana* × *N. Hookeriana*).—A remarkably fine hybrid with the well defined characteristics of both of its parents, being quite as robust in growth as *N. Raflesiana*, with the form of the pitchers as in *N. Hookeriana*, but larger in a marked degree, and darker in colouring also, the plant bearing eleven pitchers—a splendid acquisition. From Messrs. Veitch and Sons, Exotic Nursery, Chelsea.

COSTUS IGNEUS.—A very distinct plant from a genus seldom exhibited. The species in question has rich orange-scarlet flowers, the growth about 1 foot in height. It is a tuberous-rooted stove herbaceous perennial with fleshy leaves introduced from Bahia in 1822. From Sir Trevor Lawrence, Burford Lodge, Dorking.

PLATYCERIUM STEMMARIA (syn., æthiopicum), from the Guinea Coast and Angola (1822), a truly grand species, which has been heard of and seen occasionally, but not in such fine condition as in this case; this plant is, under good cultivation, a robust grower, with fronds of unusual substance, the under-surface having a downy coating. From Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton.

Awards of merit were voted to—

CHRYSANTHEMUM MRS. MARION BOURNE (Japanese incurved).—An extra large flower and very full, form of *Mme. Clemence Audiguier*, but darker, a grand exhibition variety. From Mr. R. Owen, Maidenhead.

CHRYSANTHEMUM GOOD GRACIOUS.—Another unusually large Japanese variety with narrow incurved petals, pale blush-pink, very full, stated to be an introduction from Japan. From Mr. Owen.

A botanical certificate was awarded to—

MASSONIA AMYGDALINA (Baker).—A new species of remarkably dwarf and compact growth, the flowers being white and individually insignificant, but with a most fragrant perfume as of Almonds.

Messrs. J. Veitch and Sons sent a superb selection of the very finest of the *Nepenthes*, all denoting high cultural skill. These were *N. Wrigleyana*, a splendid dark-pitched variety, each pitcher being of extra length and of a deep reddish shade; *N. Morgania* in fine form, with its pitchers of a brick-red colour, being almost entirely of this shade, very distinct; *N. Burkei* excellens, a species from the Philippines, more richly coloured than the type, the pitchers extremely handsome; *N. Northiana*, a noble growing species, paler in colour than many, but remarkably distinct, a fine form; *N. Chelsoni*, after, but decidedly lighter than *N. Amesiana*, certificated at the same time; this plant had twenty-four pitchers upon it; *N. Curtisii superba*, another splendid variety, the pitchers of a blood-red colour, mottled with greenish yellow; *N. mixta*, previously certificated early in the autumn; and *N. Dicksoniana*, a very superior hybrid, with its pitchers quite distinct and of extra large size. Messrs. Veitch and Sons also had a promising new *Veronica* named *Purple Queen*, the growth of which is extremely dwarf and compact, the flowers of a bright purple (silver Flora medal).

Mr. R. Owen sent a grand collection of *Chrysanthemums* for so late in the season. Besides those certificated there were several unnamed seedlings as well as new named varieties of much promise; *Henry Perkins*, a dark bronze incurved Japanese; *Mrs. Smith Ryland*, a golden incurved, after Lord Brooke, but lighter; *Le Prince du Bois*, recently certificated; *Charles Blick*, a dark rich yellow, after Sunflower; *Golden Wedding*, a well-known new Japanese, of great promise; *Abbé Mendenhall*, pale primrose; *Golden Gate*, a splendid yellow; *White Etoile de Lyon*; *Secretary Farson*, a bronze incurved; *Mrs. A. Rogers*, a deep yellow, very full; *John Noble*, extra large, with wider petals than in *Edward Molyneux*, and of a darker colour, and a few others. Mr. H. B. May had another of his characteristic groups of Ferns, consisting this time of several varieties of *Platycerium*, as *P. grande*, a fine young specimen; *P. stemmaria* (see certificate), *P. alciorne*, a healthy young piece, also its major form; *P. Willincki*, a distinct species from Java; *Hymenodium crinitum* (the Elephant's-ear Fern), developed surprisingly well; *Pteris Victorica* (a selected form), of free growth, distinct and elegant; *Davallia Tyermani*, *D. Griffithi*, and *D. hirsuta*; *Pleopeltis fossa*, with thick but narrow fronds of very rigid character; *Lomaria platyptera*, after but finer than *L. gibba*; *Pteris tremula Smithi*, the tessellated variety; *Nephrolepis exallata plumosa*, a plumose form of this old Fern, of dense growth, but very compact; *N. Duffi*, a pretty plant, and *Acrostichum trioides*, with very narrow Iris-like fronds (silver Flora).

Messrs. H. Low and Co. had a finely-grown lot of *Cyclamens* similar to, but in better flower than at the last meeting (silver Flora medal). Messrs. J. Laing and Sons, Forest Hill, exhibited a good miscellaneous group of decorative plants, in which was a fine mass of *Odontoglossum grande*, with a number of spikes, not being a made-up plant. Other good things consisted of *Dracena Doucetti*, several *Anthuriums*, as *A. Laingi*, the best white, and *A. Andreanum sanguineum*, *Ericas*, *Cyclamen* and other things in season (silver Flora medal). Mr. Balderson, of Corner Hall, Hemel Hempstead, showed an intensely dark velvety crimson *Primula*, the darkest and richest colour yet seen, but no award was made, as only cut spikes were staged. Sir Trevor Lawrence had a grand mass of *Primula Forbesi*, which improves upon acquaintance. Mr. W. Wells, Redhill, had the golden yellow incurved *Chrysanthemum Mrs. L. C. Madeira*, and Mr. Tranter, Henley-on-Thames, showed *Nicotiana affinis variegata*. Messrs. B. S. Williams and Son staged *Amaryllis*. From Kew Gardens came a few choice and unique exhibits. These were *Brownea Crawfordii*, a hybrid between *B. grandiceps* and *B. macrophylla*, which had immense heads of rosy scarlet flowers. *Thunbergia mysorensis*, with pale orange and dark crimson flowers, was exceedingly showy, the long and continuous flowering character of this plant standing it in good stead. *Bomarea oligantha* with deep orange flower,

and darker markings, and *B. patacoensis*, a Peruvian species with orange-red flowers in large trusses, were both attractive. Quite a gem was the Cape Ivy (*Senecio macroglossus*), a slender trailing plant having Ivy-like foliage of small size and Marguerite-like flowers of a pale yellow. This was figured in THE GARDEN of August 2, 1881 (p. 90).

Fruit Committee.

There were some interesting exhibits before this committee in the way of collections of fruit and vegetables and miscellaneous exhibits.

A first-class certificate was awarded to

ORANGE EDITH.—This is of great merit, round, pale yellow, with thickish rind and small leaves. It is also of good flavour. From Mr. Stevens, The Gardens, Sidbury Manor, Sidmouth, Devon.

An award of merit was given to—

CABBAGE CHRISTMAS DRUMHEAD, grown in the Society's Gardens, Chiswick. This is a medium-sized Cabbage, very firm and solid, and of a beautiful mild flavour when cooked. It is of special value for winter use.

The finest exhibit was a grand collection of Apples from Messrs. H. Lane and Son, Great Berkhamsted. There were seventy dishes of fruit staged, and all perfect specimens, some of the dessert varieties being very good. Notable for their high colour and showing the effect of so favourable a season were Warner's King, Bismarck, Hollandbury, and Lane's Prince Albert. Other good dishes comprised High Canons, Hoary Morning, Norfolk Beaufin, Baumann's Red Reinette, Adams' Pearmain, Beauty of Kent, Bramley's Seedling, Sandringham, Lewis's Incomparable, Mrs. Barron, Schoolmaster, and Cox's Orange (silver Knightian medal). From Messrs. Laing and Sons, Forest Hill, came a small collection of fruit, chiefly Apples, about thirty dishes being staged. The best were King of the Pippins, Mère de Ménéage, Bramley's Seedling, Gloria Mundi, Lane's Prince Albert, Cockle Pippin, and Vicar of Beighton (bronze Banksian medal).

Mr. G. Goldsmith, The Gardens, Leonardlee, Horsham, sent a new Apple much like Cox's Orange in shape, size, and colour, the tree having been sent in mistake for the above variety. The fruit is quite distinct in flavour, but failed to get an award, as it is inferior in quality. Messrs. Veitch staged an interesting collection of Kales, some well known and a few less so. The Palm Tree Kale was the most novel, being of erect growth, with long narrow leaves, firm, and of a dark green colour; this is grown more abroad than in this country. It is of Italian origin, and not nearly so tender when cooked as the Scotch Kales, having a thicker midrib and less succulent growth. There was a good lot of the variegated or ornamental foliaged kinds, also Late Curled and Chelsea Exquisite Curled, a dwarf selection of the Scotch Kale. A good variety of Brussels Sprouts named Ne Plus Ultra, a tall variety with small sprouts, was also staged in this collection. From Mr. Owen, The Royal Gardens, Frogmore, were sent some fine cordon growths of Tomatoes named Frogmore Selected, a variety recommended for winter fruiting. The fruits somewhat resembled Chemin. A large dish was also shown, and the committee desired to have the fruit sent again in the early spring to test the winter bearing qualities. From the society's gardens was sent a representative collection of Cabbage in season and Brussels Sprouts. A nice lot of the Christmas Drumhead referred to above was staged, also the St. John's Day, a variety with medium-sized heads, solid, of somewhat lighter green colour than those of Christmas Drumhead and less flat, but of equally good flavour. Couve Tronchuda or Portugal Cabbage was also staged. Two varieties of Brussels Sprouts which had been on trial at Chiswick were also sent. A very dwarf variety from Messrs. Dobbie, Rothesay, was specially good, being well covered with sprouts of a medium size and very firm. Messrs. Sutton's strain was also noticeable for its dwarf habit and free-producing qualities. A new form of Grape scissors was sent by Messrs. Osman,

Commercial Street, E., for the opinion of the committee. These were sent to Chiswick for trial and report next season.

NATIONAL CHRYSANTHEMUM SOCIETY.

On Monday evening last a meeting of the general committee of this society was held at Anderton's Hotel, when Mr. R. Ballantine presided. A vote of thanks was passed to Messrs. E. D. Shuttleworth and Co., of Albert Nurseries, Peckham Rye, for the loan of Palms and fine-foliaged plants they had sent free of charge to decorate the room on the occasion of the annual dinner recently held, and which was attended more largely than that held last year. Several other votes of thanks were passed to those who officiated in the arrangements on that occasion. At the late flowering exhibition held this month a gold medal was awarded to Mr. H. J. Jones for his table of cut Chrysanthemums, silver-gilt medals to Mr. W. Wells and Mr. R. Owen, and silver medals to other exhibitors, which awards were confirmed.

The secretary announced that the following shows would be held in 1894, viz., one on October 10, 11, and 12, one on November 6, 7, and 8, and another on December 4, 5, and 6. The judges appointed are Messrs. Inglefield, Owen, Herrin, and B. Wynne at the first; Messrs. Lyne, Prickett, Orchard, H. J. Jones, Beckett, G. Gordon, Bevan, Barron, Langdon, and Tegg at the one in November, and Messrs. Kipling and Stevens at the show of late-flowering varieties in December. It was also reported that the total revenue received to date amounted to £653 10s. 2d., and that the reserve fund was now £54 9s. 4d. New members numbering 163 had been elected for the year, of which thirteen were then proposed, including Mons. M. L. de Vilmorin, of the firm of Messrs. Vilmorin-Andrieux and Co., of Paris, as a foreign member.

In the absence of Mr. C. E. Shea, the secretary read his paper on "Judging Chrysanthemums," which will appear in the society's new schedule. The author referred to the narrow margin by which some important prizes were sometimes won, and pointed out the necessity for the N.C.S. to set up a standard of judging independent of the idiosyncracies of judges, some of whom preferred one type and some another. Mr. Shea considered the attributes of a show Chrysanthemum to be diameter, depth, solidity, colour, finish, breadth of petal and freshness, but contended that these should not all have the same number of points allotted to them, the first three being entitled to the greatest number. Mere novelty, he thought, ought not to count extra points, for some new flowers might be shown in such a form that would show far less capable cultivation than older varieties. It was incumbent on the society to formulate a definite basis or means of judging that should take the place of mere personal opinion. He thought the N.C.S. should be a sort of university for the education of the judges of the future. The time, too, that was placed at the disposal of the judges was frequently inadequate to the work involved, and exhibitors, by late arrivals and tardy staging, sometimes still further curtailed the time. Mr. Shea also spoke of the qualifications of a judge, and upheld the view that a good judge need not necessarily be a cultivator himself. The paper was listened to with much attention, and a discussion upon it subsequently arose.

A meeting of the floral committee of this society was held on Wednesday last at the Royal Aquarium, when Mr. Harman Payne occupied the chair.

Although the number of novelties submitted for adjudication was few, the meeting was rendered more attractive than usual at this advanced date in the season by a capital display of cut Chrysanthemums from Mr. R. Owen, of Maidenhead, to whom a silver medal was awarded in recognition of his exhibit.

First-class certificates were awarded as follows—

OWEN THOMAS—A fine, broad, incurved Japanese bloom, with florets of medium width, curly at

the tips, and of good length. The colour is a clear shade of rich canary-yellow. Exhibited by Mr. R. Owen.

GOOD GRACIOUS.—A most distinct variety of the Japanese type. The petals are of very great length, tubulated, curiously twisted and curled; the blooms are large, but rather loose, and the colour is light blush-pink passing to white towards the centre. Also shown by Mr. Owen.

Among other novelties, Secretary Farson, a large incurved Japanese, very solid and compact, of a rosy-bronze shaded yellow, was commended. John Noble, an incurved Japanese, carmine-crimson, tipped yellow, with a light crimson reverse, was requested to be shown again, as was W. G. Newett, a Japanese with very long drooping florets, colour pure white, shaded yellow in the centre. Other promising varieties were H. M. Pollett, Mrs. Marion Bourne, New Year's Gift, and Mrs. F. L. Ames.

A resolution was made that the variety Henry Perkins, formerly certificated as an incurved variety, should be transferred to the Japanese incurved section in the society's official catalogue. A new expanding show board designed by Mr. C. E. Shea was also highly commended.

National Rose Society.—The annual meeting of this society was held on the 7th inst. at the Hotel Windsor, Westminster. The Rev. W. Wilks presided. There was a fair attendance of most of the leading rosarians of the day, but as there was no question pending for settlement which was likely to cause much discussion, there was not the same interest taken in this year's proceedings as at the two preceding meetings of 1891 and 1892. There were, however, two rather important new regulations passed, viz., A, that in the future on the requisition of twenty members of the society a special meeting can be called to discuss any specified question, and B, that in future, seedling Roses and sports are eligible for competition in the classes reserved for new Roses. The former rule affects the society in general and the latter the hybridisers, more especially Messrs. Dickson, of Newtownards, Messrs. W. Paul and Messrs. Paul & Son amongst our own great rosarians. The financial statement of the society is comparatively satisfactory, the balance credit brought in being £31 16s. 7d., and that carried forward being £81 19s. 3d., the difference being mainly obtained by an unfortunate fact, viz., the absence of competition this year at the society's shows, the prize money offered not having been competed for or won, this fact alone making a difference of £45 8s. as compared with 1892, and this notwithstanding the fact that there were more classes in 1893, and also that in the smaller classes the fourth prizes were restored to the schedule. The subscriptions have increased by £8, but as the new membership shows an increase of fifty-five to the roll, the losses through death or resignation must be considerable.

Such of the subscribers to the catalogue fund as have not paid their donations will oblige by doing so at an early date to Mr. Charles Grahame or Mr. E. B. Lindsell, the honorary secretaries thereof, who wish to close the list.

The Gardeners' Royal Benevolent Institution.—The time for the election of pensioners to the funds of this institution is fast approaching, and the numerous appeals for support which have already reached me show that, as usual, there will be more candidates than vacancies. The most painful cases are those of individuals who are applying for the second, and in some cases the third time. These facts alone should induce the rising generation of gardeners to join the society. Many, no doubt, with large families, or through sickness, are so handicapped through life that to them even a guinea a year would be a great consideration, and for such I have nothing but sympathy. To hundreds, however, who have no such drawbacks and are in possession of health and vigour, a guinea per annum would not be a great sacrifice. Formerly there was some excuse for gardeners refusing to join the society, as influence was then the principal agent in securing the election of candi-

dates; but since the adoption of rule 5 and more particularly rule 10, the wisdom of which has been proved by the increase of members, all member candidates are placed on a more equal basis, and the weakest have not to go to the wall. I hope ere long to see the annual income of the society so increased that the committee will see their way to make the allowance for each recipient half as much more as it is at present. Finally, I would ask every gardener to give the matter his serious consideration, remembering how much good the society has done in the past and how much more it might do in the future if only its hands were strengthened.—J. CRAWFORD, *Coddington Hall, Newark.*

NOTES OF THE WEEK.

Echinops Ritro.—This seems to be more free-flowering this year than usual. In the early summer it bloomed most profusely. On November 11 I cut several well-expanded heads, and there were many more to follow.—DORSET.

Chrysanthemum Golden Gem is one of the most beautiful of all Chrysanthemums, and especially useful for flowering late in the year. The flowers, of a bronzy crimson colour, which passes into yellow, are produced in free, graceful sprays; they are not large, and last a long time in water by reason of the stout petals.

Dianthus japonicus, or *D. pulcherrimus* (well figured in "Flore des Serres" and "Jardins de l'Europe," vol. ii., p. 199) has, I regret, disappeared from cultivation. I should be glad of a single cutting of this plant, which fifteen years ago I had by the hundred. In one autumn my plants dwindled away owing to being grown in an unsuitable position.—MAX LEICHTLIN, *Baden-Baden.*

Chrysanthemum latifolium.—I consider this much better than *Pyrethrum uliginosum*. Its blooms being of a purer white and the centre yellow make it far more ornamental. As a plant to cut from in late autumn it is invaluable. I have cut good blooms of this in seasons gone by well into November. These hardy border plants should be encouraged where the demand for cut flowers in autumn is great.—J. C. F.

Hedera atropurpurea.—This variety is very conspicuous in the winter months for the rich chocolate—almost black—colour of the leafage, a perfectly constant characteristic, not changing, as so many variegated Ivies, which are too often variegated only in name. *Atropurpurea* is robust, very free growing, finely veined and worth a place for its rich colouring in the winter months. A good plant is in the Chiswick collection and stands out conspicuously against other kinds.

Tomatoes in winter.—Good, fresh-ripened Tomatoes are highly appreciated by many, and this holds good at Lindisfarne, Bournemouth, as there they are grown all through the year. When looking through the garden there in the middle of December I noted a fine lot of plants trained close to the glass on the south side of a span-roofed house. These were full of fruit, many ripe, some just set and the plants full of bloom. I was told by Mr. Spong that he found no difficulty in keeping up a continued supply during the winter and spring. The plants were from cuttings struck in August.—DORSET.

Masdevallia towarensis.—Few more useful Orchids flower at this season and for the best part of the winter than *M. towarensis*. We have noticed it in many collections in full bloom, the flowers being acceptable for cutting at Christmas. It is a native of Colombia and found at a high elevation, hence little artificial heat is necessary for its cultivation. No other *Masdevallia* is of such value for its flowers, these being snow-white and lasting long in perfection. They are borne in twos or fours on scapes about 6 inches high, and when the plant is in full bloom it presents a mass of white. Pots or shallow pans may be used.

Pear Josephine de Malinea.—"Y. A. H." (p. 502) recommends this to be grown on walls.

According to my experience in the south it is far better from bush or pyramid trees than from walls. When living in North Hants I found that the fruit from trees grown in the open was of far better flavour than from those on walls, and in North-west Dorset it is just the same. I have now (December 13) in the fruit room some from open trees and from walls, and the former is by far the better, although not quite so large. It is true the tree does not make a good pyramid, but as a bush I find it does well. I have never found this kind of bad flavour.—J. C. F.

Pulmonaria dahurica.—It is about six or eight years since this was plentiful here. M. Froebel, of Zurich, paid me a visit and was so taken with the plant, that I, in compliance with his wish, placed the whole stock in his hands. It appears, however, that the climate of Zurich did not suit it, or that M. Froebel lost sight of it at the very moment it most wanted attention, and in consequence all stock on the Continent has gone. I used to pot the plants in August, in September bringing them into a sheltered place, and in October into the greenhouse. I kept it rather dry over winter, and planted it out in March or April in a half-shady situation. There was no possibility of increasing it in spring. This had to be done in August before repotting. If it cannot be found in some out-of-the-way place in England, it will be lost for some time until re-introduced from its native habitat.—MAX LEICHTLIN, *Baden-Baden.*

Christmas Drumhead Cabbage.—This variety was this week favourably noticed by the fruit committee of the R.H.S., and an award of merit given it. It is not the first time it has been shown. I exhibited both it and St. John's Day last June at the Drill Hall, and have on one or two occasions recommended it in THE GARDEN for use at this season and early in the year. I am much pleased with the above variety, as it is of exquisite flavour when cooked and very hardy. Those who find the Rosette Colewort too tender in exposed positions would do well to plant this, as it does not burst or open after frost like the Colewort, and is much like it in flavour when cooked. Being a medium grower it may be planted rather closely. For cutting in May it is not so good, as it comes larger, is inferior, and much later than Ellam's. I do not intend to grow it again at that season, but for cutting through November, December, and early in the year it is of much value, and will become a leading kind, as its good quality and hardiness will be of great service to those who require vegetables in quantity.—G. WYTHES.

Iron roofing for sheds.—I am surprised to see the use of galvanised iron condemned in a recent number of THE GARDEN. My experience of the corrugated iron roofing is that it is incomparably cheaper than either tiles or slates. The latter are a continual source of expense, repairs being so frequently needed, besides not keeping out the wet so thoroughly as the iron, which is absolutely rain-proof. I cannot understand why "considerable expense devoted to the roofing of sheds with galvanised iron is wasted." Nearly ten years ago I had a long shed covered with this material, and from that day to the present time it has not cost me a single penny, and is as good as ever. Contrast that with some cottages and outbuildings roofed in the ordinary way. These are yearly needing attention by reason of tiles cracking or blowing off. I am never done with them. Not only is the galvanised iron cheaper in itself than either tiles or slates, but the expense of putting it on is much less. With respect to ordinary iron, I am astonished that any builder should recommend it for roofing. I can quite understand that it would soon rust away if not kept painted. Iron roofing is by no means pretty, but with me, as with most people, the picturesque has to yield to cheapness and utility.—J. C. B.

* * We are sorry for you. Why, there is a rainfall from the frost that gets inside an iron roof. This alone should be fatal to the iron roof in many cases. Even this mild autumn we have seen iron

roofs weeping drops as soon as warmth dispelled the frost. A well-laid slate roof will last several iron roofs; and there are better roofs than slate.—ED.

The weather in West Herta.—A mild and stormy week. The day temperatures were remarkably steady; in fact, during the seven days ending Tuesday, the highest readings in shade ranged only between 45° and 48°. Wednesday was particularly warm for the time of year, the temperature rising to 55° at midday. On Saturday night the exposed thermometer indicated 10° of frost, but the temperature remained at this point for but a very short time. The temperature of the ground now stands at 41° at both 1 foot and 2 feet deep. There have been as yet only four days this month without some rain, the total measurement amounting to 1½ inches. Soon after 1 a.m. on Friday night there occurred a brief, but sharp fall of hailstones. The wind came entirely from some southerly point of the compass and has been at times very high. The most boisterous winds were, however, recorded on Tuesday, when during the three hours ending 5 p.m. the average velocity amounted to as much as 38 miles an hour, and for one of these hours the record rose to 42 miles, direction S.S.E. Some of the squalls during this heavy gale were singularly fierce. The velocity last mentioned is the highest recorded here for any hour since March 22, 1887. There is one important lesson taught by such wind storms as those recently experienced, and that is the necessity of firmly staking or otherwise securing in position all newly-planted trees, shrubs, Roses, &c.—E. M., *Berkhamsted.*

THE inaugural dinner of the Friends of Horticulture was given by Sir Philip Currie at 1, Connaught Place, on November 29. The following members were present: Mr. Thistleton Dyer, Mr. Charles Ellis, Sir Godfrey Lushington, Mr. A. B. Freeman Mitford, M.P., Mr. William Robinson, Mr. Henry Yorke. The next meeting is fixed for Wednesday, February 14, at the Savoy Hotel.

OBITUARY.

Death of Mr. J. Wells.—On Saturday last at Osborne Park Nurseries, Potter's Bar, Middlesex, Mr. J. Wells passed away. He it was, I believe, who planted and trained the fine wall of cordon Pear trees at Holme Lacy, Hereford, when gardener to Sir H. Scudamore Stanhope. I believe after leaving Holme Lacy he took the above-mentioned nurseries, which he carried on for many years. He was considerably over 80 years of age, but of late had suffered much. My father, being his manager, I both saw and heard a good deal about him. It seemed very sad to me when I thought of the master hard deprived of its skill that had so carefully tended those cordon trees, one of the earliest examples in this country, I suppose. Many a chat have I had with him, the Pears at Holme Lacy being an especial theme of his.—J. J. CRAVEN.

Iris Kashiriana and I. Bartoni.—Can any of your readers tell me whether these Irises or either of them are amenable to ordinary treatment in English gardens, and if so whether they are anywhere procurable? White Irises are somewhat uncommon.—J. C. L.

Names of fruit.—*T. Tyler.*—1, Rymer; 2, Hollandbury; 3, Alfriston; 4, Lord Derby; 5, Bergamote d'Esperen.—*Miss Robinson.*—Impossible to name from such a specimen as you send.—*Forcell.*—Apple Fearn's Pippin.—*H. Attwater.*—Seed fresh specimens.—*A. Chapman.*—1, Suzette de Bavay; 2, Baronne de Melo; 3, Passe Colmar.

Names of plants.—*Forcell.*—1, Panicum sp.; 2, looks like a *Justicia*.—*R. Brooker.*—1, 3, and 4, seedling forms of *Cupressus Lawsoniana*; 2, *Ligustrum sinense*; 5, *Cupressus nutkaensis*; 6, *Thuja occidentalis*.

No. 1153. SATURDAY, December 23, 1893. Vol. XLIV.

"This is an Art
Which does mend Nature: change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare.*

CHRYSANTHEMUMS.

CHRYSANTHEMUM NOTES.

THE season just closed has been of great interest to cultivators of Chrysanthemums and to those who visit the many exhibitions, whilst the blooms have been seen in marvellous beauty. Many thought the exceedingly dry summer would leave its mark on the plants in such a way as to cause the flowers to develop extra early and to be of bad form, but growers have overcome all difficulties and have presented blooms, both early and late, which would, as I have remarked, favourably compare with any that had gone before. The incurved kinds, with a few exceptions perhaps, may have been surpassed, this being the case with the Queen of England group especially. But, on the other hand, the charming Princess of Teck family has never been seen in such quantities nor finer. Those who depended on the late-set buds of the variety Princess of Wales and its numerous progeny have been disappointed, and the hint will be useful, for we may be some time before another year so favourable to late buds as this last presents itself. I may here note indications of new interest amongst new growers and amateurs in this old class of Chrysanthemums which require so much care to cultivate. Whilst from a dozen to twenty repeatedly compete in a single class, as has been the case, there is no danger of the Japanese ousting the incurved flowers from collections. It must, however, be said that it is to the many new and beautiful forms of the Japanese Chrysanthemums we must look for sustained interest in the autumn flower. To those who object to extra large size in these blooms, it may be interesting to find that this year other qualities, such as form and colour, have been to the fore. One of the most admired of all, Mlle. Thérèse Rey, is not gigantic, but there is a refinement about the flower so taking, that size alone we may be sure will not belong to the future type. It is not my purpose now to defend the modes of exhibiting which obtain at the present time, but I would like to put on record a few individual blooms or stands of blooms that I have seen this year which appear to me worth remembering. The best blooms belonging to the Queen family were a fine Lord Alcester, which gained premier honours in the first prize stand of Mr. Lees at Hull, an incurved stand admitted the best seen during the year. A fine Empress of India was in the first prize lot at Sheffield. Golden Empress has been fair in most exhibitions, but I did not see a single good bloom of John Lambert, so fine last year. Alfred Salter has been represented by some very good specimens, and the oldest of the type, Queen of England, much below the usual form. Ner has the deep yellow Mrs. Robinson King been seen in anything like good form. Hero of Stoke Newington in the stand referred to was magnificent, probably never better, whilst two blooms of Lady Dorothy at the last Aquarium show were splendid specimens. Mrs. Norman Davis, another member of the Teck family, was seen in good form at this show. I have not

seen many notable blooms among the Princess group, usually such a great help to exhibitors, but Mme. Darrier has been extra fine all round; this is an acquisition to the incurved class. Baron Hirsch is another gain, and when distributed more freely will be a leading kind. The flower of Prince Alfred which gained a prize for the best incurved in the show at Blackheath was as good a bloom of that old kind as could be. M. R. Bahuant was finely exhibited in the second prize stand in the large class at the Crystal Palace, and at the same exhibition the perfect, but small, Mrs. G. Rundle, George Glenny, and Golden George Glenny were never seen to better advantage than in the stand that was first. Of the newer incurved sorts seen this year Lord Rosebery will take a prominent place. It may be called an advance on Violet Tomlin. Mrs. John Gardiner, said to be, like the above named, a genuine seedling, is a richly coloured flower like Mrs. Coleman. Wm. Tunnington is another first-rate sort of large size, nice shape, and dark Indian-red colour. Robert Petfield, although seen last year, is not yet distributed, but the flowers shown this season have enhanced its reputation. Lucy Kendall is a useful addition to the Princess of Wales family, but I fear the dull shade of rose will not be in favour of Brookleigh Gem. Several other incurved sorts have been seen, but they bear evidence of Japanese blood in them, so much so that it will be a risky matter to include them in the company of the true Chinese. M. Norman Davis (Calvat) is the best of these, and was in good form a week ago at the Aquarium, but the floral committee of the National Chrysanthemum Society refused to include it as an incurved. Henry Perkins is quite as much a Japanese flower, and so is Vice-President Jules Barigny.

THE JAPANESE CHRYSANTHEMUMS

have been seen in such large numbers and generally so fine that there is more difficulty in selecting particularly fine specimens. Individual taste, too, comes in, and one cannot help being led away by a certain style. For instance, your reporter of the late National exhibition, in recording an exhibit in which the variety Waban figured, said that it was so ugly as to be unfit to be included in collections. To my own taste, this sort in good form is a thing of beauty. There are a distinct curl and grace in its formation that seem the reverse of ugly, and the colour—white, with purple-rose edges—something to admire. The season has suited the red and yellow Edwin Molyneux. When seen like the bloom which gained the premier prize at the Kent County exhibition, there are few, if any, nobler sorts in existence. The greatly admired Vivian Morel appeared to me not in such fine form generally; but a stand of six blooms at Brouley and the premier Japanese flower at Croydon were specimens to be remembered. Col. W. B. Smith was grand everywhere, and, along with the richly-coloured G. C. Schwabe, must be included in the best half-dozen sorts we have. Lord Brooke is a magnificent flower, the florets folding inwards. This has been good both early and late. Robert Owen, again, is a fine type of the incurved Japanese, there being a magnificent bloom in a stand of twelve Japanese hailing from Kent at the December show. The stand did not obtain a prize, hence the particular bloom was not recorded. The variety is shy in giving cuttings, and may be a year or two yet ere it be found in general cultivation. Wm. Seward and John Shrimpton have not fully come up to the high opinions formed of them last year. I am convinced, however, that they are the best crimson kinds for all purposes of

growth yet known. The former seems to have been grown too strongly, as by far the best blooms I saw of it were with Mr. Davis, Camberwell, who had cultivated it without undue disbudding. The latter I had very fine myself, and shall grow it extensively another year. Beauty of Exmouth is another variety that has not reached the expectation mark. The raiser of this assures me over-growth and a hot summer are the cause. Florence Davis, the same style of bloom, has been very fine. Miss Anna Hartshorn has been seen in splendid form, and the waxy quality of its incurved florets is much admired. The hairy-petalled sorts are not yet popular. There was a certain novelty about Mrs. Alpheus Hardy that caused a great run for it, but I believe most people have given it up because of its weakly constitution, and the white Louis Bohmer is a poor substitute. Hairy Wonder and a few other pretty novelties will be heard of and may revive the waning interest in the hirsute Chrysanthemums. Avalanche, once most famous of whites, is either deteriorating or the newer kinds are better, for good blooms of it were not to be seen this autumn. The same may be said of W. H. Lincoln. Wm. Tricker again holds its own among rose-coloured sorts, and was good everywhere. Sunflower has not yet been beaten as a yellow. An old yellow which has been discarded by many growers, Thunberg, was seen in magnificent form at Reigate, six blooms of it being one of the notable stands of the year. The terra-cotta W. W. Coles is now a most uncertain sort and hardly worth keeping in choice collections, whilst Mlle. Marie Hoste has been good all round. Etoile de Lyon will still be grown, especially for late blooms. It then assumes a pretty colour and is not the giant in size it is so often painted. Undoubtedly, the best forms for exhibition, and indeed all purposes, are to be found amongst the

NEW OR RECENTLY INTRODUCED VARIETIES.

Mlle. Thérèse Rey has already been noted. Mme. Edouard Rey is a grand specimen of the incurved Japanese. One of the blooms that gained a certificate of the National Chrysanthemum Society early in the year was admittedly one of the best developed blooms ever seen. Golden Wedding is a very fine deep yellow, and will run Sunflower very hard for premier place. It is a strong grower and an easy one to manage. The plants arrived late in the spring from America, and through the journey were some time before they made another start, but enough has been seen of it to form a high opinion of its merits. Louise is a very lovely blush-white flower with incurved florets. It is dwarf in growth, has good foliage, and will be included in the choicest collections. H. Shoesmith was much admired when seen at the floral committee meeting in October. This body, however, could not give it a certificate, as one bloom only was submitted. It has the characteristic of Mlle. Marie Hoste, but is a light yellow in colour. Charles Davis, the bronzy sport from Vivian Morel, is first-rate. Probably the finest bloom seen of it was the one adjudged the best Japanese flower in the show at Hull. Col. Chase is a very fine form of the true flowering Japanese type. Very deep in build and of fair diameter, it commends itself by the distinct colouring—deep blush with creamy yellow shades. Violetta, of similar build, has a distinct and pretty pink shade of colour. Both are first-rate growers and will become popular. Golden Gate is a splendid new kind of fine shape and large proportions, yellow, with bronze tinge, a good habit of growth, and altogether one of the choicest yet received from

America, and Niveum, from the same source, is a fine rich-petalled pure white, full and pretty in form. President Borrel blooms rather early, but is quite the best of the dark purple-rose-coloured varieties. It was seen in fine form at the Crystal Palace exhibition. Eda Prass is not quite new, but not till this season have its qualities become known. It is one of the handsomest of the incurred Japanese forms we have and easy to cultivate.

H. SHOESMITH.

Chrysanthemum W. H. Lincoln.—Last season I called attention to the value of this variety as a late bloomer when grown as a bush plant without any disbudding. This year I wish to verify that statement, as even during this early season it is in fine condition this last fortnight of the old year, and to all appearance likely to remain so for some time. There are few varieties which are more suitable for growing in the bush form if stopped about twice. Nice plants may be grown in 8-inch pots.—A. Y.

M. Calvat's seedlings.—An exhibit that created much interest at one of the floral committee meetings of the National Chrysanthemum Society was a stand of Japanese blooms from Grenoble. It contained several kinds of great merit, and those on the look out for novelties will do well to note the following: Mme. Carnot is a fine addition, the bloom composed of a mass of fluffy white florets, folding in a most graceful manner. Professor Lackman is a large slightly incurred Japanese, dark rose in colour, bright and pretty. President Leon Say has orange-buff flowers, very large, drooping, and the build first-rate. Mons. Chas. Molin is of a deep buff colour, the blooms well developed and promising.—H. S.

New Anemone-flowered Chrysanthemums.—Several excellent additions have been made to this class during the season now ended. Mlle. Nathalie Brun is an Anemone proper, with white guard petals and the cushion or centre cream colour. This is high and well developed. John Bunyan is a first-rate Japanese Anemone sort; the guard florets, which are long, are light yellow, and its well-defined centre is of a deeper hue. W. W. Astor has the guard petals long and bluish-white, the centre being of a pink, shaded yellow colour. Ernest Caille is a very good addition to the class. The colour is a buff, tinted rose.—H. S.

Grouping Chrysanthemums.—The number of Chrysanthemums grown by Mr. Burbidge in the Botanic Gardens, Trinity College, Dublin, is not large, but the manner in which he arranges the plants in the new house just built is worthy of note. Instead of mixing them indiscriminately as regards their colour about the house, he has them grouped in separate colours; a mass of yellow, lilac, purple, white and red and so on. Very effective they look in this way—quite a pleasing change to me after seeing so many show groups in England where variety of colouring in the smallest space is the main object of exhibitors.—E. M.

Chrysanthemums in bunches.—It seems likely that the aspect of exhibitions will be greatly changed in the future. At the recent exhibition of the National Chrysanthemum Society at the Aquarium, several miscellaneous collections consisted of bold bunches of flowers, set off, as in the case of Mr. Jones, by the bronzy green leafage of the Mahonia. There seems not the slightest reason why such a system should not be followed in a great measure in the competitive classes and relieve the monotony of long rows of blooms, at present so crowded together as to prevent the individual flowers being seen. We noticed that some of the smaller blooms were almost hidden by the recent monster kinds.

Prices of new Chrysanthemums.—In reply to "T." (p. 517), may I say that if half-a-guinea a plant is considered a high price for a Chrysanthemum in England, it is not so in France. Many new

seedlings are sent out by French raisers at a far higher figure than that, and have been for years past. An average price for new Chrysanthemums distributed by any of the leading growers in France would range between 12s. and 24s. apiece, and certainly £1 for a plant of a new variety is nothing new, as many of our importers well know to their cost. "T." seems to be a little behindhand with his information concerning the hairy variety Mme. Ferdinand Cayeux, because the transaction alluded to took place last April, if not before. This variety was illustrated and described in *Le Jardin* of Paris on January 5, 1893, and shortly afterwards was introduced into this country, where it can now be purchased for three shillings.—CHRYSAETH.

New Chrysanthemums.—I note that one of our nurserymen who makes a speciality of Chrysanthemums, in announcing the acquisition of a number of American seedlings, states that 1400 of them are selected from a total of 35,000 new varieties raised in the States last year. That our American friends really suppose they have raised 35,000 new varieties in one season is at least open to doubt, for that number is, I should think, intended to represent the plants that were raised from seed and flowered in order to prove them, in which case it is certainly misleading to speak of them all as new varieties, for a large number of them would, as a matter of course, turn out to be very inferior. If one cultivator is going to give us anything like 1400 new varieties, the official catalogue of the National Chrysanthemum Society will at its next issue be of formidable proportions, and the naming of Chrysanthemums, which is now manifestly overdone, will be quite a farce. That great strides have been made in the Japanese section of Chrysanthemums within the last few years is well known, but at the same time it would be interesting to know what percentage of those put into commerce (many at high prices) are ever grown more than a season or two. A perusal of the list of varieties that occupy prominent positions at the different exhibitions will show that they are drawn from a limited number, some of the varieties, as in the case of Etoile de Lyon at the recent Chrysanthemum show at the Aquarium, indeed cropping up with monotonous regularity on nearly every board.—T.

The best white Japanese Chrysanthemums.—Mr. Cannell in his Chrysanthemum catalogue refers to Beauty of Exmouth as being, with Florence Davis, the finest white since Avalanche, which was distributed in 1887. The varieties above-named may therefore be taken to represent the three best white-flowered Japanese Chrysanthemums, at least according to Mr. Cannell's opinion, with which many will agree. On another page of the same catalogue, however, an element of confusion crops up, for Eynsford White, distributed in 1889, is spoken of as the best and most solid white ever sent out. For general purposes, however, I should prefer the three first-named varieties, all of which are of good constitution, while Eynsford White, though a beautiful flower, is certainly less robust than they are.—T.

Late Chrysanthemums in small pots.—I lately saw in a private garden a lot of the late-blooming varieties in 6-inch pots. The cuttings were struck in June, so that the plants had not a long enough season to run up much to height. Robust-habited kinds, such as Golden Gem, were not more than 18 inches high, carrying about a dozen buds. Plants of this description must be of great service at Christmas and the new year, as they can be used for room decoration and in other ways that larger plants are not suitable for. Varieties of compact habit, like Cullingfordi, Bonle de Neige and Princess Blanche, are especially good for this form of culture. The first-named, though not one of the latest bloomers, can be had at Christmas and the new year by topping the young growths as soon as the cuttings are well rooted. The colour of this Chrysanthemum renders it invaluable for late blooming. The incurred kinds are not so suitable for blooming in such small pots; they require a much longer period of growth to

give them the strength necessary to perfect their blooms. It is in any case rather difficult to get them to incur after November.—J. C. B.

A new treatise on the Chrysanthemum.—Mr. J. Udale has recently published a little work entitled "Chrysanthemums: their History and Culture." It consists of a paper-covered treatise in fourteen chapters on such subjects as early history, sports, synonyms, classification, propagation, and various phases of cultivation, together with some remarks on dressing, staging, and insect pests affecting the flower. We might, in a recent work, almost have expected to find something about cross-fertilisation and seedling growing, especially as there is so great an interest among cultivators in such matters, but English authors have as yet had but little to say on these matters. The work appears to have been intended more for local than general circulation, and is published by M. Smith, Guardian Office, Droitwich.—CHRYSAETH.

MORE NEW CHRYSANTHEMUMS.

SINCE the compilation of my article, "Some New Chrysanthemums," on page 457 there have been several other meetings of the floral committee of the N.C.S., and the flowers there staged have been quite as numerous and equally as interesting as those shown at the meetings held earlier in the season.

Those mentioned and briefly described in the subjoined list appear to me to be the best of the later shown flowers, and several of them have very narrowly escaped being awarded certificates, which is evidence of their high quality from the exhibition standpoint.

Mme. Carnot (Jap.).—Very large full bloom, florets long, curly, twisted and intermingling, colour pure white. First-class certificate.

Deuil de Jules Ferry (Jap.).—Large broad incurred florets, a beautiful shade of rosy amaranth.

Professor Lackman (Jap.).—An incurred form of bloom, large, purple-amaranth, with rosy reverse. First-class certificate.

Celtic (Anemone).—Short guard florets, good centre, a self-coloured flower; colour rosy chocolate.

Wm. Tunnington (inc.).—Deep golden bronze and crimson. First-class certificate.

President W. R. Smith (Jap. inc.).—A bloom of large size, long florets, rosy blush.

Mrs. T. Denne (Jap. inc.).—Long florets, deep rosy purple. First-class certificate.

Niveum (Jap.).—A fine white bloom with long florets. An American variety.

Golden Gate (Jap.).—A large spreading flower, colour a deep rich tawny yellow. First-class certificate.

Cecil Wray (Jap.).—Very long florets, colour pure bright yellow. First-class certificate.

M. P. Martignac (inc.).—Rather narrow florets, well-formed flower, colour golden yellow.

Miss Maggie Blenkiron (Jap.).—One of the incurred type, broad petals, colour canary-yellow, bronze outside.

Potter Palmer (Jap.).—A big flower, with short stiff florets, rather pointed, colour white.

Judge Hoitt (Jap. Anemone).—Ray florets are quilled and incurred, pale blush. The disc is rather flat, colour white. First-class certificate.

Richard Dean (Jap.).—Very large and full. Long crimson florets with golden backs.

Lord Rosebery (incurred).—A bloom of good size. A perfect incurred. Colour rich purple-crimson. First-class certificate.

M. Norman Davis (incurred).—A closely incurred flower with reverse of bright golden yellow.

Mrs. Smith Ryland (Jap. incurred).—Large broad florets. Colour bright yellow, crimson inside, tips of petals very curly.

Mr. H. Jackson (Jap. incurred).—A globular bloom, rich yellow.

Mr. C. R. Bessent (Jap. incurred).—A large bloom, colour pure white.

Prince du Bois (Jap.).—Narrow curly florets, very large and globular bloom, colour pure yellow. First-class certificate.

Col. T. C. Bourne (Jap.).—Very long flat florets, a rich wine-coloured crimson. First-class certificate.

C. H. P.

STOVE AND GREENHOUSE.

HALF-HARDY CACTI.

I WAS very much interested in Mr. Overbeck's article in *THE GARDEN* of December 2 (page 517) as to his successful open-air culture of several of the most beautiful Echinopsids or "Hedgehog Cacti," although I by no means share all his faith that "photographs are incapable of exaggeration," since some of us know that under certain conditions the most alarming distortions and untruthful pictures are quite possible even to photography—an art generally supposed to be most truthful in its effects. The illustrations given, however (pp. 516 and 517), are certainly most faithful, and they bring some early recollections to my mind. As a lad it was my good fortune to live in a village—Somerby, near Oakham—not Tennyson's Somersby in Lincolnshire, but a Leicestershire hunting village, best known as the home of the late Col. Fred. Burnaby, and the birthplace of Dr. Benjamin Ward Richardson.

Here every window almost down the one long main or "High Street" was full of flowers, and, singularly enough, great diversity of taste was shown, a great variety of window plants being grown. A large old-fashioned bow window abutting apse-like on the street was full of Primroses in spring, Pelargoniums or Geraniums, of course, in summer, while in autumn *Campanula pyramidalis*, with its tall blue and white-blossomed spires, used to attract much attention. The next resident grew the old golden and red velvet-tinted *Calceolarias*—quaint, long-pocketed flowers on tall plants. Another window was famous for its *Fuchsias*, another for its Wandering Jew's-beard or Clambering Sailor (*Saxifraga sarmentosa*), and drooping blue-flowered *Campanula fragilis* or *C. Barrelieri*, while very shady windows had Ferns, *Aralias*, *Aspidistras*, both rarities then, and hanging baskets of *Linaria cymbalaria*, and those opposite scented-leaved or zonal Geraniums, Musk, following the Hyacinths and Crocuses of the spring. But the windows I remember best were those of the village doctor, Mr. Henry Hudson, who was fond of cactaceous plants of all kinds. Here for the first time I saw great white or pale rosy stars of the Echinopsids and the white, rosy pink or scarlet *Phyllocacti*, *Mammillarias* and *Mesembryanthemums*, and last, but not least, two or three species of *Aloe*, and especially a gigantic specimen of the old *Aloe variegata* (Partridge-breasted *Aloe*), which was healthy, and produced several spikes every year in a pot of sandy soil and lime refuse from an old wall. As plants for a sunny window, Cacti of the best kinds are deserving of extended culture, and I hope Mr. Overbeck's practical remarks on his plan of growing them will be largely followed. To plant them out on a warm sunny border in May or June and to dig and store the plants carefully, "like *Echeverias* without water in the winter," is a resting system so simple and efficient, that too much prominence cannot well be given to it in these pages.

But to return to my story of thirty years ago. The good old doctor left the village and all his treasures—his plants, went with him, but last spring I saw one plant that reminded me of him still remaining in the little railed-in strip in front of the house. It was the well-known *Dielytra spectabilis*, which to my certain knowledge has existed there for at least thirty years, and

every spring sends up its stems a yard high, tipped by elegant racemes of its rosy heart-shaped flowers. F. W. BURRIDGE.

Carnation Duke of York.—This is undoubtedly one of the finest Carnations sent out in 1893. It belongs to the tree or perpetual-flowering section, and is most distinct. The size and build of the bloom are perfect, while the scent is as marked as in the old crimson *Clove*.

White Carnations.—The best all-round white I have grown is *La Neige*. It is free, and much like *Miss Jelliffe* in habit. Although the blooms are not large they are perfect in shape, and with the slightest fringe at their edges. Another grand white may be found in *Caroline Schmidt*, the flowers of which are larger and more deeply serrated than those of the former. *Nurse Finns* is a very large, smooth-petalled flower of great weight. When fully expanded it is of the purest white.—P.

Croton Baroness James de Rothschild.—In a quite recent issue of *THE GARDEN* there was a recommendation of this variety for decoration. Since that appeared I have seen a beautiful stock of young plants in 6-inch pots, from 18 inches to 2 feet high, clothed to the pots with well and richly coloured foliage. I was hardly prepared to see it in such quantity. Speaking of this variety and a few others, I was told by the growers, Messrs. Fromow and Sons, Chiswick, that the best of the plants were already bespoken for decoration in London. Being so richly coloured, this *Croton* when well grown is evidently much sought for; the one fact of its looking so fine when under artificial light adds to its attractiveness. *C. undulatus* and *C. aneitisensis* in the same nursery were both coloured surprisingly well. Each in its way is not yet beaten.—G.

Lachenalias in pots.—How useful *Lachenalias* are, yet of late years they seem to have fallen into disrepute, if one may judge by the comparative few that are now met with. They require to be potted in good rich material and grown on all winter in a cool greenhouse temperature well up to the roof glass. The least coddling causes the foliage to become drawn and flabby, and the flower spikes correspondingly poor. Two parts good holding loam and one part thoroughly decayed manure suit them well. Weak liquid manure may also be given three times a week with advantage when the bloom spikes are developing in the spring. For arranging in baskets with *Cyclamens*, *Primulas* and small Ferns they are most useful. Some gardeners grow them in ornamental wire baskets in a compost of loam, moss and manure. The young plants are pricked into the top, bottom and sides of the basket, which is then suspended from the roof of greenhouse or conservatory, and regularly watered throughout the winter. In March and April their graceful mottled foliage and golden flower-spikes form a pleasing contrast and are very elegant. After flowering, the plants should be placed out-of-doors at the base of a wall where only a small amount of sunshine reaches them, and be allowed to take care of themselves until September, and when half an inch of new growth has been made they should be shaken out, the flowering bulbs separated from the small new offshoots and repotted. When the plants are left in the same pots two years in succession both foliage and flowers will be meagre. Of the varieties in cultivation, *tricolor* and *Nelsoni* are, I consider, the two most useful for pot culture.—JOHN CRAWFORD.

Echmea fulgens.—This easily-grown Bromeliad is in some places flowering just now, and when in this stage it is decidedly bright and showy. The large shining green leaves are arranged in a bold vasiform manner, while from the centre of the tuft the flower-stem is pushed up. This, which well overtops the foliage, is stout and branching, and bears a considerable number of flowers of a bright scarlet tipped with purple. These blooms remain fresh a considerable time, and a flowering specimen forms, especially at this season, a very attractive object in the stove. This *Echmea*

flowers at different periods of the year, but a second Bromeliad now in bloom can always be depended on for its winter-flowering qualities. This is *Vriesia brachystachys*, whose leaves, flower-stem, and all are less than 1 foot in height, but for all that it is wonderfully bright and effective. In this the pale green leaves recurve in a very graceful fashion, while the blossoms are arranged in two opposite rows on the upper half of the stem. The large bracts which form the most conspicuous part of the inflorescence are at the base bright crimson shaded with purple, which gradually merges into the orange of the upper part. These bracts retain the brightness of their colouring for months, but the clear yellow flowers, which even when fully expanded are partially hidden by the bracts, do not last long. This may be kept in health in pots 4 inches or 5 inches in diameter, and will flower freely every year. These two Bromeliads if given thorough drainage, and potted in a compost consisting principally of fibrous peat with a liberal dash of sand, will with the ordinary treatment of the general run of stove plants succeed perfectly.—T.

Manettia bicolor.—That no hard-and-fast rule can be laid down for the flowering period of this beautiful little twiner is well shown at the present time, for a couple of specimens at Kew are (and have been for some weeks) thickly studded with their bright coloured blossoms, while last May at the Temple show Messrs. Veitch exhibited a well-flowered specimen then at its best, and lastly in the "Dictionary of Gardening" the month of March is given as its flowering season. In any case it is a plant that deserves more extended cultivation, for though introduced from the Organ Mountains, in Brazil, in 1843, it is now very rarely met with; indeed twenty-five years ago it was far more common than it is now, though nothing has really cropped up to take its place. This *Manettia* is a very slender yet quick-growing twiner that will soon cover a few sticks stuck in around the edge of the pot. This *Manettia* is of easy culture, as cuttings of the young shoots strike root readily, and if grown on freely they soon form effective flowering plants. In the summer this *Manettia* will succeed in the greenhouse, but at this season of the year it needs the temperature of an intermediate house or cool part of the stove. Though flowering at various times of the year it follows as a matter of course that the brightly coloured blossoms will in most cases be appreciated to a greater extent during the dull days of winter than at any other time.—H. P.

PANDANUS VEITCHI UNHEALTHY.

I HAVE in a stove here several plants of *Pandanus Veitchi* which damp off badly. On some of them this complaint has started on the leaves near the point in the form of yellowish spots, which have gradually gone on until they reached the centre of the plant, while the centre of others has gone wrong. The plants were sent from a London firm of nurserymen, and in coming here had experienced the sharp grip of frost that we had about the beginning of November. After they came I discovered they were rather badly infested with bug. I thereupon had them sponged with Fir tree oil and black soap dissolved in tepid water to the ordinary strength. They were then placed in a stove with the heat ranging about 65°. They were syringed several times, and of course the house was aired on all available occasions. Do you think that some of the solution they were sponged with having got lodged in the centre of them, or water when syringing would cause this damping?—D. N. M., *Northumberland*.

** I have seen and also had under my charge plants of *Pandanus Veitchi* which have given trouble in a similar way to those of "D. N. M." The primary cause is without doubt to be traced to the chill the plants received in transit, and this may have been further aggravated by the solution used to eradicate the mealy bug. In my own case the plants were used out of the stove; being surplus stock, therefore their loss was quite immaterial,

but the indications in respect thereto were quite similar to those now under notice. Having some plants also on one occasion which had to be kept in a plant pit that had a very flat roof, I noted that the drip which was troublesome had penetrated the heart of the plants. In this case it was neither cold nor exposure, but the wet which caused two plants to die. *Pandanus Veitchii*, like all others of the same genus, is a heat-loving plant, being very sensitive to cold such as would be experienced in transit during a frost. Had the plants previously been kept warm enough, or had they been used for decoration? is a query that should be solved also. What is meant by ordinary strength I do not know; if it means the prescribed strength, it should not cause harm in the usual way. The after-syringing may also have done harm in causing the solution as well as the water itself to penetrate to the hearts of the plants. I certainly would not advise syringing them at this season of the year. On the other hand, it is far better to keep them dry overhead, whilst at the roots no excess should be allowed. The drier the plants are now kept, the better will it be for them. In fact, this is the only remedy so that the plants can be preserved for stock. Any suckers that are large enough to detach, if only with leaves from 3 inches to 4 inches long, should be taken, these being inserted in 2½-inch pots, and then kept warm, but not too moist.—G. H.

THE GIANT ARAD.

(*AMORPHOPHALLUS TITANUM*.)

I FEEL certain that "F. W. B." did not see *Amorphophallus titanum* when it flowered at Kew in June, 1889, or he could not have "belittled" that event by describing it in *THE GARDEN* (p. 531) as "a fine-foliaged plant with some elegance of habit . . . but perhaps the less often it flowers the better, seeing that the plant is almost unapproachable at that period of its existence." Both botanists and horticulturists hitherto have been unanimous in looking upon the flowering in England of this giant from Sumatra as an event of the greatest interest and an achievement of which Kew might justly be proud.

I do not remember that the full story of this plant has ever been told in *THE GARDEN*, and even if it has, it is of sufficient interest, in the light of what was said last week by "F. W. B.," to deserve to be retold.

In 1878, Dr. Beccari, a Portuguese botanist and traveller, discovered in Sumatra an Aroid with a tuber as large as a Cheddar cheese, and weighing half a hundredweight. From the tuber sprang a solitary leaf with a straight shaft-like stalk 10 feet high and as thick as a man's thigh, bearing a many-times divided leaf-blade like an immense umbrella with a spread 45 feet in circumference. This was the leaf which "F. W. B." describes as "fine foliage of some elegance." But the flower of this giant *Arum* was even more wonderful—a huge bell or trumpet turned mouth upwards, a yard deep and wide, coloured creamy white outside and claret-purple inside, and standing erect in the middle of this a thick club-like spadix 7 feet long and 10 inches thick at the base, coloured chrome-yellow. Imagine a flower almost of the dimensions of Big Ben at Westminster being objected to because it happens to have a disagreeable odour! Beccari sent seeds home and a seedling plant was presented to Kew in 1879. This plant grew larger and larger, whilst all the others in European gardens died, and in 1888 the dimensions of the Kew plant were: tuber 18 inches wide, 12 inches thick, 57 lbs. weight; leaf 6½ feet high, stalk 20 inches in circumference, blade 26 feet in circumference, or over 8 feet across. In the winter the plant rested, and in the following June it developed a flower which measured 6 feet 9 inches in height, the club-like spadix being 5 feet long, the bell-shaped spathe 3 feet deep and 4 feet across the mouth. I was one of the few who saw the flower wide open; this was at about 8 o'clock in the evening. By the following morning the mouth of the "bell" had folded in somewhat. The form of the flower when open

was as beautiful in proportion and outline as the flower of the common *Richardia*. The smell lasted only a few hours and was never even noticed by the public. The flower was propped open by means of wire rings placed inside; thus treated it lasted about a week. I have never seen any flower so wonderful in size, form and colour as this, and I would walk a good many miles to see it again, and I believe "F. W. B." would gladly accompany me. Unfortunately, the plant has since died, as "F. W. B." states, but it did not die soon after flowering. On the contrary, the flower was succeeded by a leaf of fair size, and after a season of rest this was followed by a still larger leaf. The tuber rotted during the resting period of 1891-92. From this it does not appear quite certain that the plant does not survive the flowering period, although there is some comfort for the loss of such a noble plant in the suggestion. I wish some collector would test the feeling of English horticulturists with regard to this plant by introducing it again. It is not in cultivation in Europe now.

"F. W. B." inquires if other large-tubed Aroids die after they flower. The following do not, as far as my experience goes: *Amorphophallus campanulatus*, *A. Rivieri*, *Anchomanes Hookeri*, *Arum crinitum*, *Dracontium*, *Godwinia gigas*, *Synandropadix*, *Taccarum Warmingianum*, *Thomsonia nepalensis*. W. W.

BOUVARDIAS.

AMONGST *Bouvardias* I am more impressed than ever before with the usefulness of *Priory Beauty*. In its freedom of flowering as well as style of growth its counterpart is to be found in that well-known old variety *Vreelandi*, from which I am disposed to think it is a sport. The colour of *Priory Beauty* is a soft rose-pink, a favourite colour with many admirers of the *Bouvardia*.

MRS. ROBERT GREEN, rather more vigorous than *Priory Beauty*, is a sport from *President Cleveland*, which is probably closely allied to *Vreelandi*, being almost a counterpart of it. This latter variety is, I surmise, the source from which Alfred Neuner originated. Mrs. Robert Green is in the form of its flowers very similar to *Vreelandi*, but its colour, a delicate light salmon-pink, makes it also a decided acquisition.

PRESIDENT CLEVELAND is by far the best scarlet for winter flowering; both in freedom and the quality of its flowers it surpasses *Dazzler* as much as this latter variety does the still older elegans.

VREELANDI is still for cutting one of the best; its flowers are of the purest white, and these can be taken with a good length of stem from well-grown plants.

ALFRED NEUNER, as a double variety, continues to hold its own. By some who have to supply cut flowers that will stand well when cut it is much sought after. Its pretty counterpart with blush-pink flowers, *President Garfield*, improves on acquaintance. It makes a beautiful button-hole flower.

SANG LORRAINE, described as a brilliant vermillion-scarlet, and *Triomphe de Nancy*, as a bright orange red, are rarely if ever seen in good condition. Does anyone now grow them? I am anxious to know, as they were highly praised a few years ago. G. H.

Solanum capsicastrum from seed.—It is generally supposed that this useful plant does not berry so well when grown from seed as when propagated from cuttings. I have grown it from both seeds and cuttings, and do not find any difference. As seedlings are far less trouble, I have decided in favour of these. It is necessary to sow the seed early, say about the middle of January, and the plants must be grown on freely. No delay must occur in potting them on until the size they are to fruit in is reached. They may be grown on in warmth until large enough for fruiting, when they may be plunged in a bed out of doors, or if kept inside all the air possible must be given. While growing, the syringe should be used freely. Syringing should be discontinued, how-

ever, while the berries are setting, but may be resumed after they are well set. In growing seedlings there will be a little difference in habit, &c. By carefully selecting the very best for seed annually, considerable improvement may be made in the course of a few years. If plants are not required to ripen their berries until Christmas, the syringe may be used later on in the season and will prevent the berries setting so early. Seedlings may be grown on without any stopping, as if the plants are given plenty of room they will branch out naturally. Some of our market growers grow them on and finish them off under glass, while others turn them out of doors quite early in the season. Those kept under glass if properly treated are generally the best, as the foliage is clean and bright.—F. H.

Forcing double Daffodils.—The old double Daffodil may be brought into flower by the middle of January if carefully treated during the early stages of growth. I first became aware of this some four years ago by seeing some beautiful pots in a London nursery at the above-named date. Since then I have always made a feature of forcing Daffodils. Bulbs of the largest size and best quality are necessary for such early work, and should be potted at the end of September, placing five or six in a 6-inch pot in good holding loam, afterwards standing the pots upon a hard bottom to prevent the ingress of worms. The bulbs should then be covered with about 4 inches of leaves, and remain unmolested till the middle of November, at which time they should be taken indoors, plunged in a bottom-heat of 65°, and have a top heat of from 60° to 65°. Daffodils, unlike Hyacinths and most of the Narcissi, at this early date make root growth at a greater ratio than top-growth, so that by the time an inch of growth has been made from the crown of the bulb, there will be abundance of roots to support it. If it is doubtful whether the blooms will open by the desired date, the pots may be placed on boards over hot-water pipes and remain there until the flowers are half expanded, care being taken to supply the roots with abundance of water daily. After this a cool house temperature will suit them best. Daffodils will last a long time in a cut state.—JOHN CRAWFORD, *Coddington Hall*.

Veronicas.—The varieties of *V. speciosa* are not grown so much for autumn and winter flowering as they deserve. The type was introduced from Van Diemen's Land in 1835, and we have now a number of beautiful forms with flowers displaying considerable range of colour, amongst the best being *Blue Gem*, dwarf, free, and pale blue; *Celestial*, sky blue in colour; *Impératrice*, rich blue; *Marie Antoinette*, pink; *Eveline*, rose-lilac; and *Reine des Blanches*, pure white. Neat bushes in 5-inch or 6-inch pots are welcome during the dull months of the year.

SHORT NOTES.—STOVE AND GREENHOUSE.

Carnation Leander is a decided improvement among the deep yellow selfs as regards vigour and hardiness; the flowers are deliciously scented.

Carnation Mr. Hulse.—This new variety is quite distinct, and seems equally as free as *Winter Cheer*. The colour is intense scarlet and remarkably clear. A few plants of this variety have been very showy during the past month. It promises to become one of the best winter flowering scarlet kinds.—R.

Carnation Florence Emily Thoday is also a good new variety introduced during the year 1892; colour pure white, large, smooth petals, making a grand flower with a sound calyx. This variety is particularly sweet-scented, a good grower and free bloomer. Its freedom of growth and bloom make it a grand market Carnation.

Carnation Cyril is a new scarlet variety; the blooms are large and of good substance, and the plant grows strongly. In *Duke of Fife* and *Duke of Clarence* we have two more scarlets of grand quality. I think the former is the better of the two for winter work. These three are among the best in their colour, and with *Winter Cheer* and *Horace* are sure to please where deep scarlet varieties are wanted.

FERNs.

NEPHROLEPIS.

ALTHOUGH this does not form a very extensive genus, I do not think that anyone will dispute its great decorative value where plants for covering bare rockwork are in demand. In Messrs. Veitch's show house at Chelsea the smallest growing species at present known, the lovely *N. pectinata*, a native of Tropical America, which, according to E. J. Lowe, was known in some of the English gardens as far back as 1820, forms a worthy companion to the interesting *N. philippinensis*, which was introduced some twelve years ago from the Philippine Islands. Some parts of the rockwork which are completely deprived of soil are entirely clothed with the growth of these two species, forming a most beautiful covering, which for elegance and freshness cannot be surpassed by any other Ferns.

The larger-growing species, such as *N. acuta* or *ensifolia* and *N. exaltata*, the fronds of which often attain 4 feet in length, are equally useful for the decoration of the greenhouse and of the conservatory. This latter species was, according to Lowe, introduced into the Royal Gardens, Kew, in the year 1793. Beddome, in his "Ferns of Southern India," gives it as a native of the Anamallays and the Neilgherries; while, according to Eaton ("Ferns of North America"), it is found growing on decomposing vegetable matter and on the trunks of trees, particularly the Cabbage Palmetto, in South Florida. The same authority adds that it is also found in Mexico, the West Indies, Central and South America, South Asia, China, the Pacific Islands, Australia, and part of Africa. A grand example of the use to which these and other large-growing kinds may be put with advantage is shown in the exceedingly handsome fernery at Nash Court, Faversham. Although usually considered a warm house plant, *N. exaltata* at Nash Court is by Mr. Humphreys grown to perfection in a structure where, during the winter, the temperature frequently falls below 40° and occasionally below 35°, but it must be borne in mind that the roots of these plants being in the open ground are not so sensitive to the cold as they would be if they were confined to pots or pans.

Should any other examples be required to persuade amateurs and growers of the great decorative value of Nephrolepises in general, I would advise them to pay a visit to the tropical fernery at Kew Gardens, where they would have the satisfaction of seeing grand specimens of the above-named species, and also of the majestic *N. davallioides* and of its beautifully crested variety here illustrated, and which there are grown as bracket plants against a wall, a position in which they form ornamental masses of a striking and attractive character. This, however, is not the only position in which these useful plants delight, for all of them, either small or large growers, are well adapted for baskets, and their foliage being naturally of an elegant and drooping character, they form perfect balls of gracefully hanging foliage, which, provided the plants are well supplied with water at the roots all the year round, remains in good condition for a very long time. Most of the species are also well adapted for growing on dead Tree Fern stems and for covering perpendicular walls and pillars or columns, as they require but very little soil, and can for a very long time be kept thriving almost exclusively on moisture.

The fronds are in most, if not in all, cases produced from crowns disposed at various inter-

vals on long, thin, rapid-growing stolons or rhizomes of a wiry nature. It is by means of this peculiar feature that Nephrolepises are mostly increased, although with the exception of the magnificent *N. rufescens tripinnatifida* and the pretty *N. Duffi*, all other known species produce spores which germinate very freely. The most practical way of propagating these Ferns consists in planting them in a shallow bed made of chopped Sphagnum, coarsely broken peat and silver sand in about equal parts. In such a compost of an open nature the rhizomes can freely run and produce young plants, and when these have produced three or four fronds they may be severed from the parent with safety. Nephrolepises may also be propagated by means of the tubers with which such species as *Bausei*, *cordifolia*, *philippinensis*, *pluma*, *tuberosa* and *undulata* are provided. These



Nephrolepis davallioides furcans. Engraved for THE GARDEN from a photograph sent by Mr. G. J. Anson, Upper Clapton.

tubers, varying in size from a small Hazel-nut to a Walnut, are of a succulent nature and found underground, and the soil which contains them must, all through the winter, be kept in a moderately moist condition, so as to prevent them shrivelling up, this being an essential point as regards securing a healthy, strong spring growth.

The species and varieties of large dimensions most suitable for decoration are the typical

N. DAVALLIOIDES, or *Davallia*-like Nephrolepis, a distinct plant of very robust habit and readily recognised from all other known species by its unique mode of fructification. The fertile leaflets, longer and narrower than the barren ones, have their lobes cut much deeper, and each of these lobes is terminated by a single spore mass, which, as in *Davallia*, is situated at its extreme point.

N. DAVALLIOIDES FURCANS, which forms the subject of our illustration and is remarkably effective under any condition, is of comparatively recent introduction. According to Schneider, who, in "Book of Choice Ferns," vol. ii. (p. 590), states that "it was introduced into European gardens by Messrs. J. Veitch and Sons, this variety is so different from the type, that it is questionable whether the plant really is a form of *N. davallioides*, although such was Moore's decided opinion. The most essential characteristic, that of the fructification being disposed at the extreme point of the lobes of the fertile leaflets, is altogether absent, the barren and the fertile leaflets being of the same nature and there being no contraction noticeable." It is a very valuable plant for growing in hanging baskets of large dimensions, where it is particularly attractive.

N. HIRSUTULA.—A form of the better-known *exaltata*, from which it is readily distinguished by the softness of its foliage, which is of a downy nature and a greyish colour.

**N. PLUMA*.—A very handsome species, with beautifully pendulous narrow fronds of a soft papery texture and pale green colour. Native of Madagascar, from whence it was introduced accidentally, some of its tubers, of a somewhat woody nature and of a dark brown colour, having been found among the roots of *Platy-cerium* sent to Messrs. Veitch.

**N. BAUSEI*.—A plumose form of *N. pluma*, from which it differs by its much dwarfer habit, but especially by the nature of its leaflets, which, instead of being entire like those of the typical species, are divided nearly to the midrib and have a very pleasant and striking appearance.

N. RUFESCENS TRIPINNATIFIDA.—A free-growing, very handsome plant of upright habit, very useful either as a pot plant or as a Fern for planting in the warm fernery. Its beautiful fronds possess a peculiarly massive, yet feathery appearance, their broad leaflets, of a soft papery texture and dark green colour, being regularly three-times divided to the midrib and their margins being on both sides deeply cleft and overlapping, much in the way of the Welsh Polypody, or *Polypodium cambricum*.

Besides *N. pectinata* and *philippinensis*, the most distinct among the smaller-growing kinds are:—

N. BARTERI, an Indian species differing from all others through the leathery texture of its short bluntish leaflets, which are as thick as those of *Cyrtomium falcatum* and of a very pleasing pale green colour.

N. CORDATA COMPACTA.—A beautifully compact-growing variety of upright, vase-shaped habit, with fronds all starting from one central crown, from which they spread in all directions. Their leaflets are also of a more leathery texture, of a deeper glossy green colour, and much more closely set than those of the typical *N. cordifolia* or *tuberosa*, from which it is supposed to be issue.

N. DUFFI.—This is a thoroughly distinct, barren plant of most elegant habit, and best adapted for pot culture. The fronds, which have their leaflets comparatively small, rounded at the summit, toothed at the edges and overlapping, terminate in a handsome tassel, which varies in size according to the amount of heat and moisture to which the plant is subjected.

**N. UNDULATA*.—A comparatively dwarf stove species which, according to Lowe, was introduced into the Royal Gardens, Kew, in 1818 by the Right Hon. the Earl of Derby from Sierra Leone, West Africa. Its fronds, of an arching habit, are furnished with narrow-oblong pointed leaflets of a thin papery texture and of a cheerful light green colour. This species also produces small tubers, from which it can be propagated after its resting period.

There are in commerce several other species and varieties which are more or less closely

related to those above described. Nearly all *Nephrolepis* are of an evergreen nature, but those here marked * are entirely deciduous, and from want of knowledge respecting their habit have often been lost during their resting season, when growers usually keep them so dry that the tubers have ceased to exist long before the time comes when they should start into growth again. FERN LOVER.

PLATYCERIUMS.

(STAG'S-HORN FERNS.)

THERE are few Ferns which present such distinct characteristics as the above. All the *Platyceriums* are epiphytes, yet they appear to derive much benefit from decayed leaves and other vegetable matter. In their natural habitats the broad basal fronds which clasp the tree stems spread forward and form good receptacles for falling leaves. I think cultivators often omit to take into consideration the fact that plants growing under artificial conditions are deprived of much nutriment which they are provided with through various agencies when growing naturally, and consequently we often find starved and weakly specimens, where if treated more liberally they would succeed much better. The best known species is the ordinary

P. ALICORNE, which is easily propagated, and will thrive well either in the cool greenhouse, intermediate house, or the stove. When grown in a suitable position it forms a most imposing object. The peculiar, broad, concave, barren fronds completely cover the surface, while the fertile fronds form a distinct contrast, being narrow at the base and gradually widening, the broad extremities being deeply and irregularly lobed. They vary somewhat in growth according to culture. There are also some distinct forms of this useful Fern. Among those imported from Australia I find some with shorter fronds, which grow nearly erect, the terminal lobes drooping over and being of a deeper colour than those from other sources. This Australian variety is sometimes grown under the name of *P. alicorne majus*.

PLATYCERIUM GRANDE.—This requires stove treatment, and is a distinct and noble Fern. It can only be increased from spores, and these do not germinate freely. The plants are also very slow growing. We have some four or five years old which have not yet produced any fertile fronds, though they have some very broad basal fronds. Native of the Philippine Islands, Northern Australia, &c. It was first grown at Kew in 1842.

PLATYCERIUM STEMMARIA (ethiopicum).—The above, to which a first-class certificate was awarded at the last meeting of the Royal Horticultural Society, is one of the most imposing of our cultivated Ferns. It is by no means a new introduction, having been grown at Kew as far back as 1848, and in "Johnston's Dictionary" the date of introduction is given as 1822, but I do not find any authority for living plants in this country previous to 1848. The chief characteristics of this species are its thick, massive fronds. The barren ones, which grow erect, are 18 inches to 2 feet high, broad, rounded and sometimes deeply lobed, the fertile fronds from 2 feet to 3 feet long, narrow at the base, gradually widening and divided down about half their length into two broad lobes, which are a rich deeply lobed. The greatest width of the fronds is about 2 feet 6 inches. The fronds are very thick, the surface covered with woolly down. It is a native of West Africa, and thrives well in an intermediate stove temperature. Like the well-known *P. alicorne*, it is readily increased from the young plants formed from root-buds. These young plants may be taken off as soon as the first basal frond is well formed. They may be started in pots, using peat, Sphagnum and Moss, and the pots should be filled up a little above the rims. As soon as the young plants have made some roots

and have developed another frond or two they may be fixed on pieces of fibrous peat, or pockets made of virgin cork for hanging against a wall may be used. It is remarkable that such a noble Fern should have been so much neglected, especially as it may be so readily propagated. The above is sometimes confused with *P. biforme*, from which, however, it is very distinct. I do not think the latter is to be found in cultivation in this country at the present time.

PLATYCERIUM WILLINCKII is another very pretty Stag's-horn Fern. Seedlings of this will soon make fertile fronds. The barren or basal fronds are small, and the fertile ones narrow at the base, terminating in deeply-cut segments of a pale glaucous green and of a drooping habit. It is a native of Java, and though of more recent introduction, is better known than some of the older species. *P. Hilli*, from Queensland, and *P. Wallichii*, from the Malayan Peninsula, are also worthy of note; the latter, however, is not often met with. It somewhat resembles *P. grande*, but the fertile fronds are shorter and broader.

A. HEMSLEY.

The Cushion Fern.—This remarkably handsome and highly decorative Fern, known in commerce as *Balanium culcita*, is a native of Madeira and the Azores, where it is found at 2000 feet to 3000 feet elevation. Its popular name is derived from the nature of its crown, which is densely clothed with a woolly covering of a soft silky nature and a brown or tawny colour. It is a very effective Fern, growing naturally in very swampy places, as the presence of *Hymenophyllum tanbridgense* generally found among the imported clumps clearly indicates. Its foliage is ample, and reaches when fully developed fully 3 feet in height, the strong upright stalks of the fronds being quite 18 inches long. Their leafy portion, of similar length and triangular, is three times divided to the midrib, of a somewhat leathery texture, bright green colour, and very glossy. This Fern, of striking appearance, is very valuable for planting in cool ferneries, especially as smoke and fog have very little effect on its foliage. It is comparatively rare, although it forms one of the principal attractions in Messrs. Veitch's ferneries, where it grows luxuriantly in a compost of two parts peat and one part chopped Sphagnum without any sand. On account of its natural habitat it is advisable that, either grown in pots or planted out, it should have at all times plenty of moisture at the roots.—FERN LOVER.

NOTES FROM A NEW ZEALAND GARDEN.

SEPTEMBER 6.—This morning I cut a bloom of a variety of double Daffodil which I have had for some time, but which up till now I have merely tolerated for its individuality of form. It is one of the double yellow *Telamonius* varieties, which I received some years ago under the name of *Tratus cantus*—an absurd name in both its parts, but one which I think I have seen in Dutch catalogues. I take it to be an attempt to latinise the name of *Tradescant*, and conjecture that the Daffodil ought to be called *Tradescant's Daffodil*. However that may be, there is no doubt about its distinctness from other double forms. In the first place the flower is almost erect upon its stem, and does not nod, as is the case with other varieties. The flower which I cut this morning and which I have now before me is really very beautiful; the parts of the perianth are short, broad and firm, overlapping each other considerably, and standing out almost at right angles to the axis of the flower. The perianth seg-

ments are of a deep primrose, whilst the crown is a solid mass of golden yellow petals, mixed with a few bright primrose segments, like those of the perianth, as is mostly the case in the doubling of Daffodils. Usually the flowers come very green—not, however, that I object to the green-yellow in some of the double Daffodils; it is often an added charm. Further, the scent of this Daffodil is peculiar, quite different from that of the varieties it otherwise most resembles, suggesting the sickly-sweet scent of the Dandelion flower. No doubt Daffodil growers more learned in the flower than I am will recognise this Daffodil under its name of *Tratus cantus*, and I should be glad to learn something of its history from those who know about it. My experience with it so far leads me to think that it is not so robust or easy of increase as the common double Daffodil. The most distinctive features in its appearance are the stiff and upright habit of the flower and stem, the relative shortness of the perianth segments, and a general habit of squatness.

SEPTEMBER 7.—I have been looking up Dutch catalogues since I wrote the above paragraphs about *Tratus cantus*, and I find that Roozen gives this as the Dutch name of pseudo-Narcissus grandiplenus, which, again, I find described and figured in Burbidge's book. From the figure I have no doubt that this is my Daffodil. Mr. Burbidge gives Parkinson's long name for this Daffodil—"pseudo-Narcissus aureus maximus flore pleno fine roseus Tradescanti," which I am not sure that I can translate in an entirely satisfactory way. What is "fine" whatever? The *Tratus cantus* is evidently *Tradescanti*. Mr. Burbidge speaks of this Daffodil as a "distinct and beautiful form." Till this season I should not have been disposed to agree with him, but the flower I cut to day quite persuades me of its beauty. On turning up Roozen's catalogue for the present year (autumn 1893), I find grandiplenus still entered as a synonym of *Tratus cantus*; but then in the same list occurs the name of another Daffodil, "*Tradescantus* (Parkinson's Rose Daffodil)." This is evidently offered for Parkinson's "*roseus Tradescanti*." Which is which, can anybody tell?

SEPTEMBER 8.—I have been interesting myself this spring with the curious phenomenon of

DOUBLING IN DAFFODILS.

When a Rose becomes double, it is the result of the conversion of stamens into petals. But this is only very partially true of Daffodils. The flowers of the double trumpet Daffodils seem to consist of a tassel formed by alternate tongues of perianth substance and of corona substance. On dissecting one of the most double of Daffodils, namely, *pumilus plenus*—a flower that always presents the Rose form, and in which at first glance there seems little distinction of parts—I find to begin with four distinct filaments (in a second flower, indeed, all six). The tassel of the flower consists of tongues of

light-coloured perianth segments, inside of each of which is attached a corresponding tongue of deeper golden crown substance, the two coalescing towards the base, as perianth and crown do in the single flower. For the most part the segments of the corona are cleft down almost to the perianth tube, but sometimes two or three segments remain uncleft with the corresponding perianth segments attached behind. In the first flower I examined there were thirty-two such pairs of segments, no segment of crown being without its corresponding segment of perianth. It is not only the difference of colour and texture that serves to distinguish perianth from corona segments, but the difference of shape also. The tongues of perianth substance are entire at the edges and of the lanceolate shape proper to perianth segments, whilst the edges of the corona segments are irregularly frilled. It would seem, therefore, that the principle of doubling in this flower is that of the Hose-in-hose, one flower, perianth and crown, placed within another. The organs of fructification in the centre are quite distinguishable. In some very double forms not only are the filaments present, but they terminate in proper anthers full of pollen. Sometimes, however, two or three filaments coalesce, and broaden out into a comparatively wide petaloid strap. A friend has brought me what I had just been wishing for—a flower of *Narcissus capax plenus*, which interesting variety I have not yet succeeded in growing. I cannot find in this flower any trace whatever either of the crown or of the organs of fructification. In the specimen before me each of the six segments of the perianth is multiplied six times and the doubling is very regular, each of the outer segments having the other five more or less regularly superimposed upon it, so that the flower retains its six-rayed appearance. In the centre of the flower there are a few small irregular straps, which may possibly be the stamens converted into petal substance, but in colour and texture they are identical with the outer segments. Whither has the crown vanished? I should like to know whether any other case of doubling similar to this is known amongst *Narcissi*. The double odorus (Queen Anne's Jonquil) consists, like the double pseudo-*Narcissus*, of alternate perianth and crown segments, somewhat irregularly sandwiched. The perianth segments decrease in size towards the centre, whilst the crown segments increase. Stamens and pistil are traceable, but have broadened more or less into strap-like processes. The doubling in the Peerless Daffodils is particularly interesting. There is, for instance, that versatile variety known by various names—*albus plenus aurantius*, Orange Phoenix, or Eggs and Bacon. In my garden a complete change of forms may be found ranging from the almost single Peerless Daffodil, with six pale perianth segments and an unbroken orange cup, up to the full plethoric form, where the orange cup is split into segments, which, alternating with pale perianth segments, form a large rose-shaped flower. In the less double forms of this

Daffodil, where the orange chalice remains entire, the doubling is represented by a mass of mingled perianth and crown segments closely packed within the cup, and distinguishable by the striking difference in their colour, the lighter coloured perianth segments rising up above the others, which are of a pronounced orange. The double variety known as Codlins and Cream (*albus plenus sulphureus*, or Sulphur Phoenix) differs from the full form of the last-named Daffodil, Bacon and Eggs, only in the colour of the broken crown segments, which are of a deep straw colour. But, as far as I am aware, the Codlins and Cream variety never shows that less full or semi-double form in which the outer wall of the crown remains entire. I should like to know whether such a form of this Daffodil exists in other gardens. The third of the trio of double Peerless Daffodils, and in my opinion the most beautiful, that known as Butter and Eggs (*aurantius plenus*), differs from the other two in having its perianth segments of a decided yellow, whilst its crown segments in colour come midway between those of Orange Phoenix and Sulphur Phoenix. I have a late blooming Peerless Daffodil in my garden, unnamed, which might stand for the less double form of Butter and Eggs. Its crown is always entire, but is packed inside with a dense mass of crown and perianth segments. This is really a curious Daffodil. The crown, as I have said, is quite an entire cup, and is of an orange-yellow, but inside the wall of the cup there spring up six perianth segments, which stand erect above the cup to the height of three-quarters of an inch, and have very much the appearance of the standards of a small yellow Iris. I have been employing a vacant hour in carefully examining the anatomy of the semi-double *Narcissus incomparabilis*, semi-double *aurantius*, and semi-double *albus* (Orange Phoenix). I find in both varieties the stamen filaments considerably multiplied, traces of from a dozen to twenty filaments being observable. Some of these filaments, but very few, have distinguishable anthers, which, however, apparently contain no pollen. On the other hand, there are sessile anthers which adhere to those irregular tongues of crown substance that crowd the inside of the cup and constitute the doubling, as far as it goes. Further, these sessile anthers contain tolerably abundant supplies of pollen, which come off on the finger. The fuller the flower becomes, the less perceptible do those sessile pollen-bearing anthers become, until at a certain stage of doubleness they vanish altogether. I suppose, however, that such pollen has no fructifying virtue in it, otherwise it would have been used for obtaining hybrids with other varieties.

SEPTEMBER 9.—*N. Macleayi* is in bloom to-day. It is an interesting *Narcissus*, but not, in my eyes at least, specially attractive. It increases at a very slow rate. The foliage differs from that of most of the *Narcissi* that seem akin to *Macleayi*, lacking the grey bloom that characterises the grass of most trumpet Daffodils. Its foliage, as well as certain

features of the blossom, it derives, I fancy, from some Tazetta ancestor. Emperor is coming out in quantity. How truly imperial a flower it is! and so hardy and accommodating, that you could never take it for a thing "born in the purple." I have not yet tried it amongst Grass, considering it, to tell the truth, though it is pretty abundant with me, too precious to be treated with anything but the best possible border cultivation. Horsfieldi is breaking into bloom. Between this Daffodil and Empress I find it difficult to distinguish. Horsfieldi is smaller than Empress, and, in my experience, quite ten days earlier. On the other hand, I have Empresses purchased from a dealer here that came into bloom with Horsfieldi, but, in my belief, they are Horsfieldi. True Empress is altogether a finer thing than Horsfield's Daffodil, lovely as that flower is. Empress and Horsfieldi are vigorous in our soil and climate, and increase at a fair rate, but on the whole I should say they are less robust than Emperor. I cut to-day the first bloom of double odorus (Queen Anne's double Jonquil). It is a neat little flower that one could ill do without. I do not find it very robust. Indeed, though I have had it for four or five years, I do not think that I possess a larger number of bulbs now than was first given to me. Mr. Barr, in his little book on the Daffodil, mentions a second form of the double odorus as being "not unfrequently met with in old-fashioned gardens"—this second form being after the way of *capax plenus*. This would be a desirable acquisition, and if it is frequently to be met with in old-fashioned gardens, why is it not in Mr. Barr's catalogue? Sir Watkin (from old bulbs) has opened to-day, and for the first time in my garden has shown his true form—perianth sections broad and overlapping, as in THE GARDEN illustration; a noble Daffodil. This is evidently one of those *Narcissi* that require working up before you can have it in its best form. My imported bulbs, now flowering for the first time, give shabby flowers in comparison with the blooms of established bulbs, and I do not suppose my best blooms yet really show what this Daffodil can do. The dimensions of a freshly-opened bloom are: 4 inches across from tip to tip of perianth segments, mouth of chalice varying in breadth from 1 inch to $1\frac{1}{4}$ inches, depth of chalice $1\frac{1}{4}$ inches. A bloom brought me by a friend is larger than this, but mine has only just opened, and Daffodil flowers grow a good deal after they first open.

The following Daffodils are now blooming in my garden for the first time, the bulbs having been received from England late in 1891—December:—

1. *N. BARRI ORPHEE*.—An exquisite little Daffodil. At last, after many disappointments, I must believe in "primrose cups edged with bright orange-scarlet." I do not quite agree with the catalogue, which describes the cup of Orphée as "primrose." The cup of my lovely flower is of a deeper shade than primrose, having almost a suspicion of orange, but the exquisitely crimped edge is really a red-orange. The whole star-like flower is in every way beautiful.

2. *N. INCOMPARABILIS LEEDSI*.—Also a pretty Daffodil, though not so exquisite as *Orphée*. The mouth of the chalice is of a deep orange—reddish certainly, but to describe it as orange-scarlet seems to me an exaggeration.

3. *SPLENDENS* is another of the so-called "orange-scarlet" chalcid varieties of Peerless Daffodil. If my flower is true (as it ought to be), I cannot think how it came to be named *splendens*. In one catalogue I find the description to run: "Large, broad, imbricated sulphur perianth; large cup, edged orange scarlet, very handsome." But little of this description suits my flower, which is hardly distinguishable from *Leedsii*, and is, perhaps, not quite so fine. I take it, therefore, that I do not yet possess *splendens*, but must send for it again, and wait another couple of years before I see the true thing.

4. *MAGOG*, one of the Peerless sulphur varieties, is not quite so large as I expected it to be, having been misled probably by the name, but it is a pretty variety and worth having. So far the perianth is a little "floppy."

5. *VARIIFORMIS*.—A little trumpet *Narcissus* with a very pretty golden crown, charmingly reflexed and frilled at the edge; perianth segments short and curiously creased, like the petals of a Poppy just bursting its sheath. I am very much pleased with this acquisition, but if this Daffodil succeeds with me, I suppose I must expect to find it very variable in form.

6. *PALLIDUS PRECOX VAR. ASTURICUS*.—A charming little flower, happily described by Mr. Barr as "refined." It seems quite distinct from the typical *pallidus precox*, and is noticeable for the relatively great length of the perianth tube and for the twisted and drooping character of the perianth segments. I note also that the perianth tube, besides being proportionately very long, is also very green.

SEPTEMBER 14.—I am at last forced to the conclusion that this is the very worst Daffodil season in my experience of over twelve years. For the last fortnight, when the garden should have been at its best, it has been raining very heavily, with an interval of only two days, and these not successive, when the clumps had just time to lift their battered heads, only to be again beaten down. Such heavy-headed varieties as *Codlins* and *Cream* and *Butter* and *Eggs* have been bent by the still rain-down on the soil, where they lie splashed into ugliness. The large masses of *Wilmer's Double* are still yellow enough in the distance, but, looked at closely, they are frayed and washed out. Even *Emperor*, which I have never before seen yield to stress of weather, has a battered appearance. All the cernuus Daffodils—delicate in texture and colour—have had their beauty spoiled by the storm. Varieties that lie low, like *minimus*, have, of course, fared ill. The only really storm-proof *Narcissus* in my collection is the *odorus*, which has not turned a hair so far as I can see; whereas the *Jonquil* has suffered considerably. Perhaps I ought to add to the *odorus* the *Leedsii amabilis*, which, so far, has not suffered much; but then it is only coming into bloom, and its springy lightness has protected it. So far, this season the Daffodils have shown themselves at their best only on one evening, which I noted at the time. On the following day the rain set in, and it is impossible now that the flowers can be in very good form this year. Fortunately, there are several varieties yet to come into bloom, amongst them *Empress*, and if the

weather improves, of which it makes no promise, we may still have fine flowers, though the general effect has been spoiled. So far, no member of the poeticus family has yet opened. *Angustifolius* is just bursting, but this year I believe *ornatus* will be abreast with it. What has been so disastrous to the flowers has been greatly helpful to the foliage, as since good foliage makes good bulbs, the abundant rain may produce good results next season—cold comfort, however, for present disappointment. The abundant rain will probably largely benefit the various *Narcissus poeticus*, all of which delight in moisture. Indeed, most years I find it necessary to give a little water to the double poeticus before it will swell its spathes into bloom, and even then some of the flowers fail to come to anything. I shall look for good double flowers as the result of this rain.

SEPTEMBER 21.—I certainly did not expect the Daffodils to make again this season such a brave display as they are making this evening, but I leave my lament as it stands, to show what probably is the mood of most Daffodil growers when they are tried with a fortnight on end of the worst weather. The result of the large amount of moisture has been, I think, to prolong the blooming season of the various varieties, and to give great substance to the late-blooming flowers. Up to date there is no kind of Daffodil grown by me in any quantity that may be said to be fairly over, with the exception of a very handsome medium-sized trumpet Daffodil, single, of a rich golden yellow colour. *Telamonius plenus*, of which, be it observed, I cut the first bloom in June, is still glorious. A good many clumps are past their best, over indeed, but far more are now in prime form, or little past it. The question of successional flowering is one that has forced itself on my attention this year more than usual, some clumps of Daffodils having quite finished flowering, whilst other clumps of the same variety in the same border, and quite as much or more exposed to sunlight, are coming into bloom. To give an instance. Three clumps of a very fine sulphur trumpet Daffodil—so like *albicans* as to make any difference of little account—came early into bloom. First one clump went off that was planted on a raised sunny rockery. Then two others followed, with the exception of half a dozen flowers in one of the two, which are at present at their best. Now two fresh clumps are out, making the season of this Daffodil a very long one. The reason for this lateness is to be found in the fact that in early spring fresh earth was heaped over these late clumps, and consequently it took them longer than they counted on to get to upper air. Similarly with two clumps of *minimus* planted within 2 feet of each other on the same exposure, the flowering of one is over, the other is on. I can quite see the possibilities of retarding Daffodils for a considerable time by the simple expedient of heaping soil above them, but, of course, it must be done early, just as the grass is breaking through the ground.

There is a wonderful beauty in the garden to-night. The Plum trees and Pear trees, very full of blossom this year, are now in their best dress, and they set off the Daffodils as much as they are set off by them. Everyone who has ever grown Daffodils knows what lovely moonlight flowers they are. Their moonlight is, of course, very different from their sunlight beauty. So with fruit trees; they, too, have their own peculiar effect in the moonlight. I have before me in a vase a few interesting flowers which I cut this evening. *Imprimis*, two of the poeticus section—*angustifolius* and *ornatus*, which varieties have come with me almost abreast this year, *angustifolius* to the front perhaps by half a head. *Angustifolius* is a pretty, graceful *Narcissus*, valuable for its earliness, but it cannot compare in richness of substance or purity of colouring with the later poeticus *Narcissus*—*recurvus* for instance. "Truly wild in the Alps of Central Europe" Mr. Burbidge says of it, and he ought to know. It impresses myself as not being a true poeticus at all, but a hybrid between a poeticus and something else—a flower much after the manner of the hybrids grouped under the name of *Burbidgei*. *Ornatus* is a *Narcissus* that increases slowly with me as compared with *angustifolius* or *recurvus*, but I cannot think that it is slow of increase elsewhere, since it is quoted at so cheap a rate.

Several of the hybrids classed under the general name of *Barri* are now in bloom with me for the first time from bulbs introduced in 1891. *Miriam Barton* is a neat and singularly chaste looking flower, perianth and cup shades of clear pale yellow, the cup of a slightly deeper shade than the perianth; *Maurice Vilmorin*, a handsome flower with orange-stained cup, is an acquisition; *John Stevenson*, pretty, but not particularly choice; *Cynosure* is a striking Peerless Daffodil, with handsome star-like perianth rays and a fine orange cup. *Duke of Buccleuch* I do not find in Mr. Barr's catalogue, but it is well worth a place in any catalogue, for it is a beautiful Peerless Daffodil with a large spreading cup of a fine shade. These various Daffodils to the discerning eye no doubt present interesting and sufficiently marked differences of character, but one can quite understand the contention that certain varieties find their way into the best catalogues without any great claim to distinctiveness of character. A slightly longer or shorter perianth tube, a shade more or less orange in the cup, the perianth rays a fraction longer or broader than we find in some already existing named variety may easily seem to many people who love the flower hardly sufficient grounds for cataloguing a new variety. That sweet Rush-leaved *Narcissus tenuior* has expanded its first bloom with me. Its scent is even sweeter than that of the *Jonquil*, and if there is any heredity in scent, would seem to point to *Tazetta* parentage. I do not find *tenuior* nearly so free flowering as the *Jonquil*, though the bulbs multiply at a fair rate.

A. W.
Dunedin.

ORCHARD AND FRUIT GARDEN.

LATE DESSERT APPLES.

VERY few gardeners can boast of a good supply of dessert Apples after Christmas, yet there is no reason why they should not be as plentiful in spring as during the autumn and early winter months. It is simply a question of planting the proper varieties, skilful treatment and careful storage, which will ensure a supply until Apples are ready again. Cox's Orange Pippin will usually keep up to the middle of January. Braddick's Nonpareil will afford a splendid succession, as the fruit is handsome, of fair size (see illustration), rich flavour, and the tree is a great cropper grown either as a standard or bush. The fruit should be left on the tree until quite ripe, as it not only keeps better, but the flavour is finer. If picked before fully ripe, the flesh is apt to become somewhat tough and dry. I have always found it best to gather the fruit at various times, picking the ripe ones and leaving those not ready for a week or so longer; by this means the fruit will be excellent for dessert at any time from the end of November to the middle of April. Another first-class dessert Apple whose season is the same as the above is Roundway Magnum Bonum. So good in every respect is this Apple, that it only requires to be more generally known to make it a popular variety. The fruit is rather large, russety green in colour, and tinged with red on the sunny side; tree a moderate grower and a good bearer. Egremont Russet is an excellent Apple for spring use, flavour rich and juicy. It will keep until the end of April. This variety appears specially suited for garden culture, as small bushes have fruited freely with me. It is well worthy of a place in every garden however small. Ashmead's Kernel Improved is a fine flavoured Apple. It was awarded a first-class certificate by the Royal Horticultural Society a year or two ago. The tree succeeds well in any form, and the fruit is fit for use at any time from January to May. Court Pendu Plat is one of the most useful dessert varieties; owing to its late blooming it escapes most of the spring frosts. The tree is a heavy cropper and the fruit is of fair size, handsome, of good flavour, and will keep until early in June. Mannington's Pearmain is a well-known heavy cropping variety, often producing a crop when other kinds fail. The fruit is of moderate size and superior flavour. Duke of Devonshire is better known in the north than the south; its excellent flavour, long keeping qualities, good habit, and heavy cropping powers ought to bring it into greater prominence. I have for several years sent in good dishes of it for dessert on Midsummer Day. Sturmer Pippin is one of the best known late dessert Apples, keeping well in a suitable fruit room until the early Apples are again fit for use. As the tree is a vigorous grower and very prolific, it should be included in every garden that has to afford a continuous succession of Apples.

Many other sterling varieties of late dessert Apples might be named, but a long list is unnecessary, and all the kinds mentioned have proved very satisfactory with me on a light porous soil, and a great many of them were equally good when I had to deal with heavy land. W. G. C.

Pear Glou Morceau is one of the best of late Pears, especially after a warm season like the last summer has been. It is now probably the best-

flavoured Pear brought into Covent Garden Market. It is a free bearer and does well on most soils, excepting those that have cold clay beneath.

Apricot, Oullin's Early Peach.—This appears to be the best early variety. For several years it has not failed to bear moderate or heavy crops of medium-sized fruits of extra fine flavour, while other kinds on the same wall have been more or less a failure in some seasons. Another advantage is that the branches do not die so mysteriously as in Moorpark. Liquid manure has a marvellous effect on Apricots, causing the fruit to be much larger and earlier than on trees which had received none.—W.

Bush fruit planting.—When carrying out the annual planting operations the bush fruits should not be overlooked or neglected. Undoubtedly October and November are the best months for this work, but all are not able to get through the work so early, and very little if any difference will be seen ultimately in bushes planted early or late in the winter so long as mild and open weather is chosen for the work. Currant and Gooseberry bushes are often kept cumbering the ground for years after they have passed their prime, and the same remark applies, in perhaps a less degree, to Raspberries. No doubt this is often the result of having no available young bushes to take the place



Fruiting branch of Apple Braddick's Nonpareil.

of the old ones, but cuttings are so easily struck and brought on to bearing size that this should be no excuse. There may be a slight lessening of the bulk of fruit from young bushes, but the fruit will be much finer and more satisfactory. Currants selling at from 6d. to 1s. per peck more when taken from young bushes than these do from plants past their best; there is also much less trouble in picking the finer fruits. Wholesale clearances of plots might not be wise, but a row or two at least could be destroyed yearly. Very old stools of Raspberries get their roots matted together, this and the dead remains of previous growth making good progress impossible. As plantations are made to last a few years, the ground should be trenched and heavily manured. Raw manure, however, is not good for the roots, and where this has to be used a good plan is to crop the ground once after trenching and before planting the bushes. This answers a two-fold purpose, as it enables the manure to become mellow and gives the ground a chance to settle. All manuring done after planting should be in the form of an annual mulching, and no digging should ever be permitted between the bushes.—J. C. TALLACK.

Pear Winter Nelis.—This is considered by some to be a difficult kind to grow, but I have never found any difficulty in having it of a good size, and the tree with me always crops well. The tree is not a strong grower, but when placed in a

favourable soil with a good position the growth is satisfactory. During the last twenty years I have grown it in three different gardens and with the best results. I consider it the most reliable kind grown. I know a garden which, like this, is low-lying, and here the owner had only three that he considered reliable as to flavour out of some forty kinds. I grow it on a south-west wall (the wall is rough stone) on a raised border. Although the tree is not a large one I had six dozen fruit from it. I am now planting it on a west wall to try and prolong the season. One of its great merits is that the fruit ripens gradually, and most of the high-flavoured kinds have not this quality. It may be had of good size from bush trees. When in Norfolk recently I saw some fairly good sized fruit from trees grown in this way.—JOHN CROOK, *Forde Abbey.*

CORDON FRUIT TREES.

WHEN we consider the beauty and usefulness of this class of trees, it is strange that they should not receive more attention. There are thousands of climbers planted for hiding bare and ugly walls that are not so attractive as a well-grown fruit tree would be in the same situation. The best form is no doubt trees on the cordon system; planted about 15 inches or 18 inches apart, they rapidly cover the bare walls. And what is more beautiful than a fruit tree blooming from base to summit? By planting cordon Apples and Pears, selecting varieties of large size and high colour, they are almost, if not quite as striking while in fruit as in bloom, and the amount of fruit such trees will produce is astonishing. For exhibition, such fruit is most difficult to excel, as it attains a large size, beautiful colour, and a most delicate bloom, causing many to exclaim that it has been grown under glass. More than once or twice I have been very close to being disqualified through judges thinking the fruit was glass-grown.

Some of the largest Pears that I have seen this year were grown on a well-known exhibitor's house, and they easily took premier honours when exhibited, yet neither soil nor position was very good. Many cordon trees fail through being too restricted, but the great length of wall they have on an ordinary dwelling house suits them admirably, and I would strongly advise their being planted, putting Pears in the sunniest aspects, Apples on the sides facing east and west, and Plums or Cherries on the northern side, or failing these Gooseberries would succeed well. There are acres of bare walls not only on houses, but buildings of other descriptions that would give a very handsome return if covered with choice fruit trees. In these days of high pressure everything that can be turned into a source of revenue should receive attention, or if not marketed it would come in well for home consumption or for giving to friends. The following varieties of Pears I have found to succeed well grown as cordons: Louise Bonne of Jersey, Clapp's Favourite, Souvenir du Congrès, Flemish Beauty, Doyenné Boussoch, Doyenné du Comice, Pitmaston Duchess, Beurré Hardy, Beurré Bachelier, Beurré Dumont, Beurré Superfin, Fertility, Marie Benoist, Marie Louise, Nouveau Poiteau, Glou Moreau, Easter Beurré, and Josephine de Malines. In ordinary seasons the above list would afford a supply of Pears from August to the end of March, and if the trees be well supplied with liquid manure the fruit will be of large size and fine colour. The Apples are most satisfactory as cordons with

me are Duchess of Oldenburg, Ecklinville Seedling, Worcester Pearmain, American Mother, Cox's Orange Pippin, Beauty of Bath, Cox's Pomona, The Queen, Bismarck, Gascoigne's Scarlet Seedling, King of Tompkins County, Peasgood's Nonsuch, Lane's Prince Albert, Wealthy, Mère de Ménage, Cardinal, Stirling Castle, and Bramley's Seedling; all the above have cropped well and produced splendid fruit, being the best cut of over sixty varieties grown on the system named. Most of the varieties named have, naturally, a fine colour, and when ripe look beautiful hanging against a wall and surrounded with nice green foliage. When the trees commence to fruit freely plenty of liquid nourishment should be supplied, as the soil is frequently drier near the walls than out in the open garden. Not only cordons, but many other wall trees annually fail owing to drought. If a thorough soaking could be given every fortnight all through the summer months, the trees would derive great benefit. Liquid manure might be applied late at night or early in the morning, thus avoiding unpleasant smells.

W. G. C.

Pruning Vines.—Many amateurs who possess a few Vines are often at a loss as to how to prune them, and frequently call in a jobbing gardener to perform the operation. Many of these men called in possess little or no knowledge of how the work ought to be performed, and if Grapes are produced the following season, it is more owing to the accommodating nature of the Vine than to skill in pruning. Only a few days ago I saw some strong Vines treated in a barbarous manner by one of the jobbing fraternity; all spurs had been cut off close to the main rods. The owner himself, I think, would have done no worse if he had pruned them. A few hints to such may perhaps be serviceable at this season and enable them to prune their own Vines if they cannot engage the services of a qualified man. At the same time I would urge amateurs to employ a capable man, if obtainable, in preference to doing the Vines themselves. As soon as the major portion of the foliage has fallen the pruning should be done as this reduces the chances of bleeding when the Vines start into growth in the spring. Supposing the Vines are trained on single rods up the roof, all side shoots or laterals should be cut back to one or two good buds. Sometimes the first bud nearest the main rod is small; if so, cut to the next bud, which, as a rule, is large and good and produces the finest bunches. If the side shoots have been too crowded, some of the weaker and worst placed may be cut clean away; 1 foot to 18 inches apart is a nice distance for the spurs or side shoots. If the Vines are young, the leading shoot forming the main rod must be cut back according to the strength of the rod. When the growth is weak it will strengthen the Vine if only about a foot of young wood is left; but if strong, about 3 feet may remain, always cutting back to a bold, well-placed bud. When there are several rods attached to one Vine, each one should be 3 feet apart and treated as described above.—W.

Apple Gospatrick.—This, raised by Mr. Ross at Welford Park, Newbury, is an early Apple, but of great merit. I should imagine that King of the Pippins is one of the parents of Gospatrick, as it possesses several of the qualities of this variety. The growth of the tree is free, and small trees bear heavy crops. The fruit also keeps well into December, though termed an early variety. This season the fruit was exceptionally good and could be used for dessert. This variety first came into notice at the great Apple congress at Chiswick in 1883, and since that date Mr. Ross has staged it in fine condition. It is certainly worth a trial where new varieties of Apples are being planted.—G. WYTHES.

Apple Tibbett's Pearmain.—This variety is not so much seen as it deserves. It is one of the best for kitchen use, coming in during the last three months of the year. Splendid examples are grown in Kent, chiefly in the Maidstone district, and it is well worth including in the list of ra-

liable cooking Apples. The fruit is large, conical, and angular, greenish bronze streaked with reddish brown on the exposed side; flesh dry and slightly acid. The fruit of this variety this season has been of great size and even small trees have borne very heavy crops. I do not recommend it for orchard culture, but in the form of a bush or as a pyramid it will be found valuable.—G. W. S.

STEWING PEARS.

STEWED Pears, when presented in good condition, form a dish that proves very acceptable to most people who enjoy "sweets" of any kind, and if more trees were planted of varieties the fruit of which is fit for stewing instead of second-rate dessert sorts, there would be far less need to import such large quantities. As yet I have not heard of trees of stewing or baking varieties being planted on a large scale with a view to competing with the Americans in the Pear canning or bottling industry, but it is to be hoped this branch of fruit culture for profit will not long be neglected. With ordinary Pears, or those that are grown for marketing either direct from the trees or after they have been kept for a time, there is bound to be considerable waste at times, owing to gluts in the market; but in the case of stewing Pears these could be bottled or tinned, the former from choice, according as they were fit, none being spoilt. Properly placed on the markets, there would be no difficulty in effecting sales at remunerative prices, stewed Pears fast becoming an almost indispensable item in the *ménu* of dinner parties, large and small. Nor ought housekeepers and cooks to be content with preparing Pears for the table only just when they happen to be available. Some few varieties keep well, but the bulk do not, and bottling should therefore be largely practised while yet the fruit is in a sound state.

Some few of the varieties classed as dessert Pears are really admirably adapted for stewing, and, in fact, this is about the best use they can be put to. Foremost among these I would place the Chaumontel. With me this well-known variety fruits very freely against a cool wall, and abundantly as a pyramid, failing but seldom. This season some of the fruit are of fairly good quality, and doubtless would have been still better if the trees had a more favourable position. For stewing it is excellent, the fruit keeping sometimes till March. Standards, pyramids and bushes all yield heavy crops, but the fruit is, naturally, very much finer from wall trees. Vicar of Winkfield is second to none as a stewing Pear, and not unfrequently the fruit is of sufficiently good quality for the dessert. This season, owing to varieties of higher class keeping badly, the whole of the crop of Vicar is being kept for eating, but when the cooks can have this variety they prefer it to all others, no artificial colouring being needed, and the quality is much liked. The Vicar of Winkfield is one of the heaviest croppers we have, whether grown against cool walls or espalier trained, or as standards, pyramids or bushes. At Cardiff Castle there are some very fine naturally-grown pyramids of this variety, and which, when I last saw them, were literally breaking down with fruit. I cannot afford to let the cooks have many fruit of Beurré Diel for stewing, as it is serviceable and good in an uncooked state. Being coarse-grained it stews capitally, and is one of the varieties I would largely plant. Some seasons there might be found a good demand for this Beurré for dessert, and in any case it would bottle well. It succeeds well against moderately warm walls, and

in the warmer parts of the country all forms of trees growing in the open rarely fail to produce heavy crops of fruit. Duchesse d'Angoulême is even coarser in the grain than Beurré Diel, and though largely grown, very rarely becomes sufficiently melting to use uncooked. Much the finest fruits are, as a rule, produced by wall trees, but in Kent I have gathered them nearly one pound in weight from strong pyramids. In this neighbourhood standards of this variety are also very productive, and, all things considered, it ought to be included among the stewing Pears that might well be grown extensively for bottling. Beurré Clairgeau, again, enjoys a certain amount of popularity in some quarters, more especially on account of the very productive habit of the trees. The tree is naturally of an erect stiff habit of growth, and last summer I came across several extra tall trees very heavily laden with fruit. Being of great size and at times brightly coloured, the fruit sells fairly well, but the quality is decidedly poor. It is a fairly good stewing variety, however, and should be grown as such.

Of stewing Pears proper, there are not many that can be recommended. Catillac is perhaps the most extensively grown, as being one of the best keepers. There are, or were not so very many years ago, some fine old standards of this variety to be met with in sheltered Kentish and other orchards, and which rarely failed to produce good crops of heavy fruit. Unless sheltered the fruit on standards is liable to be badly blown about by winds. Very heavy fruit is usually had from pyramids, and also wall trees, though the latter ought not to be tolerated unless the walls are of considerable extent. Those who delight in sensational fruit should certainly grow Uvedale's St. Germain, and which under the name of Belle Angevine has been exhibited in Covent Garden 3 lbs. or more in weight, but it is not a profitable Pear all the same. Of late years it is doubtful if many trees of it have been planted, the present generation of gardeners having a better use for the walls under their charge. Uvedale's on the Pear stock would, and has been permitted to do so in former years, cover an enormous area of bricks and mortar, and yet at the most produced about one fruit to every 2 feet square. There is something, however, to be said in favour of large bushes and standards of this variety being planted, as the fruit, in addition to being fine, keeps till well into the spring and cooks admirably. Bellissime d'Hiver also attains a great size, and though less well known than Catillac, which variety it somewhat resembles, it is considered by good authorities superior to it. This summer very good crops were produced by standards and pyramids, and the fruit will keep if need be till April. The good old Verulam is also well worthy of being freely planted either as a pyramid or a standard. It is a sure bearer, the fruit being medium-sized, keeping till the end of February, and requiring no artificial colouring when cooked. Gilgil cannot be trusted to keep late or much after December, but it is of attractive appearance, and one of the best for stewing. It may be grown either as a bush, pyramid, or standard, and rarely fails to bear good crops. For a stewing Pear it is rather small.

M. H.

Apple Newton Wonder.—This promises well, and will no doubt become a leading variety. I have seen it exhibited on several occasions in very fine condition. It received a first-class certificate in December, 1887, from the Royal Horticultural Society. I saw it in June last year as firm and good as if just gathered from the trees. I somewhat resembles a Blenheim Orange, and has

some of the good qualities of a Wellington. It is a handsome fruit, large, of nice colour, and keeps sound well into May. These late fruits should find favour with growers for market, as they will keep till good prices can be obtained. Though the cost of storing must be taken into account, good prices, if the fruits are plump, can always be realised.—G. WYTHES.

Apple High Canons.—This much resembles Wellington in shape, but the flavour is quite distinct, and what is more the tree is more reliable in cold, wet, heavy soils. It was certificated in 1884. It is one of the latest Apples we have, its season being April, May, and June, a time when there are none too many sound fruits. High Canons may be grown where the Wellington does not thrive. I saw some trees at Maidstone loaded with fruit. I have only grown it as a cordon, but it does well in any form, I understand. When cooked the flavour is distinct from that of most kinds, as it possesses a somewhat spicy, but agreeable taste.—S. H. B.

Apple Tyler's Kerrel.—I saw this variety in fine condition in Messrs. Veitch's nursery, Langley, Slough, in the early autumn. Though the cordon trees of this variety I have have borne very freely fine fruits, they had not got the same finish as seen at Langley, these being noticeable for their high colour and perfect shape. This variety makes a grand orchard tree. It is a large heavy fruit with a pleasant acid flavour and a good keeper. Though its season is given as December and January, I have had no difficulty in keeping it well into March. This variety was awarded a first-class certificate at the Apple congress in 1883 at Chiswick, and Mr. Barron's report is that it is a first quality fruit and very handsome. This season I have noticed it as being one of the best dishes in most large collections.—G. WYTHES.

* * We have also seen this variety doing remarkably well with Mr. Bunyard at Maidstone, small trees being loaded with fruit.—ED.

NOTES ON CORDON PEARS.

THE demand for cordon Pears seems to be yearly increasing, and the large stock grown by nurserymen who make a speciality of them would seem to indicate that they have faith in the continued demand. For small gardens, where the desire is to grow a fair number of varieties on a small area, the system is about the best that can be followed. The close attention of years has now enabled the specialist to recommend with great confidence the best varieties for the purpose, although given a suitable soil there are few that will not take kindly to the treatment. I think a well furnished wall of cordon Pears when the fruit is approaching the gathering stage is one of the sights of a garden, and, with the planting season at hand, I fancy we should all be inclined to welcome any information forthcoming as to the behaviour of different sorts on various soils. The following notes are from a cordon wall now four years planted, and I may mention that in running along the trees the other day to do the little required in the way of winter pruning I found a fine promise for another season. The soil is a sandy loam, the aspect north-west. Williams' Bon Chrétien and Clapp's Favourite, nearly contemporaries in season, each make good cordon trees and bear well. Louise Bonne does well, the fruit much finer and better than from old wall trees. Beurré d'Anjou bears well, but the fruit is second class in quality, the tree of weakly habit, and makes very poor growth. Marie Louise d'Uccle is a grand cordon variety and very prolific, fruit handsome, but it never ripens satisfactorily. Chaumontel is not a success as a cordon, weakly in habit, fruit inclined to split. Duchesse d'Angoulême is worthless, and will be taken out. Conseiller de la Cour and Van Mons Leon Leclerc which I class together, as they are similar in shape and of the same season, do well. The trees are healthy, vigorous, prolific, and ripen up well, large, handsome fruit of very fair quality. Doyenné du Comice is fairly free, fruit of fine size and grand quality, habit of tree not

altogether satisfactory, weakly, and makes little annual progress. Winter Nelis is not often recommended as a cordon, but it does well here. Beurré Diel makes a splendid cordon and bears well, fruit not first-class, but better than from old trees. Glou Morceau is an excellent variety as a cordon. Olivier des Serres is not satisfactory, the fruit small and cracks badly, habit of tree poor. Josephine de Malines makes a vigorous cordon, rather shy in bearing, but fruit of good size and fine quality. Triomphe de Jodoigne is a useful Pear, the trees healthy and strong, free bearer. Beurré Bachelier is free, fruit large and handsome, but of very indifferent quality. These are a few varieties which have been specially noticed both in the fruit and also the constitution and general character of the trees. The experience of the last two years has shown that on this aspect the spring protection I have hitherto been able to give (a double thickness of half-inch fish netting) is not sufficient, so with the view of preventing the godly promise being nipped in the bud, I must get enough tiffany for another spring to go the length of the cordons. Many of the trees not being as yet near the top of the wall, the tiffany will have to be fastened some 18 inches down, and then thrown out from the wall by means of uprights and a cross rail. E. BURRELL.

Claremont.

A good late Plum.—I was surprised to have some really plump, nice-looking freshly-gathered Plums brought to me by an amateur during the last week in November, or several days after the blizzard which swept over this part, and which I thought had finished off all the open-air fruit. The flavour had been considerably reduced by the freezing, but for cooking they were still quite passable, and the owner assured me that he had gathered a very heavy crop that had extended over many weeks. The variety is, I believe, called Wyedale, and it is certainly well worthy of extended culture, even if only fit for cooking. As a market fruit it would doubtless command a ready sale.—J. G., *Goport*.

Peach Amsden June.—At p. 503 this variety is recommended for open walls by Mr. Crawford, who is inclined to try it under glass. I feel sure he will not regret this, as I have forced it hard for three years and consider it one of the best kinds of recent introduction. Last year I had ripe fruits of this variety the second week in April and in quantity from a young tree which bore freely the season before, and this year it is again covered with fruit-buds. I sent a short note to THE GARDEN in 1892 on the value of the above variety for forcing. I wish I could say the same of the capricious Alexander, as given the same treatment it is a long way behind Amsden June. I have this season planted it on open walls seeing how well it does indoors, and am much pleased to see how highly Mr. Crawford speaks of it. As stated, it is a large fruit with high colour and good flavour, which are wanting in many of the American varieties. Being very early adds to its value.—G. WYTHES.

The Wyedale Plum.—This is the latest Plum I have ever seen and one that should be better known, as there is no difficulty in keeping the fruit till December. I have gathered nice fruit the third week in November in late seasons. This year it was over a little earlier than usual, owing to the hot summer. The fruit when gathered will keep sound till late in the year if stored in a cool room. I have some half-dozen standard trees with good heads. These supply a good lot of late fruit. The Wyedale is a sure bearer, as since the second year after planting the trees have not failed to crop freely—some years too freely. The fruit being firm and acid, for cooking late in the year it is very valuable. It is oval-shaped, of medium size and a deep purple, closely resembling a late Damson in colour. It was first brought to notice by Messrs. Rivers, who exhibited it at the late October meeting of the Royal Horticultural Society in 1886, the committee thinking it a valuable introduction as a very late fruit. It was then

shown in large clusters, the branches being cut with the fruit. I am surprised this variety has not found more favour as a market fruit, as I feel sure it would command a ready sale. Why should so many early varieties of this fruit be grown, causing a glut when they command so low prices? Seeing how well Plums grow in some districts, for instance in Worcester and Herefordshire, a few trees of this variety would prove a valuable addition to the market sorts, and being such a free cropper it would prove a sure source of profit. Strange to say, the Winesour, which does so well in the north, is a total failure with me here. It never bears a fruit, but the above variety does grandly. The growth of the Wyedale is compact and not too vigorous.—G. WYTHES, *Syon House*.

Apple Colonel Vaughan.—This, known also as Kentish Pippin, is a desert variety of great excellence, and succeeds well grown as an espalier. It is fit for use at the present time in this district, but in ordinary seasons in January. It is of medium size, somewhat conical in shape, carries a fine crimson colour, while the flesh is firm, white, and juicy. In some gardens it crops annually, while in others it is a biennial bearer, but then the extra yield compensates for the season of rest. Wherever espaliers are to be planted, a tree of this variety may well be included.—J. CRAWFORD, *Coddington Hall, Newark*.

Pear Josephine de Malines.—In THE GARDEN, p. 502, and again at p. 570, this Pear is alluded to. I quite agree with both "A. Y." and "J. C." as to its value as a winter variety for the dessert. My trees are free grown bushes, and these I much prefer to any other form. I only once saw a tree on a wall with a good crop, but bush-grown trees will invariably bear well. This variety is one that is disposed to fruit best from the terminal buds upon strong shoots; spurs do not in my experience bear nearly so well, whilst the fruit is smaller also, the large fruit at the best being only of medium size. This latter fact is all in its favour so as to ensure perfect development. Our autumns are none too favourable to the perfect maturation of the latest kinds save in the most suitable soils and situations; hence medium-sized fruits are the most likely to attain to this essential standard. To aim at large fruits in the case of late Pears for the dessert is a popular delusion that should be expelled. It is not possible for large fruits to have the same flavour as medium-sized ones. Josephine de Malines will hang on the tree very late in the autumn, and when ripe it keeps sound for weeks.—POMONA.

THE COLOURING OF GROS COLMAN GRAPE.

THE longer I grow the Gros Colman Grape and the more I see of it in other places, the more am I convinced that the general cultural treatment it receives is wrong. I and many others formerly thought that to bring this Grape to perfection its roots must be confined to an inside border, be started early in the new year, and be treated to a strong Muscat temperature. With all these supposed advantages, however, my bunches, although large enough for anyone, never finished so as to carry a Damson-like bloom. I at first laid the blame to the sunless seasons, but have since proved that I placed the saddle upon the wrong horse, and that my treatment, although suiting such sorts as Mrs. Pearson, Trebbiano, and Royal Vineyard, was unsuited to the wants of Gros Colman. These views were confirmed when visiting Kelham Hall, some four miles distant from here. Mr. Webb, the gardener, has this Grape in the grandest possible condition in several vineries both on its own roots and inarched on Mrs. Pince. The crops are heavy, the berries enormous, as large as Orleans Plums and as blue as Sloes. These Vines are not started until March, and even then are not, strictly speaking, forced, but merely assisted, the ventilation being closed in good time in the afternoon in order to husband sun heat. The vineries are not of modern construction, and are,

therefore, only moderately light. This suits the foliage, as every grower knows only too well how liable it is to discolour and turn up at the edges, afterwards becoming a prey to red spider. Plenty of moisture is thrown about during the daytime, this being needful to support the woolly under surface of the large leaves. The situation of Kellam Gardens is somewhat low, close by the banks of the river Trent, and the surroundings are correspondingly cool and moist.

This, again, apparently suits the roots of these Vines, which, by the way, occupy outside borders. The distance between the Vines is not great, 2½ feet at the most, and the laterals, which are disposed freely up the rods, are allowed to extend considerably beyond the bunches, so that they are abundantly shaded. The berries are always well coloured by the middle of September. I feel convinced that what this noble and useful Grape needs for its perfect development is a structure with a fair amount of timber in the roof, an inside and outside border combined, or, better still, one entirely outside, formed of a moisture-retaining loam, with plenty of rubble as a corrective. It should be started not sooner than February, be allowed as much lateral extension as can be exposed to the action of sun and light, and be given no more heat than that of a warm greenhouse, closing early on fine afternoons to dispense as much as possible with the necessity for fire heat. Water should be distributed freely about the floors and walls throughout the day, with abundance of pure fresh air. It should have a house to itself, as in a mixed collection water is generally withheld from the roots as soon as the earlier varieties are ripe, to the great detriment of Gros Colman. This is a noble Grape, and when fully ripe it is pleasant without being too aromatic, and every palate can enjoy it. From Christmas onwards it is of all others the Grape for invalids.

JOHN CRAWFORD.

Coddington Hall, Newark.

SHORT NOTES.—FRUIT.

The winter moth.—Mr. S. T. Wright, of Glowston Court Gardens, writing to us on December 14, says: "The attack of caterpillars on fruit trees will be severe next spring, as the winter moth has deposited immense quantities of eggs on the trees."

Apples keeping badly.—In this county (Worcestershire), and the coldest part, it was only the very early varieties which went off quickly, the winter or later varieties keeping as well as usual, these being left on the trees as long as possible. It must be, I should think, a matter of climate, as I note Mr. J. Groom, from Gosport, says that Wellington and French Crab are as bad as the softer kinds. With me Wellington is excellent, and likely to remain so.—Y. A. H.

Carnation Winter Cheer.—This variety is grown largely by Mr. Wythes at Syon House Gardens, Isleworth. It produces plenty of flowers, and these do not unfortunately split like so many indoor and outdoor Carnations. The plant is strong in growth, compact, and flowers throughout the winter, whilst comparatively little heat is necessary to get the buds to open well. The colour is crimson, touched with scarlet—a bright and welcome shade at this season.

Brownea Crawfordii.—A permanently striking feature in the Palm house at Kew is made by a large group of Brownias. Amongst the different kinds, *B. Crawfordii* is just now most conspicuous by reason of its carrying several of its huge and brilliantly coloured flower-heads. Although the Brownias are leguminiferous plants, the flower-heads are very like those of a *Rhododendron*. *B. Crawfordii* has rounded trusses 9 inches in diameter, carrying from sixty to eighty tubular flowers, which individually are 3 inches long, 1 inch across the mouth and bright rosy scarlet. As a foliage plant alone it might rank amongst the most striking, having large pinnate leaves 2 feet long, the pinnae 1 foot long and 3 inches in diameter.

This *Brownea* is a hybrid and was raised by the late Mr. W. H. Crawford, of Cork, from *B. grandiceps* and *B. macrophylla*.

GARDEN FLORA.

PLATE 941.

THE NEW HARDY WATER LILIES.

(WITH A COLOURED PLATE OF NYMPHÆA MARLIACEA CARNEA.*)

I LIVE in some dread of the hybridiser and watch his ways with misgiving in breaking down the distinctions of natural species. Though we gain enormously by raising seedling forms, the results of hybridising distinct species are not so great a gain to hardy shrubs

wild state (though I have once or twice seen picturesque effects from it, as at Middleton Hall), but when people see that they may have in England the soft and beautiful yellow and the fine rose and red flowers of the tropical Water Lilies throughout summer and autumn, they will begin to take more interest in their garden water-flowers. Even the wretched formless duckponds which disfigure so many country seats will begin at last to have a reason to be. The change will be, I hope, the means of leading us to think more of the many noble flowers and fine-leaved plants of the waterside, apart from Water Lilies. A great many handsome plants frequent the banks of rivers and lakes, and are never seen so well anywhere else. The rich soil brought down by rivers is a great aid in the growth of waterside plants, and those who have never



Bud of *N. Marliacea carnea* (natural size) gathered from open water at the end of October.

and flowers. I very much prefer a wild Sweet Brier to a hybridised one, and many hybrids are poor and ugly, but we owe a deep debt of gratitude to M. Latour-Marliac, who has given us an addition to our hardy garden flora which cannot be over-estimated. He has added the large and noble forms and the soft and lovely colour of the Eastern Water Lilies to the garden waters of northern countries. If this merely meant a gain of the beauty of the individual flower, our debt would be great and we would have good reason for gratitude; but it is not only that. The splendid beauty of these plants will lead people to think of true and artistic ways of adorning garden waters. Our own poor Water Lily was always neglected and rarely very effective, except in a

* Drawn for THE GARDEN (natural size) by A. F. Hayward, October 10, 1893, from plants grown in open water at Gravetye, Sussex. Lithographed and printed by Guillaume Severeyns.

seen them in this their natural position have little idea of their beauty or even size. Apart from the true water plants, there is also a whole series of noble hardy flowers which should be massed in natural ways by the side of water, like Iris, Meadow-sweet, Loosestrife, Globe Flowers, Knotworts, and many others, some of them, like the rosy Meadow-sweets (*Spiraea venusta* and *S. palmata*), flowering with these Lilies. In such ways we shall get gardens of lovely colour and form free from all trace of the pastrycook gardener.

Here is a portrait which M. Marliac sent me of himself. In my own garden I have had great success during the past year with these Water Lilies, which flowered till the middle of autumn, noble buds and flowers being gathered towards the end of October. Many may think that the sunny days of the present year may have been sufficient to account for this suc-



cess, but Lord de Saumarez had tried at Shrubland all the then obtainable Water Lilies of this never-to-be-forgotten raiser, and in the by no means favourable years preceding 1893 all did well and flowered admirably. As Shrubland is a long way north of London, the area over which these Lilies may be grown in the open air includes a great stretch of the most fertile part of England. My own plants are entirely in the open air, and I do not fear loss from cold. The first kind I had (Marliacea) was not in the least affected by the frosts of several years. Most of the new kinds were planted in the spring of the present year, and in a few months we got very good blooms, and red Water Lilies were visible at long distances a few months after planting.

Should there be limits to cultivating these plants in the open garden in the north, it will be quite easy to keep them in houses in the winter and turn them out in the summer. Another very interesting aspect is what may be done in greenhouses and warm houses in cold or unsuitable places, and many may in that way enjoy their fine forms and lovely colours quite near the eye, though the greatest merit of the plants is the giving us quite new and beautiful pictures in the open garden. In view of the great interest of the subject, and of the fact that so little was known of the way in which M. Marliac had originated his beautiful Water Lilies, I felt the best way was to go to the fountain-head for information, and he has kindly sent me the following account of his precious work.—W. R.

— In reply to your request for some account of my operations in hybridising Nymphaeas, I have the pleasure of sending you the following summary of particulars on this subject. Although I am a passionate admirer of all the beauties of the garden, the flora of the waters has always been my favourite study; and so it came to pass that, greatly encouraged by the wonderful results which attended the hybridisation of a host of other special subjects, I resolved to experiment in a similar manner with the Nymphaeas.

About the year 1879 I commenced the work in earnest by crossing the finest types of hardy and tropical Nymphaeas which I had in cultivation here. These early attempts were at first negative in their results, but soon afterwards I scored an unexpected success in obtaining a hybrid with deep red flowers, the seed parent of which was *Nymphaea pygmaea alba*, fertilised with pollen from the flowers of *N. rubra indica*. Unfortunately, and to my great disappointment, this magnificent specimen proved hopelessly barren, and from it I obtained neither seeds nor offsets, so that, after having tried in vain to reproduce it, I gave up the task and turned my attention in another direction.

In order to obtain plants of a really ornamental character, I considered that it was especially necessary that I should make it a point not to employ as seed parents any subjects except such as were very free flowering,

and by rigorously adhering to this principle, I succeeded, little by little, by means of numerous sowings and strict selections, in raising types which were in every way improved in the form and other characteristics of their flowers. It was thus that one of these new subjects (*N. alba*) fertilised with pollen from the American species, *N. flava*, produced *N. Marliacea Chromatella*, which has achieved such a high reputation. In the following year I obtained the hybrid *N. odorata sulphurea* from a similar crossing of *N. odorata alba* with *N. flava*, and the last-named species has also been the pollen parent of *N. pygmaea Helvola*.

About the same time two species bearing a high character made their first appearance in gardens, viz., *N. sphaerocarpa*, a native of Sweden, and the elegant *N. odorata rubra*,



Mons. B. Latour-Marliac.

found at Cape Cod, in North America. The sparse-flowering character of *N. sphaerocarpa* (a diminutive possible sire by the side of my first-raised hybrid, which might well be proud of being the offspring of *N. rubra indica*) determined me to reject it for hybridising purposes, and I gave all my attention to the fascinating American species, *N. odorata rubra*, which, employed as the pollen parent, with my choicest specimen of *N. alba* as seed parent, rewarded me with the sweet *N. Marliacea rosea* and *N. Marliacea carnea*. *N. odorata rubra* was subsequently the parent of the beautiful *N. odorata exquisita*, the colour of which is pink approaching to carmine. As the last-raised specimen of this first group of my hardy hybrid Nymphaeas, I must mention the remarkable *N. Marliacea albida*, the flowers of which have not yet been surpassed in size by those of any other Nymphaea.

In the year 1889 the Universal Exhibition was held at Paris, and my small collection of the above-named hybrids timidly took the road to the metropolis, to see if possibly they might attract some notice from amateurs in the midst of the plant-wonders there. Their graceful elegance, however, was appreciated, and they came back radiant with the distinction of a first prize. What a change has taken place since then! And with how much more assurance would that first collection have made the journey to Paris if they had undertaken it in company with the splendid generation which has since made its appearance!

The success achieved at the Universal Exhibition put fresh life into my ambition to make further advances, and I applied myself assiduously to the work, with the object of effecting a cross which would produce plants with flowers of a very bright red colour much superior to the colour of *N. sphaerocarpa* and *N. odorata rubra*, which I had proved to be incapable of supplying the desired improvement. After numerous trials and experiments, I at last succeeded in attaining the object of my desires in a hybrid, the flowers of which are of the same colour as those of the tropical *N. rubra*, the plant, moreover, possessing the invaluable property of bearing seed—a property all the more precious from the circumstance that the plant does not yield any offsets.

As I had anticipated, this hybrid could not be sent out, as its seedlings could not be relied upon to resemble it; in fact, it has produced seedlings the flowers of which exhibited a whole scale of intermediate shades of colour, from soft pink to the deepest red. Those varieties, however, which it is impossible to render permanent through the failure of their stems to yield offsets have proved very useful for hybridising choice varieties of the stoloniferous and proliferous kinds, and it is from hybrids of this kind that I have obtained the series of those remarkable hardy novelties which, during six months of the year, embellish the waters of pleasure-grounds with a never-failing display of their splendid flowers. Most of these new plants are already catalogued under the names of *N. Robinsoni*, *N. Seignoureti*, *N. Laydekeri rosea*, *N. liliacea*, *N. fulgens*, *N. Marliacea ignea*, *N. Marliacea rubra punctata*, and *N. Marliacea flammea*. Others, not less brilliant, will soon be added to the list, and I may mention, in passing, that several of these have been already described in THE GARDEN.

The acquisition of a red-flowered hybrid Nymphaea which yields seed has opened up a new prospect by affording the means of effecting crossings with the yellow-flowered kinds, the result being the production of quite a legion of Nymphaeas bearing flowers which exhibit singular shades of colouring, such as orange, vermilion, gold colour, &c. Some of these splendid kinds have been already introduced to the public, the first of them which flowered being named after the editor of THE GARDEN, a compliment due to

him in return for the great interest which he has taken in the advancement of the culture of hardy Nymphaeas.

The blending of the Nymphaeas of the Castalia tribe (which are found in various northern countries) with the Lotuses of the tropics is now an accomplished fact; but another important task remains to be carried out, namely, the hybridising of the Castalias with plants of the cyanea section, which includes a great number of superb blue-flowered Nymphaeas. This is a work which is well calculated to stimulate the enthusiasm of hybridisers.

In conclusion, I have to say that, notwithstanding my very great partiality for the Nymphaeas, I can appreciate the stately beauty of the Nelumbiums, and I have endeavoured, by making repeated sowings, to obtain some hardier and more free-flowering forms of these plants than those of exotic growth. *Nelumbium Osiris*—one of my seedlings—possesses these two important qualities, and I think it is destined to prove a powerful aid and factor in effecting this desirable improvement.

Such is the record of my labours amongst the Nymphaeas. May my enthusiasm for the flora of the waters spread and induce many others to follow my example in endeavouring to extend and enlarge the domain of horticulture.—B. LATOUR-MARLIAC.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

FORCING SEAKALE IN THE OPEN.—Where Seakale has to be forced in the open ground it is of little use to commence forcing before Christmas, as up till then the roots will not have had that rest which is so essential for their making a strong start. Whether it is advisable even now in many cases to commence forcing is an open question, as with a plentiful supply of green vegetables and few roots of Seakale to depend upon, the wisest plan, unless of necessity it must be had early, would be to wait for a few weeks longer, the produce being all the stronger accordingly. When forcing does commence, what is wanted is a steady and lasting heat, which is best secured by providing a bulk of equal parts of leaves and fresh stable litter, which should have been turned two or three times. If this is not done, the temperature is not equable. At least, it quickly rises and then as suddenly falls. If stable litter is used alone, it acts similarly, and besides there is the danger of a sudden increase of steam, which, if not dispersed, very quickly injures the young growing points. Seakale pots should be used, and if boxes have to be used, see that these have movable lids. The material must be well packed around and between them, and at first keep a look out that the temperature does not rise unduly high. If this is likely to happen, the lids should be tilted to let out the heat.

TEMPERATURES FOR MUSHROOMS.—Now that we have got into what is generally the coldest period of the year, Mushroom beds will not keep in bearing unless a genial and equable temperature can be maintained within the structure. Where a regular supply of Mushrooms is looked for and no attempt is made to keep up a genial warmth, the supply will naturally fall off suddenly. The beds may not be spoiled and they may even bear again when a genial time arrives for their so doing, but a growing temperature must be maintained if

Mushrooms are to be secured. For this reason, if the temperature can be maintained at 55° or a few degrees lower in very cold weather, there need be but little fear of the Mushrooms failing, that is, other conditions being right. If the pipes are overheated, some old mats or bags should be laid over them to temper the heat, or the atmosphere will become arid, this being very inimical to the growth of Mushrooms. Very often a growing temperature may be maintained by the aid of fermenting material, a heap of this being placed within the structure and turned occasionally, the ammonia which is given off being very beneficial. In unheated sheds and such-like places where beds are made up, the temperature must be kept up by coverings of dry litter or hay. If it becomes damp through contact with the bed, it should be turned occasionally, placing the drier outer covering near the bed. If this is not done, the spawn is apt to be drawn through into the damp litter.

PREPARATION OF MATERIAL.—In collecting the manure, see that there is a fair proportion of short litter with it, as if only droppings are used, they are apt to heat very violently. Some turfy loam may also be used with good effect with manure that is apt to heat violently, the Mushrooms often being much improved in quality by so doing. When soil is used it must be well intermixed with the manure before the bed is made up. Not much soil is needed, about one part to six being ample.

STORE TURNIPS.—Although the smaller or medium-sized roots are keeping well enough, yet this season the larger roots are showing signs of decay. If the smaller roots are stored by themselves, there need be but little fear, as the larger roots could be looked over and used first. But if by chance the roots are all together, the smaller and sounder roots would become tainted through contact; consequently they would decay and the supply be lessened accordingly. For this reason all should be turned over, taking out any that are in the least decayed. A. YOUNG.

ORCHIDS.

THE last meeting of the Royal Horticultural Society for the present year, held on December 12, afforded an excellent opportunity for Orchid cultivators to show the great wealth of bloom that may be obtained at this season of the year. Lovely varieties of *Laelia anceps* were shown, the spikes, as they ought to be, left hanging loosely without any support. Garden varieties of Orchids were very numerous, and will doubtless be exhibited more freely in the future than they have been in the past. Sometimes the progeny does not surpass in beauty or even equal either of the parents, but seedlings are interesting, and as all amateurs can become raisers, an added charm is given to Orchid culture which is continuous and instructive in the highest degree. There are pleasure, interest, and instruction in the entire process from the time of pollenising the flowers. There is first the interest arising from watching the sudden collapse of the flower that has been touched with the pollen, while another by its side of the same age will remain in perfect condition. Not always will a seed-pod form, although the pollen has apparently taken effect, but a week or so will satisfy the operator that he must make another attempt. The pods may form perfectly and grow to their full size, but they may be filled with imperfect seed, and twelve months may elapse before they are ripe. Less time suffices sometimes. The chances are that the seed will be perfect, and it should be sown at once on the surface of the compost in which an allied species is doing well. A register of all the crosses made should be kept, with the dates of hybridising, ripening of the seed, sowing it, and flowering; such register is most useful for future reference. One of the prettiest exhibits made at a recent meeting of the Orchid committee was a number of handsome spikes of *Calanthe Veitchii* arranged their full length in vases, the green being supplied by the graceful foliage of *Asparagus plumosus*. This exhibit was

sent from the Duke of Northumberland's garden at Syon House by Mr. Wythes. There are now other very beautiful varieties of the deciduous *Calanthes*, all of which we owe, as well as *C. Veitchii*, to the work of the hybridist. The flowers last in a moderately cool room for at least two weeks after being cut. In this there is a great difference, some cut flowers fading very quickly in a room crowded with people, and which has also been very much heated. I have tried spikes of *Calanthes* in a room which has only been comfortably warm, and they have lasted three weeks. *Calanthes* are amongst the easiest of Orchids to cross-fertilise; moreover, flowering plants may be obtained in three years or less from the time of fertilisation. As the *Calanthes* are now either in bloom or throwing up their flower-spikes, the leaves will either have decayed or they will be in a decaying condition. Let all such be removed and arrange the plants with a groundwork of Maiden-hair Ferns or something else amongst them. The spikes are certainly more effective with some kind of greenery arranged amongst them and placed so as to hide the bare pseudo-bulbs. Not much water is needed now, but it is an error to allow the soil to become dust-dry until the flowers fade, when water may be withheld. Amongst the Orchids not taken in hand by the hybridist are the *Vandas*—at least we do not yet hear of any result from fertilising the flowers, and yet what remarkable hybrids might be obtained by crossing such grand things as *Vanda Sanderiana* or *V. coerulea* with the *V. suavis* and *V. tricolor* groups. All cultivators of these *Vandas* are anxious to grow them so that the leaves are retained from top to bottom, but they do not all succeed; only a few seem to hit the right method of culture, which implies more than the mere details of watering, ventilating, &c. It is evident that a high temperature is not what they require, for some plants retain their foliage in quite an intermediate temperature. In fact, in all the successful instances of cultivation known to me the plants have been grown in a house which in winter would fall as low as 50°. I was quite successful in cultivating *Vanda suavis* and *Vanda tricolor* some fifteen or twenty years ago in a half-span house put up to grow Pines in, and in which the temperature could easily be kept to 55° at night without overheating the pipes. The *Vandas* were placed on a stage against the back wall of the house, and at no great distance from the roof-glass. The point in their favour was the ease with which the temperature could be kept up even in the most severe weather without heating the pipes more than the hands could bear comfortably. There was no ventilation underneath the plants. It is very difficult to give any reason for the lower leaves of *Vandas* turning yellow and dropping off. It is evidently caused by exhaustion. I have observed the loss of the leaves to occur after blooming, and when the spikes have been allowed to remain six weeks or more upon the plants two or even three pairs of leaves die off suddenly. I have also known it happen to a fine plant of *Vanda suavis* which had been two days at a flower show. The long bare stems of the *Vandas* are certainly unsightly, and the cultivator feels that he has been filled every time he casts his eyes upon them. How to treat such plants is the next question. If they are left alone new growths are more likely to break out from the stems than if they were furnished with leaves, and they will in time furnish the base of the plants. Again, if the plants are turned out of the flower-pots in which they are growing and the underground stem is shortened, the plants may be placed considerably deeper than they were before. The flower-pots should be filled three parts of their depth with loose, but clean potsherds, the remainder being sweet, fresh Sphagnum and drainage. The underground Sphagnum very speedily decays, but a fresh growth ought to be encouraged upon the surface. As a rule the best roots are found above ground; these that push into the decayed Sphagnum very often fail to some extent and sometimes die outright. I believe next month is a good time to repot *Vandas* of the above types.

I observe also that a few of the white varieties of *Læia* aneeps that have missed flowering have started to grow and are freely pushing out roots, although they have been kept comparatively dry; those of them that require repotting will also be seen to next month. Any repotting or surface dressing that can be done at that time should be seen to as soon as possible after the new year.

J. DOUGLAS.

PLANT HOUSES.

SEASONABLE NOTES.—Thus far most of us cannot complain of severe frosty weather to cause any anxiety as to the welfare of plants in general, and what, too, has been an additional advantage to those of us who are located within the fog area, as it relates to gardens surrounding our large towns and cities, is the almost entire immunity which we have experienced this past autumn season. No glass has, up to the present, been washed here upon the outside of the roofs, nor does it need it in any sense. The weather, on the other hand, has been such as to permit of ventilation being carried out extensively compared with most seasons. Naturally, we cannot hope to escape without some spell of frost; it is well, therefore, to be on the safe side.

If any greenhouse or semi-hardy plants are still in positions where there is any apprehension of danger they should be looked to in time. *Fuchsias* sometimes get caught by being left too long in the cold. It is far safer and better in every way to keep them just free from frost; if not under greenhouse stages, a cellar is a very good place. When compelled to house in sheds the pots should be covered to a good depth with litter, which should be as dry as possible. *Hydrangeas* should also, if in pots, have some protection afforded them in a similar way, more particularly the best form of the variegated variety, which is, comparatively speaking, a little tender. Other shrubs which are, as a rule, hardy when planted out, are not always so when in pots, hence a little protection is far better. Of semi-hardy, but extremely useful plants, *Aloysia citriodora* is an instance; this I prefer to keep just out of the reach of frost, but not excessively dry at the roots, otherwise the wood will often die back and the plants be partially weakened. I have, when compelled to do so, kept *Agaves* in dark places, but I do not like the plan. In one place I had them in a large stokehole for want of better accommodation, and, considering all things, they kept well. *Agapanthus umbellatus* will stand a few degrees of frost, but I would not risk this plant below freezing point. So long as frost can be excluded, light is not really necessary in any degree whilst this semi-bulbous plant is resting. No water should be given during the winter, nor until the spring is fairly advanced is any needed, otherwise the plants will not flower so well. *Liliums* should be kept safe from frost, so also should *Spiræas* which have been potted up for forcing.

Up to the present it has been quite possible to keep herbaceous *Calceolarias* in cold frames or pits. These will bear a little frost even to the freezing of the soil upon the surface better by far than a coddling course in what is not quite a cold greenhouse. *Cinerarias* will not bear quite so much cold, but so long as the frost is kept away from them, they, too, will be better than in anything like a warm house. Moisture in both cases is enjoyed by these plants, but any excess so as to cause injury to the foliage must be prevented. In order to accomplish this more readily, each plant should be stood upon a pot in preference to its resting upon the soil; more room is thus afforded for the circulation of air. So far *Lachenalia tricolor* and other sorts in pots will not have come to any harm in cold pits where ordinary protection has been afforded. I would much prefer to keep them thus plunged up to the rims in ashes and near the glass than have them in a greenhouse a long way removed from it. *Campanula pyramidalis* I always kept in cold pits, the pots plunged over the rims, so that they are not seen, the lights

being off on all favourable occasions with air at other times when absolutely not freezing. With a frost the lights are kept close, and mats thrown over if extra severe; even then they get frozen, but sudden changes are avoided, and no harm accrues. Christmas Roses planted out in a cold frame are moving kindly. I prefer this method for cut flower supply to that of potting. Intermediate Stocks in pots for spring flowering should be kept quite dry at the roots and as dry as possible atmospherically. From October to March I never water Stocks in pots when wintering them in cold pits. Carnations in pots for spring flowering and Pinks for forcing when in pits should also be kept on the dry side, being freely ventilated when the weather admits. These will be far safer and better if in cold pits than in those where but a slight amount of warmth is applied. Personally I much prefer to keep the stock of *Chrysanthemum* cuttings taken at the end of the flowering season in cold pits than in any sort of house. There is no drooping of the foliage; in fact scarcely any attention, short of protection against frost, is needed. I bank up the sides of the pit with a lining of short litter and protect thickly with mats on the glass, and no harm ever comes to the stock so treated. *Echeveria secunda glauca* is kept tolerably safe when banked up against the wall of a house, but of the two I prefer to keep it in cold pits, mats of course in either case being placed over the plants. All frames and pits whatever they may contain should be looked to as closely as a house to see that no broken glass remains unprepared.

JAMES HUDSON.

HARDY FRUITS.

BLACK CURRANTS.—These may be planted or transplanted at any time up till the end of February, always provided the ground is not frost-bound or badly saturated with water. Black Currants thrive best in a rather strong loamy soil, and if well prepared at the outset, the bushes will succeed without much further trouble for many years to come. Shallow hot soils should be deepened for them as much as possible, either by trenching or by the addition of fresh soil, a surfacing of clay or marl improving the texture considerably. Good room should be allowed the bushes, especially when the soil is rich. A distance of 5 feet apart each way is none too much space. Those with clear stems are to be preferred, though these are not absolutely necessary, natural bushes, or those largely reinforced by suckers, answering well. The three best varieties are Black Naples, Baldwin, and Lee's Prolific, the first named being perhaps the most generally serviceable. The pruning may also be completed now. Thinning out and foreshortening are principally what have to be done, the fruit being borne on the young wood formed the summer previous. In order to keep the bushes well within bounds, cut back the straggling outside and leading branches to better placed inner shoots, and then thin out the remainder of the young shoots so as to have them thinly distributed all over the bush. Quite young bushes should be freely cut back for at least two winter prunings, this being the surest way of laying a good foundation. Always keep the centres a little thin. Cuttings made now from young wood and inserted not less than 6 inches apart in rows 15 inches asunder on an outside border will most probably all strike root and form about three good shoots next summer. The shoots selected should be long, firm, and straight, be shortened to a length of 12 inches to 15 inches according to their vigour, be cut clean across just below the lower joint, and have all but the three or four uppermost buds cut out and be then firmly dibbled in to a depth of 6 inches.

RED AND WHITE CURRANTS.—Much as regards soil for and time of planting of Black Currants also applies to Red and White Currants, and these should certainly have quite as much room. Standards with a good clear stem 4 feet in height may be dotted among the bushes, or arranged at the back of a single line of bushes alongside of

garden walks. A wire or other fence may also be furnished with upright trained growths or cordons. A foundation should be laid by training two leaders horizontally, shortening these to a length of 12 inches at the autumn or winter pruning; from the shoots resulting, training one upright and continuing another as a leader, this being repeated another year or two, or until enough upright branches are obtained. The end upright growths should be merely a continuation of the leader. All should be about 9 inches apart and be gradually trained upwards till the limit is reached. Spaces midway between Pear and other fruit trees against cool walls can be thus utilised for Currant culture, and by matting over the ripe fruit it can be kept very late. If standards are desired, confine young plants to a single stem and train upright till the requisite height is reached, when the topping and pruning should be the same as are practised in the case of bushes. Red and White Currants produce their clusters from the basal buds thickly formed at the union of the young shoots with the old wood and the spurs generally formed by hard pruning. After, therefore, a bush sufficiently large has been formed, the winter pruning merely consists in cutting back all the young shoots to 1 inch or rather less of their base, but if the bush can be improved by the addition of more main branches, leave well-placed young shoots and shorten these to a length of from 6 inches to 8 inches, allowing them to advance the same length each year till the full height is reached, all being then well clothed throughout with fruiting spurs. Quite young bushes should be freely cut back till a good foundation has been laid, the centre always being kept open and the branches 9 inches apart. Shorten the leading shoots on these to 6 inches or 8 inches each winter, and cut back all the side shoots as just advised. The main branches must be built up thus gradually, or otherwise they will be badly furnished with fruiting spurs. Remove all suckers, and give trees that crop heavily a surfacing of manure, this being more effective if covered with a little of the soil. Cuttings should be made and inserted as advised in the case of Black Currants. It should be added that the Red Dutch and Houghton Castle are good heavy cropping red varieties; La Versailles being also grown if extra fine berries or such as will take prizes are desired. White Grape and White Dutch are good White Currants.

GOOSEBERRIES.—These transplant very readily whenever it is mild during the winter. The propagation, on the lines laid down in the case of Currants, may also be carried out and young bushes procured and planted. Some of the most reliable and good are Whinham's Industry, Whit-smith, Rifleman, Crown Bob, Lancashire Lad, Rar-dom Green, Rosebery, Companion, Keepsake, Gunner, Early Sulphur and Warrington. The last-named is the best keeper and should be the most extensively grown. The small-berried Red, White and Yellow Champagnes and Turkey Red are of excellent quality, while if extra large-fruited varieties are desired, London, Ploughboy, Antagonist, Snowdrop, Green Overall, Shiner, Thumper, Catharina, Careless, Leveller, Mount Pleasant and Lion's Provider are considered second to none. All are best grown with a clear stem, and the Lancashire or large-fruited varieties especially so, most of these being of a somewhat trailing habit of growth. Gooseberries delight in a fairly deep, free-working soil, very stiff and cold, or light and hot ground not suiting them at all well, though even these might be made fit for their reception by the addition of material that would either lighten or make them firmer and more retentive, as the case may be. The majority of the varieties will eventually require good room, and the bushes may well, therefore be disposed 5 feet apart in single rows, or the same distance each way when several rows are grouped together. Till the bushes well occupy the ground, the spaces between may be cropped with vegetables; but the less the ground is disturbed immediately about them the better, surface mulchings, but no clogging, being advisable. In order to fully utilise permanent wire netting-covered structures, intersperse standard Gooseber-

ries among the ordinary bushes, and blank spaces on the back walls may be covered with either single or two-branched cordons, or upright trained trees formed exactly as advised in the case of similarly trained Red Currant trees. Wire fences may be covered with Gooseberry trees in the same way, the pruning in all such cases consisting in shortening all lateral growths to within 1 inch of their base and the leaders to a length of 10 inches, this being the surest method of having the main branches or cordons well furnished with fruiting spurs. Pruning may be done now if birds are not in the habit of interfering with the buds, or it may be deferred till the buds are on the move. The heaviest crops are usually had by leaving a goodly number of unshortened young shoots all over the tree, the pruning consisting in foreshortening, removing the very lowest shoots and lightly thinning out the rest. Some growers adopt the plan of shortening all the young wood back to the old wood, clusters of fruit being then had from the main branches. Use the knife rather freely on quite young bushes till a good foundation is laid.

W. IGGULDEN.

IRON FENCES VERSUS LIVING AND PICTURESQUE FENCES.

The iron fence bids fair to ruin the beauty of the English landscape, unless people see its ugliness and its drawbacks as a fence, its great cost, and the further cost of daubing it with tar, paint, and maintaining it in good repair. With bullocks on one or both sides of an iron fence, its fragility as a fence is soon seen. It is of no use as a shelter, nor as a protection from interlopers, as it often forms a ladder for all who want to get over with ease. As a boundary fence it means the loss of all privacy, and is harder and uglier than a gridiron. Lately I saw an estate of much natural beauty, the charms of which were stolen away by miles of iron fences. The roads near were bordered by them, placed on an excellent bank which would have grown a good live fence. Anyone could get over anywhere, and with this fence and its hard black lines in the foreground, much of the beauty of the landscape was lost. Used to fence the pleasure ground or by drives, the effect is most annoying to anyone who knows how much more beautiful some live fences are. There is nothing an iron fence does that an "old-fashioned" one will not do better, while it always looks well with its Ivy, Ferns, Primroses, and varied life. The ill opinion of the old-fashioned fence arose from its being so often neglected, and allowed to be overgrown by trees until no longer effective.

It is not only the tradesman emerging from the town who fancies there is no fence so perfect as an iron one. Such an idea would be excusable in mechanics, and many others who have not studied the question of fences from the point of safety, endurance, and beauty, and who fear the expense and trouble of forming a living fence. But we regret to see the plague of iron fencing extending to some of the finest country places where there are good views.

No fence is so good as a live one on a bank. One objection to it is its weakness at first, and the necessity of protecting it when small, but these are not insurmountable. It is the custom to plant Quick fences small, and then protect them with elaborate fencing on either side—wearisome work, for which there is no need if people would take the trouble to get plants strong enough to form a good fence to begin with. With strong Quick, and a mixture of Holly, or other strong bushes, a good fence can be made at once without protection being needed. In every country place it would be easy to have a few lines of young and vigorous Quick put out in fields in lines a yard or so apart, where they might get stout, and be ready for fencing at any time. Where there are underwoods with Quick growing in them, it is often easy to grub up suitable bushes, cut them down half way, and plant them in a fence, always on a bank.

I have done this with success and without losing a bush, but should prefer to have a few lines of stout Quick ready to take up at any time, because it is less labour. Most fences should be on banks with "dicks" where the ground requires them, because the bank itself forms a fence against lambs and small animals, and the added soil that goes to make the bank gives much better growth. Three years ago I formed a fence of this sort, every bush of which was gathered in the underwood near; the line of bushes was so strong that there was no need to fence them. To prevent, however, any chance of cattle rushing through, a thin Larch pole was run through along and just below the top of the fence, supported by the bushes, and no animal has since passed the fence or injured it. The slender tops of Larch lying in a wood near were used. This fence will be good for as many years as it is wanted, and be a shelter as well as a fence. It was made three years ago, and will not be touched or require the slightest attention for some years to come. It should be clearly understood that in the formation of this fence we had not even the cost of the ordinary "stake and heather" protection commonly used in remaking rough fences. The tough bushes did it all themselves, the bank always helping them in all ways. Consider this as compared with the costly galvanised or iron fence, with its dangers, ugliness, and coldness!

By far the best fence for farm and general work is the living fence—the most satisfactory and least expensive in the long run, and the most beautiful in its effect upon the landscape and for its varied life. I mean the living fence that is not too trim, as annual or frequent trimming is not necessary. Small, "skinny" Quick fences are not so handsome as rougher and larger fences. As regards the constant clipping of fences, it is a doubtful practice. In good arable farms it may be desirable, but in most districts where fields are large the fence should also be a shelter—a bold, free-growing screen, with Bramble, wild Rose, Ferns, Ivy, and other scrambling things that like to live in it. I have many such fences that do not want attention for years at a time—on banks, as they always should be. They are better furnished at the bottom than some of the constantly clipped hedges. To plant on a bank may in some very dry soils, and where there is a low rainfall, seem a mistake, but the bank itself doubles at least the depth of the soil, and the protection of the bank and its little dick is a great gain to fencing, by allowing Briers and wild Roses to fill in the bottom of the hedge, and so prevent small animals from making tracks through. My fences round woods are only re-made when the underwood is cut, say every ten years. That is sufficient. The mass of wood behind and the strong growth in the fence itself are such that no animal makes an attempt on them. The only source of weakness in such places is hedge trees, and I take care to remove them.

Trees are not the only hindrances to good fences. No matter how well a hedge may be planted, or how good the selection of plants may be, if the hedge is annually cropped, or is permitted to grow wild, it is certain to become useless in the end. A hedge can be kept in good order for generations by cutting and laying it every ten or dozen years, and the owner of such a fence deserves to suffer if he does not take care that this small outlay shall be made when the time comes round. It is enormously less than the cost of painting the iron fence and keeping it in repair.

PLANTS TO USE AND AVOID.

To use bad fencing plants is folly, for not only is the money thrown away, but the work is never done. I have planted some thousands of Quick this season in lines 3 ft. apart for the sake of getting strong bushes to make fences, and some Cockspur Thorn, of which I saw an excellent fence in France in autumn. I am not so sure about the Cherry Plum, which grows well in some places, but is not so tough as a Thorn, and in some cold soils, where the Quick is all we want, the Cherry Plum will not thrive. A few Sloe bushes may be used,

but they are not so tough and lasting as Quick. A few seedling common Hollies not over 3 feet high are good here and there, and, where there are not many rabbits to bark it, nothing is more beautiful when planted than Holly. Hollies have the advantage of growing under trees better than any other fence plant. Considering the protection they afford to stock, it is surprising that they are not more largely grown for shelter in stock-raising districts. We prefer them not clipped and grown naturally. One very often sees beautiful, almost natural fences of Holly and Quick in the forest districts of the south of England, and among Holly hedges well formed in better land, those at Woolverstone, in Suffolk, are the best I have seen. Unless, however, in open places where rabbits are few, Hollies are pretty sure to perish when rabbit food is scarce. I have planted several thousands within a few years, and none are intact that are not protected by wire. Sweet Brier, Dog Rose, and cut-leaved Bramble are very good to mix.

It is as necessary to avoid bad fencing plants as to select and grow good ones. The worst is the common Privet, the ghost of what a fence plant should be. Its rapid growth deceives, and it is often used with a dangerous sharp-pointed iron fence outside as a guard, and perhaps, at the same time, to be the death of some animal. Privet is a rapid grower, or seems so at first; it is never so strong a grower in the end as Quick, Holly, or wild Rose. The quicker the Privet grows the worse it is, and the plant should never be seen in a fence. Laurel is also poor. It is a soft useless fence plant, apt to be killed in cold districts and in valleys. Spruce is, unfortunately, sometimes used in hedgerows, and is most unfitted for them for many reasons. The common Elder is always a source of weakness in a fence, and should never be chosen.

OAK FENCING.

Where there are beautiful views, people who enjoy landscapes will do well not to mar them with iron fencing; such things crossing the foreground of the finest landscapes can only ruin them. In some cases good views are kept by a sunk fence, and to prevent them from looking hard or deceptive in any way we may throw a garland of wild Roses along the top of the wall, which marks the position of the fence, and always looks well. But in many other cases, along important drives perhaps commanding interesting views, a finer thing by far than any iron fencing is the strong split Oak post-and-rail fence. There are many estates where Oak is abundant, and where the men are accustomed to split it up into stout heartwood posts and rails. This is not necessarily a dear fence, and it is a very beautiful and efficient one if well done. In colour it is perfect, improving as it gets older. Such a visible tangible fence will last for many years, and might come in the foreground of a picture by Corot or Turner. For dividing lines in stockyards, too, nothing is so good and safe as a split Oak fence. Where good effects are thought of, nothing is more important than good post-and-rail fences in certain places on the farm, where we want to keep animals back without hiding the view, and where shelter is not required. Oak park fencing is pretty, and in many cases efficient, but too expensive to be done on a large scale for field work. Nor should I rank it as high as a good live fence, because of its cost, repairs, and the quickness with which it is often destroyed when old.

WHAT TO DO WITH IRON FENCING.

Many places possess a good deal of iron fencing, and the question may arise as to what to do with it where it is an eyesore. It is best to use it in positions where wiring is necessary to prevent young trees from being destroyed. Temporary wiring may suffice for a season around crops, but will not do for young plantations; also in gardens where much thought is given to outdoor flowers, it is impossible to enjoy them if ground game be let in, as Carnations, Tea Roses, and many of the finest things would soon disappear in hard weather

owing to the rabbits and hares. An iron fence allows us to wire directly on it; but, as such fences near the house are a great eyesore, they should be concealed by shrubs or hedges of Holly, Sweet Brier, or other shrubs. It is easy to do this by a little care in planting. Where pieces of water are near, they often help to shorten the line of wire fencing round pleasure grounds and gardens, but water is unsafe in winter, as rabbits and hares easily cross it in frost. Wire may be used without iron fencing, it is true, but in that case, being fragile in itself, it would have to be supported by something else. The iron fence at once protects and supports it. Young plantations, too, are hopeless without permanent wiring, *i.e.*, less than seven years of secure fencing will not be safe. This applies not only to young Pines and Larch, but to Ash, Poplar and young plantations of most other hard-wooded trees as well. If there is any iron fencing to spare, it may be used in all such fencing of young plantations and also of fruit gardens, and such fencing should be done without hideous disfigurement of the landscape.

THE FENCE AS A SHELTER.

Apart from the ugliness of the iron fencing, its giving no shelter whatever is one of its worst points, as a good live fence gives excellent shelter for sheep and other animals. The prim, neat little hedge is not so good as a shelter, but enormously better than an iron fence. A well grown fence, cut down and re-made after a lapse of seven to ten years, gives very good shelter indeed. There are many such shelter fences, with Holly and Thorn allowed to grow at will, with an interlacing of Ivy, seated on a rough bank. Such lines as these in the direction of the prevailing winds could not fail to be helpful for stock in exposed fields. We have plenty of materials to form such fences as hardy and enduring as the bank itself. We might even have them evergreen if we used the Holly largely. The shelter of a good line of naturally grown Holly on the north side of a high field in an exposed district would be equal to that of a shed. There would be no great difficulty in establishing such Holly fences in open farming districts where rabbits do not abound, but it is not so easy in wooded districts. Seedling plants, not large—*i.e.*, 1 foot to 3 feet high—are the best to use. It is a good plan to buy some very small seedling Hollies, and let them get strong in a nursery, so as to be able to get a few when mending or making fences. The more ordinary materials, too, with an occasional Holly intermixed, give very efficient shelter indeed. The Ivy runs through such fences and makes them very pretty, tying them together with its graceful lace work, and its growth seldom chokes the Quick or other plants.

PLAIN WIRE, BARBED WIRE, AND NAILS IN FARM FENCES.

Fences, through neglect, are often allowed to get in a disgraceful condition on farms, which if they were watched, and once a year weak places and gaps stopped by planting a few strongly rooted living Quick, instead of sticking in a few dead bushes of any kind which come first to hand, the fences would remain good for any number of years, and would never require the use of barb or plain wire either for fencing or gap-stopping. It is certainly a cheap and ready way, but woe to the poor animal who chances to get entangled in it during the night. In most cases the worst accidents happen in the night, when the poor animals cannot see their danger when frightened by dogs or in other ways. On some farms and estates we see every kind of fence except the good living one—anything to stop the gap for the time, without any thought of the future. The consequence is that it is never-ending work repairing broken wires, replacing the dead fences, and straightening iron fences. Nailed wooden fences are a great mistake. If posts and rails must be used—which is at times inevitable—rails put in a mortised post will last very much longer than the nailed ones. Nails are often a source of danger to cattle rubbing

themselves against the posts in which the nails are driven, as the wood decays. A living White-thorn fence, or mixed with Hornbeam and Holly and Briers, on a substantial broad bank, is the fence for general farm purposes. On large estates, and where landscape beauty is taken into consideration, large fences are often necessary, also round pasture fields for shelter; but on large arable farms the sturdy hedge on a good bank is what is wanted, as it does not interfere in any way either with the cultivation of the land or the crops. It is as much to the farmers' interest to watch their fences as closely as they do their crops and stock. —*Field*.

KITCHEN GARDEN.

A RUNNING FRENCH BEAN.

PERMIT me to inform Messrs. Sutton and Sons (see p. 504) that the Longford Climbing French Bean referred to by Mr. W. Iggulden attains to a height of from 6 feet to 7 feet in these gardens, and that it must be ten or twelve years since Mr. Iggulden first saw it in full bearing here in the month of September, as it had been since the middle of July, and continued to yield long, straight, handsome pods until cut down by frost. Mr. Iggulden and several other gardeners who accompanied him on that occasion expressed their astonishment and gratification at seeing the two or three long rows of French Beans of the above height and heavily laden with pods of the description indicated which met their gaze for the first time. All the gardeners that have visited Longford during the interval for the first time have expressed themselves in similar terms, including one visiting here in September, 1892, who had seen Messrs. Sutton and Sons' Tender and True a short time before.

I make my first sowing of this Bean about the middle of April in a drill about 3 inches deep and 60 yards or 70 yards long, depositing the seed about 6 inches asunder zigzag in the drill, covering in the ordinary way, drawing soil well up to the plants on either side as soon as they appear above ground and protecting from late spring frosts by tiffany supported by forked sticks. Later on the haulm is staked, giving Pea sticks about 7 feet high. This done, a good mulching of half-rotten manure is laid on either side of the row. This preserves the soil in a uniformly moist and warm condition about the roots during the summer and early autumn months, the substance of which, when water is given, is washed down to the roots to the benefit of the crop. Two more sowings are made at intervals of a fortnight from the time stated above and in the manner indicated. I may here say that as the Beans are gathered as soon as large enough for cooking, successional pods set and swell higher up the bine with great freedom until cut down by frost, like Messrs. Sutton's Tender and True. The Longford Climbing French Bean was raised by me many years ago from seed saved from a plant of Canadian Wonder, which evinced a disposition to run high above all the other plants growing in the same and adjoining rows.

H. W. WARD.

Longford Castle, Salisbury.

Stachys tuberifera.—Evidently this now fairly well-known vegetable does not bear drought well. During the past summer the plants flagged considerably, and for a long while they seemed almost dead. When rain came they soon recovered and started to grow again, but the check told badly on the tubers, which are smaller than usual, and hence more difficult to prepare for cooking. The tubers being naturally small, their one fault, any falling off in size is unfortunate, so I shall in future endeavour to select a moist and well-manured spot in which to grow them. This is making its way into popular favour. Bulk for bulk, it will not bear comparison with other root crops, but when properly cooked it forms a dainty dish liked by almost everyone. The tubers should not

be lifted until required for use, as they soon shrivel and become discoloured, but they will become plump again if steeped in cold water. When the ordinary means are taken for keeping frost out of the ground to permit of easy digging, *viz.*, by covering with litter, no more should be covered than are likely to be soon wanted, and the litter must be removed when the weather is mild, or the tubers will soon start into growth and become quickly spoiled.—J. C. TALLACK.

Cabbage Lettuce All the Year Round.

A week or two since a note by "G. J. H." calling attention to this excellent Lettuce appeared in THE GARDEN. When this Lettuce was sent out I have not the means of knowing, but the name has been familiar for many years. Many varieties are introduced from time to time, all supposed to be of exceptional merit, but there is not a variety either for general crop or for winter use equal to All the Year Round. I have had quantities of plants this autumn that were quite 6 inches across the hearts, these being firm and perfectly sound. The seeds were sown in drills on a south border, and sufficient plants were left in the rows to form a crop, the thinnings being transplanted. These are now in fine condition for wintering. Light span-roofed frames have been placed over them for winter protection in preference to lifting and planting them under glass.—A. Y.

Improved Round-leaved Batavian Endive.—I quite agree with Mr. Wythes as to the value of the above excellent Endive. It is the best possible substitute for Lettuce we have, well-blanching produce having quite a nutty flavour. Knowing its merits, I made provision for a large supply, and I never remember Endive to have kept so well as this season. The curled-leaved section is all very well for garnishing, but for salad it is not to be compared with the Improved Round-leaved Batavian. It is also very easily blanched. This season, having more plants than I could accommodate with glass protection, the plants were lifted and placed on the floor of a fairly light and cool shed, and for the past few weeks I have been cutting beautifully blanched hearts.—A. Y.

CLIMBING BEANS.

REFERENCE to the climbing form of the Canadian Wonder dwarf Bean named Tender and True recently made naturally leads to the inquiry, why should runner Beans in gardens be, as a rule, so severely limited to the scarlet form when there are several others that give greater variety, and if known would always be acceptable at table? I saw this Tender and True form in the late autumn at Longford Castle in 1892. It had grown to a great height and was cropping abundantly. It is evident that its height, moderate under ordinary culture, is much greater when in strong holding soil. Very much, too, depends upon the way in which the pods are kept gathered. Like all the climbing and dwarf Beans, the harder the pods are gathered, the longer will the plants continue to fruit. Under such conditions Scarlet Runners will grow from 12 feet to 14 feet in height if tall sticks be supplied. Both the white and scarlet-flowered forms of the rough Dutch runner give very little variety in flavour, but the long narrow-podded forms have more flesh relatively, are stouter and more succulent than are the giant podded forms, which are soft and puffed. A special feature of the Ne Plus Ultra and Prize-winner types is that they keep their pods young and tender so much longer than does the Painted Lady or the old Scarlet Runner. That is a great advantage, whilst also the pods, just as freely produced, are more than half as long again. We have, so far as this class of runner Bean is concerned, gained immensely by constant selection. The running form of dwarf Beans is nothing new, but in previous cases it has been found very difficult indeed to render it constant. In the case of Tender and True that difficulty seems to have been solved. The old Cascknife Runners are excellent, and the best, such as Fillbasket, very productive. These have long and

somewhat curved pods, but the flavour is very like that of the dwarf Bean. These seldom grow tall, from 5 feet to 6 feet generally, but much depends on the quality and retentiveness of soil. These were once highly favoured and much grown by cottagers, but they have been displaced by the newer long-podded scarlets. All the same it is a matter for surprise that a row is not grown in large gardens, so that variety in runner Beans may sometimes be found on dining tables. One reason, perhaps, for the too fugitive nature of many Bean crops is that the seed is sown far too thickly. I have always noticed that where Beans are running tall, all the same bearing profusely, and especially where grown to produce fine show pods, the plants are very thin. Where the rows soon fail at some 5 feet in height, the plants are found to be far too thick. The same remark applies to all those pod-bearing plants which soon get starved at the roots. Six inches apart is not at all thin for either dwarfs or runners, and very often the plants are from 10 inches to 12 inches apart. Allowing that the soil was equally deep and good, it is most probable that the thin-sown crop will give a much heavier return than will the one sown thickly. D.

Protecting blanched Celery.—"A. Y. A.'s" note will probably assist once more to raise the not unimportant point in relation to late winter Celery, whether tall or dwarf varieties are best for that season? In the case of tall sorts, unless planted very wide apart, it is hardly possible to earth up other than very thinly at the top, and it is here that frost begins always to injure the plants. In the case of dwarf varieties, such as Dwarf White Incomparable, White Gem or others of that class, even if the rows be but 4 feet apart, it is possible to earth up to the very tops of the plants with fully 4 inches or 5 inches thickness of soil on either side, leaving a flat top some 8 inches to 9 inches broad, and on which can be stood either broad weather-boards \wedge shaped, or, as "A. Y. A." suggests, a rounded covering of corrugated iron, or even ordinary wire Pea guards may be stood along on the top and over the projecting leafage, and on that be laid some Fern or litter. Such protection would prove of great value to the Celery, but would hardly be possible in the case of tall, narrow ridges. Any plan is better than allowing the litter furnished as protection to be tight on the leaves. No harm may be done in dry frost, but so soon as rain or snow comes, then great injury results. It is really most important to keep rain and snow water from getting into and about the blanched Celery, for so long as the stalks are dry the frost does less harm. For that purpose there is nothing better than some impervious roofing over the plants. It is not at all easy to fix such over the sharp-pointed ridges of tall carted Celery, except some form of support be fixed in or on the rows to sustain it. As to relative degrees of hardiness, I think the dwarfier forms, if not hardier, at least being more easily protected and being, too, usually of firmer texture, have the advantage. So far we have had a fine time for Celery, as the rains, though much needed, have not been excessive. It is not until the new year is in that Celery will be fully tried.—A. D.

Coleworts.—"R. D.," referring to these delicious autumn and winter Cabbages, states that some market growers prefer one, some the other. I found during a long residence amidst market gardens that whilst both sorts were grown, the flat, broad-headed Rosette was the most freely planted—indeed, at times, in blocks of several acres. Still further, a good stock of it would be so true, that of ten thousand plants all would have exactly the same character. I think such constant reference to these Coleworts in *THE GARDEN* has done much to arouse private gardeners' interest in them, as I have seen the Rosette in many gardens of late. That it is the hardier of the two kinds there can be no doubt, the hardy green or conical-headed being rather earlier and once fully hearted, splitting or decaying under hard frosts. Another reason why the Rosette variety is so widely grown is that because marketed in bunches the flat broad

heads make the larger looking bunches in the market. Still further, because so roughly handled in the pulling and loading they are less liable to harm. It is to be deplored that this class of greens should be sent to market in this crude way. Pulled and thrown into heaps, roughly handled in tying into bunches on the tables, tossed by pitchforks up into the vans, and in dirty weather soused into big tubs of none too clean water before final loading, no wonder they come to the market sadly deteriorated. How much better is the method of some other growers, who having huge two bushel baskets with lids cut the greens and pack them on the field, keeping them clean and handling them tenderly. It is a pity that all our winter greens, and indeed most vegetables, are not sent to market in this way, for very often they are most roughly used, especially when stacked direct into vans from which manure has just been unloaded.—A. D.

Parsley in spring.—In large private establishments where Parsley is much in demand in winter a scarcity often occurs during April, May and June. As a rule, only limited frame or pit room can be spared for protecting Parsley; consequently the remainder has to take its chance, which in a period of severe frost is but a poor one. The crowns if not destroyed are often so badly crippled, that new growth follows slowly and the supply fails until spring sowings are fit to gather. As a rule plants which have yielded throughout the summer and autumn months persistently run to seed, thus rendering the produce poor. In order to provide against such emergency, seed should be sown in a warm position about the third week in July, and in due time the seedlings thinned, so that abundance of air can circulate though the bed. In November protection must be given by a frame, or failing this, 12-inch boards placed along the sides and ends and secured at the corners. On these may be placed any odd lights which are at hand. Parsley of this age and character will stand a severe winter far better than the sappy crowns of older plants, and springing into active growth in February, will carry on the supply until the early sown batches are fit for use. In many cases Parsley would be more plentiful in winter if those who consume it would take more care of it. If the sprigs that are used for garnishing are thrown into a basin of fresh water from time to time, they may be preserved for a week or ten days.—JOHN CRAWFORD.

ORCHIDS.

LAELIA AUTUMNALIS.

GROWERS of Orchids have had a fine time this year, owing to the absence of fogs that have usually spoilt all the flowers of this species long before now. Some flowers of *Laelia autumnalis* from J. Simpson are from a plant which he says has flowered for five years in succession, and is now in the most robust health. The blooms I have before me are all from the country, as this plant would appear to have lost favour with London growers, because the fogs during the past few years have cut the flowers off even before they opened. Some London growers, too, I have noticed have given up the cultivation of *Calanthes* for the same reason, but this year will, I think, have a great deal to do with their revival. One person I know is doing his best to add plants of both *Calanthes* and several of the Mexican *Laelias* to his collection again, for he says, and with a deal of truth, "that he cannot bear to see the flowers cut off by the fogs, but it grieves him to be without them when we have seasons like the present, and for the future he intends growing them." Mr. G. Tucker sends me some grand forms of the typical form, measuring upwards of 4 inches across the petals, which with the sepals are of a very deep rosy purple. The three-lobed lip is

white, saving the oblong front lobe, which is of a deeper rose-purple than the petals. The flowers, borne in a terminal cluster six or eight together, last a long time in full perfection, and yield a pleasant perfume. Mr. Law-Schofield sends the variety called *bella*, which he appears to think is a very grand form, but he says the flower is past its best. It appears to be a fine variety, but it was a long way past its best, and I can say nothing more than it looked like a nearly white flower. There had been some colour in it, but I could not say where or what it was like. With this also came some very good typical forms which I need not refer to. Thomas Eastwood also sends some very large flowers which, but for their unmistakable perfume, I should take for something different. The blooms are of a rosy mauve, becoming paler towards the centre of the flower. This is the variety *venusta*, which was figured in *THE GARDEN* some few years ago (Vol. XXV., t. 438). It is a very distinct and handsome form. G. Gubbins sends some flowers which I can only call poor, thin, and weak forms. I should like to see them another year, for there are some very distinct looking blooms, which may come finer next season. J. Hitchcock also forwards the fine pure white form which I have recently noted. It appears to be finer than I have hitherto seen it, the sepals and petals rounder and fuller. From H. Evans comes the grandest lot I have seen, not only this season, but at any time. It consists of two whole spikes of blooms, one bearing four, the other five flowers. He says the finest he has is bearing seven of these large purplish crimson flowers, which become paler towards the base, and measure about 5 inches across. This, called *atrorubens*, is by far the best of the varieties of *L. autumnalis* which has yet been brought to my notice. The flowers are large and handsome in colour. *Laelia autumnalis* was introduced to our gardens in a living state some fourteen or fifteen years ago by the Messrs. Backhouse, of York. Their system of growing these, as well as all other Orchids, was to give them an abundance of air, so that when one went into the house to look round there was evidence that the ventilation had been well looked to. There they were fully exposed to the action of the sun. I have frequently seen them growing on top shelves with the lights quite off them. During the growing season *L. autumnalis* must be well supplied with moisture at the roots, and it also likes a liberal supply overhead from the syringe as well as in the atmosphere. The pots must be well drained, and the potting soil should consist of good brown peat fibre and some chopped Sphagnum Moss. W. H. GOWER.

Notes from Syon House.—The *Calanthes* at Syon House were a few days ago in full beauty. Mr. Wytles confines his selection chiefly to *C. Veitchii* and the beautiful *C. vestita*—two of the most useful species that bloom at this season. Many of the spikes of the former were upwards of 4 feet in length, and this year they have been more beautiful than usual, as fogs have not been troublesome. Ferns form the base, so to speak, and relieve the effect of baldness. It is a pity that these types are not grown more in quantity, as they last over several weeks, are extremely bright and may be cultivated, as here seen, with success near towns. Their great enemy is fog, and the flowers quickly succumb—almost as soon as those of any Orchid. When not formally tied up or in any way deprived of natural grace, the racemes are charming; but at the recent Aquarium show each spike was fixed to a small stick and lost much of its characteristic beauty. The plants are grown in this warm house throughout the year, being kept for the greater part of the time on shelves near the light. Several

plants of that fine old Orchid, *Zygopetalum Mackayi*, were in full beauty, and very good forms. The flowers were well marked and the spikes strong. The *Zygopetalums* last long in bloom and are amongst the most useful of Orchids for amateurs to cultivate. Amongst *Odontoglossums*, *O. crispum*, *O. Pescatorei* and *O. grande* were of note—three of the most useful species in cultivation. *Masdevallia tovarensis* is grown largely. It is a very charming species; the flowers, produced with great freedom at this season, last many weeks fresh, whilst their size and purity fit them for button-holes. One of the finest masses of *Cypripedium* insigne we have ever seen was in bloom—a large bank of flowers, each specimen bearing a remarkably free display. The house is only just heated to keep out frost, and during the summer the plants are kept in a cold frame. It is quite unnecessary to give so much heat as is often the case. *C. Sedeni* and *C. Domini* were also in bloom. It is seldom one sees the last-mentioned hybrid, amongst the first raised by the late Mr. Dominy, having for its parents *C. caricinum* and *C. caudatum*. The flowers are of quiet, but distinct colouring and display well the characters of both parents. In bloom in a small basket suspended near the light was *Cattleya Walkeriana*, a charming species not common in ordinary collections. The flowers, compact in shape, the sepals and petals rose-purple, the lip of a much deeper shade of this colour, are sweetly scented.

Masdevallia Garriana (*J. T.*).—This undoubtedly is the name of the plant of which you send me a bloom, and which you say has fourteen flowers open. It is a hybrid between the fine scarlet-flowered species known as *M. Veitchi*, by far the largest and finest kind yet known, and the yellow one called *Davisi*. It was raised by Mr. Seden in the Messrs. Veitch's nursery. These *Masdevallias* do not appear popular, because most people will persist in growing them in too great heat and setting them up in the light of a bright span-roofed house, which causes them to go brown and spotted. *Masdevallias* should be grown in a lean-to under a north wall.—W.

Comparettia macroplectron (*G. Burton*).—It is late for this plant to be flowering, but it is so beautiful withal that it is highly appreciated wherever seen. "G. B." speaks of the plant having sent up a double lot of flower-spikes, these began to come up before the blooms on the first flower-spoke were done. The blooms are large and handsome, of a deep rosy magenta, and extremely showy. The *Comparettias* should be grown in the *Cattleya* house, and be kept just moist all through the winter months.—G.

Cypripedium vexillarium.—J. Ashby sends a very fine variety of this exceedingly handsome hybrid for an opinion. I may say it is the largest flower I have ever seen, and perhaps the very best colour d. Size, however, is not in my estimation the making of a first-class variety, for a medium-sized bloom of this kind has always taken my fancy. A flower like that sent, possessing both size and colour, is worth looking after.—W. H.

Leptotes bicolor.—G. Cowley sends me two spikes of this exceedingly pretty little Orchid with three blooms on each, asking if I had ever seen it with so many before. I certainly had never seen it before with more than two flowers. This plant is a native of Brazil, and I think of the cooler parts too, so that it will thrive in the cool house, keeping it fairly moist through the winter. The flowers last a considerable time in full beauty. The flowers are pure white, the lip also white, blotched at the base with violet purple.—W.

Cattleya Regnelli (*Thos. Wilson*).—This appears to be the species or variety that you send. The flowers are large, nearly 5 inches across. In general appearance and growth it resembles *C. Aclandiae*, but, unlike that plant, the side lobes of the flower now under consideration form a complete hood over the large and stout column. I have no doubt it is simply a colour variety of *C. Schilleriana*. The plant grows well upon a block of wood in the *Cattleya* house, and enjoys a fair

share of water during the season of growth, but after flowering I like to remove it to the cool end of the house, and to give only just sufficient water to keep the bulbs and leaves from shrivelling. In the spring remove the old soil from about its roots, replace with new, and let it revel in heat and moisture.—W. H. G.

Cattleya Percivaliana.—C. Jeffreys sends me three blooms of this species in as many varieties, and asks if they are not as beautiful as the much-praised *C. labiata*. There are a great many forms of this plant about and many bad ones, so that the plant got a very bad name. The form you label No. 2 only requires size to make it as valuable as *C. labiata*. This is about the smallest variety in the *labiata* section, but there are such a warmth and richness of colouring in the lip, that no others can approach it. I think this form requires more heat than the whole of the other varieties comprising the section.—W. H. G.

Masdevallia Davisi.—H. Clarke sends me a very fine bloom of this species. The flower now sent is large and handsome, measuring some $3\frac{1}{2}$ inches from the end of the tail upon its dorsal sepal to the short slightly incurved one of the lower ones, the colour being rich golden yellow. It is a charming species, but the flowers are useless for cutting, as they soon shrivel up.—H.

Cypripedium calurum.—"A. R." sends me a magnificently coloured form of the plant, which was originally obtained by the Messrs. Veitch and Sons, of Chelsea. The leaves are of a rich green and the scape is erect, bearing but one flower at a time. The flowers are dark reddish behind, the petals crimson half way up, the colour in other parts white, streaked with pale green. The bold pouch-like lip is rich crimson, the unfolded lobes creamy white, freely spotted with purple. This plant, like many others of the hybrid *Selenipediums*, revels in strong heat and moisture.—W.

Cypripedium Spicerianum.—G. West says, Do you not think this is a magnificent form of this beautiful Orchid? Yes; the form and the colour are very fine, the almost round dorsal sepal being of such a pure white, with a broad central streak of chocolate. *C. Charlesworthi* is a different plant, yet it appears to be near this species, having a dorsal sepal somewhat similar in shape. The colour in the only flower I have seen is soft rose, the petals and lip being brownish, the former slightly deflexed, and not so prettily undulated as in *C. Spicerianum*. *C. Charlesworthi* will no doubt be largely employed by hybridisers.—G.

HYBRID CYPRIPEIDIUMS.

In making notes of, or if merely inspecting the hybrid *Cypripediums* now shown at nearly every meeting of the R.H.S. Orchid committee, one cannot fail to observe to what an extent *C. Spicerianum* has been employed as one of the parents. It can be traced in that splendid hybrid *C. Leeanum* and its variety *superbum* in a most decided manner, the dorsal sepal being so very prominent, much larger even than in *C. Spicerianum*. In *C. Lathamianum* the same trace of parentage is clearly visible, and again in *C. Niobe*, one of the later Veitchian hybrids, as well as in *C. Calypso*, also coming from the same establishment. In many of the later hybrids shown during the past and present season further instances could be quoted, but these can be found in the descriptions given from time to time in the reports of the R.H.S. Orchid committee. Another species whose presence as one or other of the parents of several of our finest hybrids is *C. Lawrenceanum*, a Bornean variety; wherever this variety enters into the question there is an evidence at once of vigour and distinctive marking of the foliage, both of which features are so marked in this species. Another species which has been the parent of some of the finest hybrids in cultivation is *C. superbiens*. *C. Morganiae* (*C. superbiens* × *C. Stonei*) is an instance of this; so also is *C. Mrs. Canham* (*C. superbiens* × *C. villosum*). *C. caudatum* has also entered into

the systematic raising of hybrids to a considerable extent. No better instance can be quoted than that of *C. Schreberae*, which must be classed with the very finest of the *Selenipedium* group of hybrids. Another good old Orchid (*Cypripedium insigne* in its best forms) is also playing an important part, *C. Leeanum superbum* being a case in point. The very distinct features of *C. Fairrieanum* as a species are clearly traceable in *C. vexillarium* and in that exceedingly pretty hybrid, *C. Arthurianum*. *C. levigatum* leaves its mark in *C. selligerum*, although the outline of the flower is more that of its other parent, *C. barbatum*, one feature being the twin-flowered spike. Turning to a comparatively newly-introduced species, *C. bellatulum*, which will yet play an important part as a parent, there has been just recently an instance, the other parent being *C. Lawrenceanum*, two totally diverse species thus uniting in producing that fine hybrid *C. Lawrencei*. *C. Stonei*, a fine old species, leaves its distinctive features in a decided manner in that splendid hybrid, *C. euryandrum*, which must be classed as one of the best. *C. T. B. Haywood* has for one of its parents *C. Druryi*, whilst the other is *C. superbiens*. The latter is well known as one of the finest species; the former is not so frequently seen, nor does it appear to have been much used for hybridising. The result in this case has, however, been excellent. In *C. H. Ballantine* the traces of *C. purpuratum* are clearly evident in the dorsal sepal, whilst *C. Fairrieanum* enters into the contour of the flower. Those two fine old species, *C. villosum* and *C. barbatum*, when united, resulted in the production of *C. Harrisianum*, which will stand for years as one of the best, although it is not by any means one of the most recent hybrids, a plate of it having appeared in the *Floral Magazine* of April, 1869; since then this hybrid has been largely used for further increases. *C. grande*, which is a mammoth in growth, with large flowers also, is a splendid acquisition to the *Selenipedium* group, being the result of crossing *C. longifolium* with *C. caudatum*, the vigour of the former being enhanced, whilst the colours of the latter have been intensified. Another remarkably fine hybrid is *C. ænanthum superbum*. Of *C. ænanthum* there are also markedly distinct forms. Besides the one instance already alluded to in which *C. barbatum* was one of the parents, there are also two at least additional hybrids of sterling merit. *C. selligerum* is one of these, in which *C. levigatum* was the other parent, and *C. vexillarium* is the other, wherein *C. Fairrieanum* was employed. Further instances could be quoted wherein the superior qualities of each parent have been imparted in a most marked degree to the offspring. These hybrids are now so frequently used for fertilising, that it becomes increasingly interesting to watch the development of the bigeneric hybrids. Of those so used, *C. ænanthum superbum*, *C. Harrisianum* and its variety *violaceum*, *C. Leeanum superbum*, *C. Arthurianum*, *C. Sedeni*, and *C. Ashburtoniae* have already resulted in further increases. It is impossible to forecast what may yet be seen, but there is one feature that I have noted which gives additional interest to these hybrids; it is the increase in the twin-flowered spikes, also in forms of more continuous blooming character. I suppose we must wait a little longer to see hybrids from *C. Rothschildianum*, *C. Chamberlainianum* and *C. Charlesworthi*, each so distinct in itself.

ORCHIDS.

Orchids at autumn exhibitions.—At some of the numerous Chrysanthemum shows in various parts of the country Orchids form most interesting features. Considering the very uncertain state of the weather at that time of the year, it is somewhat of a risky process to exhibit the plants extensively. This is all the more so when the varieties in question are taken from a warm house into a chilling atmosphere, the destination not infrequently being a hall none too well heated at the best. Considering this state of things and the risk of injury that is run, I think it would be a capital plan if encouragement were given to cut Orchids arranged in boxes or glasses. There are

quite enough good things in season to be able even from a rather limited collection to make up a good assortment. *Cattleya labiata* in its rich and varied forms would of itself alone make a fine feature; besides this there is *C. Bowringiana*, a very beautiful species. Turning to *Lælia anceps* with its diversified forms, there is another good choice. *Cypripediums* alone would make a good show. Of other Orchids there are *Vanda cœrulea*, *Calanthe Veitchii*, *C. vestita* in variety, and other more recent hybrids. *Dendrobium Phalenopsis* *Schrœderianum* alone would be most attractive. *D. formosum giganteum* is oftentimes not over until December, and besides these there is *Zygopetalum Mackayi*. What a beautiful effect these would make when tastefully set up with foliage accessories, as *Asparagus plumosus*, *Maiden-hair*, and other Ferns. Perhaps some of the societies will take note of this and provide accordingly, thus not endangering the plants of their supporters. It is the two days' shows which undoubtedly cause the most harm; still enough harm can be done in one day to take weeks and even months for the plants to recover.—GROWER.

Orchids and the past hot summer.—I am rather curious to know what will be the result of the past hot and sunny weather upon those Orchids which for future flowering depend largely upon the thorough ripening of this season's growths. In my own case *Dendrobium Wardianum* is already pushing out its flower-buds, and the young growths are fairly on the move. To still retard these plants would, in my opinion, be a mistake. I do not intend to do this, but propose to let them come on steadily in a temperature of 60° minimum. No doubt other growers have had a similar experience.—GROWER.

***Lælia pumila mirabilis* (G. Cowan).**—This is a fine bloom and a rare variety, producing flowers much larger than the old form of *L. pumila*, and not having the characteristic lip markings. The flower, too, is much more undulated; the sepals and petals are dark rosy-purple, the side lobes of the lip of the same colour, with the margins of a deep rosy-purple, the middle lobe large, with an almost white throat. It comes near *L. Dayana*, but I fail to see the ribs which are upon the lip in that species. It is a charming flower, and the plant should be well taken care of.—W.

***Saccolabium violaceum*.**—J. Philipson writes saying he has a spike of this species over a foot in length, and bearing upwards of sixty flowers. The lip is rich violet, the sepals and petals white, conspicuously marked with violet. This is a very fine plant from the island of Luzon and some others of the Philippine group, where it grows low down at mostly the sea level. Under cultivation it will only thrive with great heat and moisture. It comes nearest to *S. giganteum*, from which it may be readily distinguished by the markings of its leaves and in the flowers not having any fragrance.—W.

SHORT NOTES.—ORCHIDS.

***Calanthe vestita*.**—James Galloway sends me a grand spike of this, the flowers being large and richly coloured. Cut the leaves away and provide Ferns and small Palms for the *Calanthes* to stand amongst.—W. H. G.

***Dendrobium Cassiope*.**—which comes from Mr. Law-Schofield, of Rawtenstall, is a very charming hybrid having pure white flowers with a deep maroon stain at the base of the lip. It appears to be a very free-blooming plant.—W. G.

***Odontoglossum Alexandræ Josephinæ*.**—This is a prettily spotted form of *O. Alexandræ* (crispum), flowers of which come from Mr. Dorman, of Sydenham, who says the blooms are small. His gardener says the smallness of the blooms is owing to the season, but the fact is that the variety seems to me to be naturally small flowered.—G.

***Sophranitis militaris*.**—This, I think, is the name of the variety of *S. grandiflora* which comes from Mr. Law-Schofield, the colours being very rich and the petals broad. The lip is also somewhat differently marked, having but a little yellow on the base of the

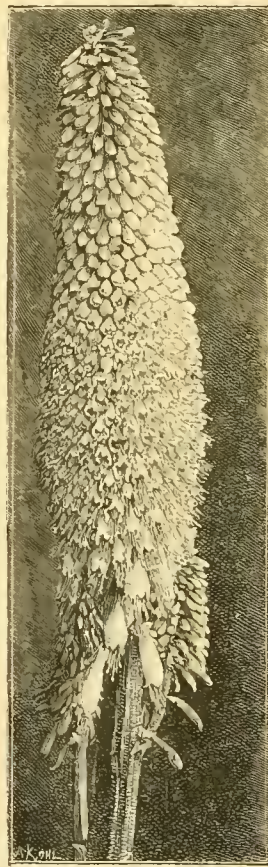
side lobes. This variety is one of the prettiest, and I think should be marked as distinct, although I do not wish to attach any specific importance to it.—W. H. G.

***Odontoglossum mulus*.**—A fine branching spike of this bearing thirty flowers comes from Mr. Dorman, of Laurie Park, Sydenham. This is from a plant which has been in his possession some thirteen years. The flowers have a rich yellow ground colour, banded and spotted with dark chocolate. It is a strong grower, having made strong bulbs and leaves, so that I should say it is likely to flower every season now.—W. H. G.

FLOWER GARDEN.

KNIPHOFIA OBELISK.

The splendid *Kniphofia*, of which an illustration is given in the accompanying woodcut, is



Kniphofia Obelisk. Engraved for THE GARDEN from a photograph sent by C. G. van Tubergen, Jun., Haarlem.

one of the most beautiful of quite a set of hybrids of these handsome plants which we owe to the exertions of Max Leichtlin. Other cultivators have produced beautiful forms such as the varieties John Waterer, Otto Mann, Max Leichtlin and others, but all these owe their origin to red-flowered species, and do not much depart from the typical forms. Since the introduction, however, of yellow-flowered species, such as *Kniphofia comosa*, a new field was opened to the hybridiser. The predominating colour in these new hybrids is yellow in all shades of tints, varying through orange to a crimson-scarlet. In habit the plants vary quite as much as in the colour and form of the flower-spikes. Of some, whose parentage to *K. Leichtlini* must be very near, the foliage is narrow and deciduous, and the spikes not more

than 3 feet high. Other varieties have massive foliage some 3 inches or 4 inches broad, the spikes attaining a height of 7 feet. The variety *Obelisk* (the variety here figured) is a very robust growing one with ample and broad leafage and very free-flowering; the spikes attain some 5 feet in height, and the flowering portion is about 15 inches long. As may be seen from the accompanying cut, the form of the individual flowers is quite different from that of the common Flame Flower (*K. aloides*). The colour of the spikes of this glorious plant is a pure golden yellow and so unlike that of any of the older varieties, that persons who see this for the first time are always very much struck with its most handsome appearance. Strong spikes often produce two or three additional spikelets, as shown in the accompanying engraving. Another most beautiful variety of nearly the same colour is

TRIUMPH. To which of the two the palm of excellence ought to be given is difficult to decide. I think *Triumph* is a little more free-flowering than *Obelisk*; one plant, an offset, planted out in the spring of this year gave no less than ten strong spikes in succession. A most vigorous variety of gigantic proportions is

STAR OF BADEN-BADEN, which requires a very large space, and throws up spikes more than 7 feet high; the colour is a straw-yellow.

OPHIR, though not producing very large spikes, has a very attractive orange-yellow colour; this variety is very free flowering.

LACHESIS, one of the hardiest *Kniphofias* with which I am acquainted, is a variety of extraordinarily luxuriant and rapid growth, the colour a deep yellow turning into straw colour. Turning from the yellow varieties, we have

LEDA, a most beautiful and early flowering form about 4 feet high; the flowering portion of the spikes is about 12 inches long, of a very handsome coral-red with an orange tinge. This and *Sirius*, in habit and form of the flower-spikes nearly identical, though *Sirius* has the darker-coloured flowers of the two, are two ideally beautiful *Kniphofias*, the plants neat growing, nearly rosette-formed, and the spikes not too high and of a very attractive shade of colour.

MATADOR seems to have nobilis for one of its parents; the spikes are very large and broad, the colour a deep red.

In our deeply dug, rich sandy soil where water can never be stagnant, all the above *Kniphofias* safely pass the winter outside if care is taken to ward off the superfluous water which gathers in the central parts of the plants, and which may prove disastrous when suddenly sharp frosts occur.

C. G. VAN TUBERGEN, JUN.

Hardiness of the Cape Hyacinth.—I read with some surprise Mr. Burrell's remark on p. 520 in THE GARDEN of December 9 that this bulb will only stand outside in mild winters or under favourable circumstances, as this is quite contrary to my experience. Some few years back, when the plant was becoming popular, it was thought to be essential to lift the bulbs before hard frost set in, but I have never adopted the plan nor suffered loss through leaving them in the ground. I should think that the tenderness is more imaginary than real, and with 6 inches of soil over the bulbs they are perfectly safe. I have some that have been among hard *Fuchsias* for several years, and as a proof that I have no fear of losing them, I have just had 500 more planted in a large bed among dwarf shrubs. I recall to mind one special instance which appears to show that the supposed tenderness is non-existent. A large group of this bulb and *Torch Lilies* grew together, and many seedlings of the *Galtonia* came up one spring. They were left alone, and to my astonishment many of them flowered the second year. On examining them I found the bulbs only just beneath the surface of the soil, and they were con-

siderably smaller than a *Narcissus* bulb; in fact, some no larger than large *Crocus* bulbs. The winter previous had been severe enough to kill some of the choicer *Tritonias* in the bed, yet these Cape Hyacinth bulbs with their scanty covering of soil escaped, and I attributed their early blooming to their being so shallow. It would certainly be interesting and instructive to hear what the experience of others has been, as if, as it seems to me, this bulb is perfectly hardy, everyone should know it. There are few finer things among autumn flowers, and if there is no necessity for annual lifting, it can be blended with other things in some more or less permanent arrangement that will stand several years.—A. H.

Arabis.—Whilst the common *Arabis alba* will always be found in cottage gardens and in market gardens where propagated in immense quantities every autumn, it will long also find a place in ordinary gardens not only as an early border flower, but also for growing on rockwork. For flowering, the green form is much better than the silver-leaved or variegated variety, though that too grows strong and flowers freely. If needed for its leafage, then the flowers should be gathered. But for edgings and especially for its foliage none are better than the close, compact and almost rosette-like golden variegated *lucida variegata*, though sometimes called *mollis variegata*. This should not be allowed to bloom, indeed does not do so much. The plants should be lifted and be replanted both to have them very evenly placed and to increase the stock every October. The variety does not increase fast, but in a few years a very fine stock of plants may be secured. Once obtained it will be hard to lose if but ordinary care be taken to keep the plants safe.—A.

Iris kashmiriana is not in this country a very vigorous grower, but this I believe to be chiefly due to the fact that while it needs in summer more genial moisture than do most of the large broad-leaved bearded Irises, it resists winter wet. Moreover, retaining as it does much of its foliage in winter, it is apt to be damaged by frost and snow. In fact, instead of being left to itself, it needs to be nursed rather carefully or, at least such is my experience, it disappears, and the finest blooms I ever had were from a plant protected by lights, otherwise I cannot say that it needs any special treatment. *I. kashmiriana* is extremely variable, and *I. Bartoni* (Miki) is, I now think, a mere variety of it. Last winter Mr. W. M. Conway brought me from Abbottabad a form which I hope will prove more vigorous than any which I have yet received.—M. FOSTER.

Campanula muralis.—In answer to Messrs. Arnott's and Stansfield's notes on *Campanula muralis* in the last issue of THE GARDEN, let me state that the *Campanula muralis* in the Herbarium de Candolle as synonymous with *Portenschlagiana* is a very polymorphous plant, as I saw that many of those plants sold by us to customers, and so coming from the same source, take different habits if grown in peat or in limestone, in dry or in moist climates. I saw in England and also in Paris specimens which came from me; both are quite different in aspect, but have the same botanical characters. Only from the botanical characters can one determine the names of these plants, and not by the aspect of their growth. Perhaps often the *Campanula Morettiana* is cultivated as *muralis*. But let me remark that De Candolle says in the "Prodromus," vii., p. 475, on *Campanula garganica*: "Variet. caulibus foliisque glabris vel pubescentibus, foliis plus minusve dentatis, &c.;" and upon *C. muralis*: "Affinis *C. garganica* sed corolla non profunda 5-fida." There is a variety pubescens. I believe that the culture and the position in which they grow bring about the variation of the plant in question more than anything else, and that if all these forms were cultivated together under the same conditions, they would, perhaps, revert to the type.—H. CORREYON, *Geneva*.

Nelumbiums.—Mr. W. Tricker (p. 564) does not discourage would-be cultivators of *Nelumbiums* in the British Islands. Of course, I "guessed" that *Nelumbiums* might be established in ponds here,

because it has not yet been done, and I also "guessed" that we might try after what I had heard from friends who have lately been in the United States and from others who reside there. Among the latter I am pleased to be able to number Mr. E. D. Sturtevant, of New Jersey, whose labours among the Water Lilies have been both extensive and successful, and whose knowledge of them has often been communicated to THE GARDEN. For sound practical information on the cultivation of *Nelumbiums* and water plants generally in America, I would recommend those interested to consult Mr. Sturtevant's paper in THE GARDEN, XXIX. (1886), p. 255. I can assure Mr. Tricker that what I stated on p. 435 with regard to the establishing of *Nelumbiums* was not "guessing." I should be delighted if I could say with him "no plants are more readily transplanted or raised from seeds," but if I had said so, friends on this side could have accused me of worse than guessing. I speak from considerable experience when I recommend beginners with *Nelumbiums* to purchase only established tubers. At the same time I know they can be transplanted without this, for I lifted and packed the plant which Mr. Sturtevant first established in his submerged meadow in New Jersey some twelve years ago. But for one such success I could name at least half a dozen failures. I intend to make the most of the directions Mr. Tricker has given us, though it does not follow that they will answer here.—W. W.

PLANTS, &C., FROM AMERICA.

LIKE "A. A." in a recent issue of THE GARDEN, I also annually get a few plants and seeds from America, some of which prove decided acquisitions, while others are of much less value. Worthy of being included in the former is the semi-aquatic

PONTERERIA CRASSIPES (Water Hyacinth).—This is distinct in growth from the ordinary class of plants, while its blooms are so delicately transparent and combination of colouring so lovely as to attract the notice of all who see them. In a little warmth it is almost a continual bloomer and very easily cultivated. The only fault I have with it is that the spikes of bloom last such a short time, and are too delicate in texture to bear packing or rough handling. Its exquisite beauty is best seen on the plants. I have an idea that it is not as yet much known nor extensively grown in this country.

OXALIS ORTIGIESI is another gem of the first water, which forms a bushy plant a foot to 15 inches high, bearing small pale yellow flowers in bunches; leaves three-lobed, bronzy green above, the under side a shining metallic dark red; the stems are also a dull red. As a table plant it is most useful and ornamental, the foliage and stems producing a telling effect under artificial light. This also is of the easiest culture, and requires but little heat. It may be raised readily from cuttings.

VERBENA SEA FOAM is about the best *Verbena* I have seen. It is a first-rate grower, its creeping stems rooting freely as they grow, thus saving the necessity of pegging down. It is also free from the ruinous disease—at least, it is so here. It is a profuse bloomer, covering itself with snow-white flowers, which are sweet scented—a delicious Cowslip perfume, wherein lies its chief merit. It has here sported into various colours, identical in scent and habit with the white variety, but as none are more useful than it, I have not preserved them. As to

CHILDS' GLADIOLI, my experience of them differs from "A. A.'s," for I find them early, useful, and effective. Of the beautiful autumnal annual,

COSMOS BIPINNATUS, I have had some good colours from America, but of Childs' hybrids—tried for the first time this year—not one flowered, so I have come to the conclusion that our most favourable summers, tropical as the past has been,

are not sufficiently long for these to be successfully cultivated in the open here.

ENOTHERA ROSEA (the Mexican Primrose) must take a foremost place as a dwarf trailing hardy plant. It blooms freely throughout the summer season, is of a lovely bright pink colour, paler towards the centre. The plant grows from 6 inches to 9 inches high, its habit devoid of stiffness. It thrives in almost any kind of soil, and is readily increased from cuttings. It does well on our rocks, good clumps being attractive.

MYOSOTIS PERFECTION has not yet quite come up to my expectations.

CANNAS.—I seem unable to establish those sent over; they dwindle for a time and eventually die. Several attempts have proved futile.

FUCHSIA STORM KING is a good grower, producing immense blooms in lavish profusion.

I have many more plants from America, but the foregoing strike me at present as being the most noteworthy. Of shrubs, but few are as yet sufficiently developed to enable one to finally decide on their merits or otherwise.

Among fruit I have tried

MUSK MELONS EMERALD GEM AND BANANA but although easy enough to grow and free croppers, they proved coarse and inferior in quality to the best green-fleshed varieties of this country, hence they have been discarded. My notes would be incomplete should I not mention that peculiar novelty,

THE GREAT JAPANESE WINEBERRY. This is in every way a desirable plant to grow, being attractive at all seasons of the year; even its reddish mossy stems are effective during the winter, while its summer clothing of bold hairy leafage and its large clusters of fruit are decidedly ornamental. Its greatest peculiarity lies in the fruit being enclosed in a burr, similar to unexpanded Moss Rose buds, until it is ripe, when the burr opens, showing a berry of a glossy scarlet colour. In this, I think, it is unique, and worthy of a place in any garden, however select. It appears to me to belong to the Raspberry family. I am forming a bed of it to test its usefulness as a fruit, and hope to report thereon in due time.—J. ROBERTS, *Tany-bwlech*.

—In compliance with "A. A.'s" suggestion, I give my experience with American plants. I have at different times received large numbers of plants and seeds of things not obtainable in England from New York and other parts of North America, and, on the whole, have no reason to be dissatisfied with the results. "A. A." has no right to expect in this fickle and cool climate the same measure of outdoor success as is obtained in a country where three or four months of equatorial summer can be had, and where Maize, Water Melons, Peppers, as they are there called (Capsicums of various kinds), Egg Plants, Tomatoes, and Sweet Potatoes are common field crops. The glowing descriptions and treatment in American catalogues do not generally apply to other countries, and buyers must use their judgment in cultivation. There are hundreds of plants quite hardy in this country, but no amount of coaxing will induce them to flower unprotected. The best guide is to find out their native country and treat them accordingly. *Ipomœa pandurata* I flowered last year in a pot and trained on the roof of a half-span house. Unfortunately, the tuber perished in the winter, but I mean to get it again and try another mode of wintering it. Childs' hybrid forms of *Hibiscus* are, I believe, selections of *H. grandiflorus roseus*, quite hardy in dry soils, but rarely flowering satisfactorily outside. I grow them in large pots, keep them in a sunny situation under glass until the flower-buds begin to open, then move them to a more shady part of the house to prolong their flowering season. They require liquid manure and abundance of water. These belong to the herbaceous section of the family and die down to the ground after blooming, breaking afresh from the crown. *H. chrysanthus* can be

obtained in many places in this country. It is as easily grown as a Willow, seeds freely, and can thus be raised in abundance. Some writers regard it as an Abutilon. Out of a host of other things obtained from America I may mention several kinds of Sweet Potatoes, Pea-nuts (*Arachis hypogæa*), Chufas, a kind of tuberous Grass, dwarf Okro (*Hibiscus Abelmoschus*). All these I have cultivated, but not in the open ground, although the catalogues give such directions, and, with the exception of Chufas, which did not swell their tubers sufficiently, with gratifying results.—J. M., *Charmouth, Dorset*.

NOTES ON HARDY PLANTS.

Saxifraga Mertensiana.—I am obliged to Mr. Dewar (p. 500) for the information so kindly given respecting the cultivation of this plant. It is, as I feared, my climate is too cold for it, and I see that Mr. Dewar's success is owing to frame culture. This is rather away from my point. Speaking under a heading of "Hardy Plants," I spoke only of my treatment of this under hardy conditions, and if a plant will not live through all its natural life course in the open air, it is not practically a hardy plant in the climate where it has been so tried. Frame culture is practically greenhouse culture, merely a question of degree after having gone over the open-air line. I am pleased, however, to know that cold frame treatment will do for this plant, as I believe it is one of those things worth a little more than ordinary care.

Aster alpinus speciosus.—I am also obliged for the Baden-Baden notes (p. 500), but I am still in a fog as to "what is what." I am certain about my facts that there is more than one variety under the name of *speciosus*, and there is another with the name of *superbus*, a much larger plant in all its parts, and with very large flowers on stout stems. It is most interesting, however, to know that there is a natural variety so authorised by Dr. Von Regel.

Eremuri.—I see no reason why these should not be planted now if the roots are from pots, in which case they are very different to those that might be taken from the open ground, for they go into their new quarters with all their roots and fibres intact. It is certain that when set in the open ground, with a piece of glass to throw off wet for the first winter, the roots can fare no worse than standing in airy cold frames; and if you do keep them in frames they must have air continually or they will get into growth far too early. My own plants are kept in an old broken frame, practically as cold as the open air, excepting for the wet that is thrown off, and I am sure that I could give them more comfortable quarters in the open ground and better treatment otherwise were it my wish to plant them out. I merely mention this to show that where plants are intended to be grown in the open they are better placed there at once rather than coddled in pots or frames. Whilst speaking of *Eremuri* I may mention that some fresh seed collected and sown in September has in a large measure vegetated already. No doubt the bulk will remain invisible until spring, but this fact is worth bearing in mind when we recall that foreign or imported seed is a year or more before it germinates.

Herbaceous Pæonies.—By herbaceous Pæonies I mean all the herbaceous kinds as distinct from the Tree Pæonies—a point of some importance when we consider the matter of propagation, root-division, and transplanting, because all the herbaceous species are tuberous-rooted, the arborescent species not so. The present is a safe and fairly good time to divide the roots and transplant provided there is no frost in the ground. A month earlier, however, would have been much better, as plants lifted this month will show by the number of new roots that are being developed from the tubers and the collars of the various species. It is true that the most tedious part of the business of dividing old Pæonia roots is due to the way in which the large tubers twist among one another. In many cases of other kinds

of plants it would be helpful to clear the roots by washing them, so that it could be better seen where and how to cut, but with regard to Pæonies if you wash the roots they will be greatly injured, as under ordinary circumstances the water would cause the tubers to expand so quickly that they would rupture vertically and almost the whole length. Just in the same way as when Celery is dressed and placed on the table after being in water, it both splits vertically and curls. There is another point that should be kept in mind when dividing Pæonies. Many kinds which make very long tuberous roots, the albiflora section, for instance, are much retarded if they lose their tubers. This class is not like the officinalis section in rapidly repairing such injury, but as well as being slow to do so, it will not flower until it has again developed a full complement of strong roots, and further, the roots that may be severed from the albiflora class if they have no crown, do not grow and form crowns as the broken pieces of root will of other kinds. This should not be forgotten, for most of the finer named Pæonies belong to the albiflora section, so it will be seen how important it is to deal with the roots carefully when being moved or propagated.

Gerbera Jamesoni.—I should say that this is not a safe plant for the open garden, unless in very exceptionally favoured climates, such as Bournemouth, Torquay, and the south of Ireland. I believe that under suitable conditions it is a good doer, and though from what I have seen of old roots they are somewhat hard and forbidding to the propagator, I have found that young offset green shoots strike quickly in warmth.

Woodville, Kirkstall.

J. WOOD.

NOTES OF THE WEEK.

Erica hyemalis alba.—One does not see the white variety of this popular Heath so often as the type, but it is a valuable winter flower, free, white, and very pleasing when grouped with the other.

Iris stylosa alba (syn. *I. unguicularis alba*) has been blooming very freely for several weeks, and is still throwing up numerous flower spikes, showing how much it has benefited by the late hot, dry summer, as this Algerian Iris is by no means free-flowering, generally, in this country.—W. O., *Fota, Cork*.

A rare Orchid in bloom at Kew now is *Cœlia bella*, an exquisite species, with flowers reminding one a little of those of a *Freesia* and pure white, richly tipped with maroon at the apex of the segments. The pseudo-bulbs are of a yellowish tint, but this does not detract from the beauty of this charming Orchid.

Strobilanthes isophyllus is a useful plant for flowering in the greenhouse at this season. It produces a wealth of mauve-lavender flowers in pleasing association with the deep green leaves. It was introduced into English gardens in the year 1845 and is not at all difficult to grow. The *Strobilanthes* comprise a large genus, but *S. isophyllus* is one of the best of all, free-growing and valuable for the soft delicate tone of the flowers.

Passiflora corœula in this neighbourhood has much enjoyed the past hot summer, flowering most profusely on all open walls and houses where planted, and being now most ornamental with numerous egg-shaped yellow fruits. The background of dark green leaves shows up the yellow fruit to the best advantage. The unusual fruitfulness of this trailing plant may be attributed to the hot, dry summer.—W. O., *Fota, Cork*.

Cypripedium politum.—This interesting hybrid was in bloom recently in the nursery of Mr. Morse at Epsom. It is a cross, at least supposed to be, between *C. barbatum* and *C. venustum*, the plant when well grown producing plenty of flowers, which individually are not of such poor colour as those of many of the earlier hybrids in which *C. venustum* was used as one of the parents. The

dorsal sepal is veined with purple, the petals marked with a similar shade on a delicate green ground, and the lip purple-brown.

Calceolaria Burbidgei.—For weeks past this hybrid *Calceolaria* has been flowering in the greenhouse at Kew, and it is in perfection now, bearing a profusion of its soft yellow flowers, a peculiarly beautiful shade. It is not often one sees this distinct hybrid between *C. Pavoni* and *C. fuchsifolia*. It makes a vigorous growth, the stems reaching over 3 feet in height, the leaves bright green, downy, and ovate. It is too large for a small greenhouse, but in structures of fair size it may well have a place for its distinct aspect and beautiful yellow flowers.

Two **Chrysanthemums** of note in the greenhouse at Kew are *Meg Merrilies* and its sport *Ralph Brocklebank*. We mention these varieties for the reason that now-a-days one sees little of such free, graceful kinds, the flowers of which do not approach the absurd standard of size required by the majority of growers. At one time they were in every prize-winning collection, but such kinds should not pass out of cultivation. The plants at Kew are a mass of bloom, and the sulphur-white colour of *Meg Merrilies* and the deeper yellow of the sport are most pleasing.

Lachenalia aurea.—This is one of the finest of the *Lachenalias*, and for a long time past we have noticed it in bloom in the Cape house at Kew. It is synonymous with *L. tricolor aurea*, and is also called *L. quadricolor lutea*. *L. aurea* and *L. Nelsoni* are the two handsomest of the genus, and deserve to be more largely grown. The flowers of *L. aurea* are a rich self gold colour, and produced on a sturdy erect scape. Worthy of note also in the same house is the showy *L. pendula*, a vigorous and free-flowering species, the flowers varying in colour, but usually of a reddish tint tipped with green, and, unlike those of *L. aurea*, produced close together on the scape.

Hechtia argentea.—This is a remarkably handsome and rare bromeliaceous plant. We have made note of it for the beautiful silvery colour of the leaves, each measuring about 2 feet in length, rigid, spiny, and quite hiding the pot. They are arranged in rosette fashion, and at this dull season for indoor flowers the rich silvery colouring has a distinct effect. An exceptionally fine specimen is in the succulent house at Kew. The *Hechtias* comprise a small genus of about six species, natives of Mexico. *H. Giesbreghtii* is better known than *H. argentea*, and somewhat like it, but in the latter one gets the distinctive silver coating to the upper surface of the leafage.

The **Calanthes** at Kew are well worth a note and comprise several kinds. Of course, the chief plant is *C. Veitchii*, which, happily, has remained in bloom many weeks, owing to the comparative absence of fogs. There are forms of it, one at Kew named *rosea* having flowers of a very deep, yet bright colour. *C. vestita* is a relief to the masses of spikes of *C. Veitchii*, and one form—*C. v. Turneri*—is regarded by some as a distinct species, and thus placed in many catalogues. The flowers are practically white, the centre or eye of a rose colour and larger than those of the type. It is a native of Java.

Blue flowers in the winter.—There are none too many of these to be had in either stove or greenhouse at this season of the year. In the stove *Eranthemum pulchellum* makes one of the brightest of plants, producing a profusion of its deep blue flowers in constant succession for a long time. True, the blue flowers do not show up well at night, but, nevertheless, by daylight they are exceedingly pretty, making a beautiful addition to a stove in conjunction with *Poinsettias*. It will thrive well in a damp position, and the flowers last a fairly good time when cut, as the advanced buds will open in succession to the expanded blooms.—G. H.

The **Shell Orchid** (*Pholidota conchoidea*) is one of the most interesting Orchids in bloom in the Kew collection. It gets the specific name from

the pleasing shell-like aspect of the flowers, the pendulous slender racemes appearing as if packed with a multitude of small glistening whitish brown shells, the raceme coming from the top of the pseudo-bulb. It is well worth a place in all good collections. The plant at Kew is growing in a basket near the light and is of vigorous growth. The leaves are large and dark green. Although individually the flowers are not attractive, they are borne so freely that they make a good show. The *Pholidotas* are found in India and the Malayan Archipelago, reaching to the north of China.

Narcissus blooming twice a year.—In THE GARDEN, December 2, "F. W. B." (p. 522) speaks of the *Narcissus* blooming the second time this year in Cornwall. I observe the same thing has occurred here, or, I should say, is taking place here now, as we are just now able to pick a number of trusses of Paper-white in the open border, and the bulbs are throwing up hundreds more, which, should we not have hard frost, will no doubt go on expanding all through the winter. The bulbs that are blooming here have been planted for many years, but have never before been observed to bloom twice in the same year. No doubt the past hot, dry season is responsible for their doing so now.—WM. HARRIS, *Upcott, Barnstable*.

Centropogon Lucyanus is a fine plant too little seen in gardens, although in bloom at this season when its bright rose-carmine tubular flowers are welcome. This is a comparatively modern acquisition, a hybrid raised in 1856 by M. Desponds, of Marseilles, between *C. fastuosus*, which has rose-coloured flowers, and *Siphocampylus betulifolius*, a species with red flowers, introduced in 1842 from the Organ Mountains. It is not difficult to grow, plants being readily raised from cuttings taken early in the spring. The results are always better from young specimens, which are more vigorous, and produce finer flowers than older examples. The brilliant colour of the *Centropogon* at this season is desirable as a relief to the ordinary forced things one sees in stoves and warm greenhouses.

Christmas Roses are very beautiful just now at the foot of the mound near the Cumberland Gate in the Royal Gardens, Kew, the bold masses of plants flowering exceptionally well this season, owing to the comparatively mild weather of the past fortnight or so. This is exactly the spot for the Christmas Rose—shady, sheltered and moist, and we wish this lovely winter flower were more freely planted in gardens in good masses—not a tuft here and there on the border. In a thoroughly well-drained loamy soil abundance of bloom is got and the growth increases year by year. The clumps must not be disturbed for many years, and once planted should be left practically alone, except for an occasional top-dressing. At Kew a quantity is planted, and the effect of a mass of white flowers at this season is delightful.

Two interesting Bamboos in the Kew collection near the river are *Bambusa Ragamowski* and *B. pygmaea*. Both are dwarf and useful for forming bold masses in the garden. The former has very large leaves, more so than in any other dwarf Bamboo, the finest leaves being produced on the shoots that appear away from the parent plant. It is a native of China and Japan, hardy and synonymous with *B. tessellata*. It is well worth getting a good group of this species in a comparatively sheltered part of the garden for the fine effect produced by the broad handsome leaves. *B. pygmaea* has not been introduced many years from Japan, and, as suggested by the name, it is so dwarf—a few inches only in height—that a carpet may be formed of it in not too exposed spots. The leaves are bright green above, but underneath of a glaucous tint. It grows quickly and is easily increased by division of well-established tufts.

A note on Irises.—At this season several charming Irises bloom, and when grown in pots are very pleasing in the greenhouse—a relief to the usual run of things one finds in winter. In sheltered spots and when the weather is mild I. Bornmülleri, I. Histrio and the rare I. sophonensis

will open their flowers. I. Histrio is the earliest of the reticulata section to flower, and will sometimes send its blossoms through the snow. It is very hardy, and the sky-blue colour, veined and netted with white, is delightful. I. sophonensis also belongs to the reticulata group and bears a resemblance to the parent, the flowers longer, the standards rich purple, set off with blue veins, and the falls of the same blue shade, but enriched with yellow, whilst the growth is only about 3 inches in height. Fortunately, such kinds as this and I. Histrio are not difficult to grow in a sandy, loamy soil, selecting a sheltered position. In the event of severe weather occurring, place a handlight over the clump to protect the flowers.

Cymbidium Tracyanum.—Amongst the many fine Orchids exhibited at the Drill Hall on December 11, the one of most interest and value was this unique *Cymbidium*. It was a cut spike from a plant in Baron Schröder's collection at Egham. The spike carried seventeen flowers, which are remarkable not only for their size (they are the largest of all the *Cymbidiums*), but also for their rich colour. The sepals are $3\frac{1}{2}$ inches long and about 1 inch in diameter, the ground colour being a tawny yellow striped with conspicuous maroon lines; the petals are similar in colour, but smaller. The lip is of very large size and three-lobed; the front lobe is creamy white streaked with crimson; the side lobes are yellow striped with red. That portion of the spike bearing the flowers is upwards of 4 feet in length. *Cymbidium Tracyanum* appears to be related to *C. giganteum* and *C. grandiflorum*, but is, of course, infinitely superior to those species. It is finer than even the best forms of *C. Lowi*, in an importation of which it came to this country. It flowered three years ago with Mr. H. A. Tracy, of Twickenham.—B.

Autumn tints.—Last year I had occasion to speak of one or two remarkable instances of accidental, yet strikingly beautiful blendings of colour in autumn leaves and berries as seen in the neighbourhood of London. This autumn was to be seen on the wall of a lowly cottage in Sussex a very happy harmony of colouring in the leaves of two plants, little thought of, I fancy, by the occupier of the cottage at the time of planting. A good example of the common Virginian Creeper (*Ampelopsis hederacea*) and another of the variegated Honeysuckle (*Lonicera aureo-reticulata*) had been planted within a couple of yards of each other against the wall, and allowed to ramble very much at will, the branches intertwining with each other. They had reached the top of the wall and hung down in graceful festoons, the scarlet foliage of the one and the clear golden of the other making one of the most pleasing mixtures of colour when viewed from a little distance anyone could wish to see. True, the effect was short-lived, but none the less desirable on that account; such flashes of autumnal leafage live for a long time in the memory. Another happy effect in the way of colouring I happened to see this autumn in a large nursery. It was produced by the mixture, on a large border of shrubs, of *Prunus Pissardi* and large plants of richly coloured *Aucuba japonica*. As the leaves of the *Prunus* deepened in tint the effect was superb. Crimson or scarlet and gold in flowers or leafage when brought into union by Nature or by the hand of man never fail to please. As an example of Nature's handiwork in this direction, take the *Chrysanthemum* called Putney George.—J. LOWRIE.

Costus igneus.—This was very noticeable among the plants exhibited at the last meeting of the Royal Horticultural Society, and a first-class certificate was certainly worthily bestowed on such a beautiful flowering plant. There are about half a dozen species of *Costus* in cultivation, but this is by far the showiest member of the genus. It is a fleshy rooted subject that pushes up stout, erect stems from 1 foot to a yard in height. Each shoot is terminated by a flattened cone-like arrangement, from which the flowers are produced; sometimes two or three are open together, and as each bloom is quite $1\frac{1}{2}$ inches in diameter, they make a

goodly show. Their colour is a deep bright orange. Given the treatment accorded to the general run of free-growing stove plants, it will both grow and flower well, or planted out in a bed of moist soil in a warm house it will soon form a good mass or clump that will flower for months together. In this way it used to form a conspicuous feature in the Water Lily house at Pendell Court before that interesting collection of plants was disposed of. Flowering examples may also at times be met with in one of the stoves at Kew, but, despite its beauty and the fact that it is really not a new plant, this *Costus* is seldom seen. It was introduced by M. Linden from Bahia in 1882—not 1822, as stated in THE GARDEN, page 568. Propagation is easily effected either by division or by cuttings of the weaker shoots, so that it would not take long to work up a stock, and I venture to suggest it is one of those subjects for which nurserymen would find a ready sale.—H. P.

SEASONABLE NOTES ON DECORATION.

GENERAL.—Probably more flowers and plants are required for decoration at this season of the year than at any other. For a fortnight before and as long after Christmas, there is a constant round of festivities of one sort or another. What with hunting and hunt breakfasts, shooting the coverts and dinner parties at night, there is a great call upon the resources of the garden. In order to make the most of everything some little ingenuity is necessary in the use of the flowers, whilst if it be frosty weather additional care is needful to preserve the plants, which are taken out of their growing quarters from coming to any harm. At such times it is an all-important matter to have a good supply of such plants as need not be afterwards kept for use another season. These can then be consigned to the rubbish heap, save only sufficient to work up the stock another year. As much as possible plants of comparatively hardy constitution should enter into the arrangements so as to preserve others that are of a more tender character from injury. More depends upon proper care and attention in the preservation of decorative plants than is at times credited thereto, whilst in the use of cut flowers some considerable amount of forethought is necessary both in the selection and the disposition of the material at command.

FLOWERING PLANTS, &c.—With nothing more than the average convenience of a well-ordered garden, it is possible to have Poinsettias of good quality, the old variety and *P. plenissima* (the double form) being the best late kinds. With a reserve for next year's stock it will not matter if a few of these do come to grief; this they will not do very quickly provided they are well-rooted plants and that they are not over-watered. Primulas, both single and double, are invaluable, but the plants should not be in large pots, those $4\frac{1}{2}$ inches in diameter being quite large enough. The same applies to Cyclamens, except in the case of extra good plants, which may be used when in 6 inch pots. *Erica hyemalis* and *E. gracilis autumnalis* will be just in their full beauty; so also will the earlier of the *Epacris*. These will all last well if looked after carefully. Turning to bulbs, we can obtain an invaluable supply from Roman Hyacinths and Duc van Thol Tulips (various colours), but notably the scarlet and the yellow. As decorative plants these should be kept as dwarf as possible, whilst $4\frac{1}{2}$ -inch pots will be far more useful than larger ones. Turning to berried plants, the most important as well as the hardiest yet in season are the *Solanums*, which if well established will stand well. *Aucubas* when hastened on will be also in colour, not otherwise; these are, of course, the hardier of the two. Both *Rivina humilis* and *Ardisia crenulata* are valuable as a change in the form of berried plants.

FOLIAGE PLANTS.—To use quite tender plants is a mistake when it can be avoided; thus *Areca lutescens* is sensitive to cold, far more so than *Cocos Weddelliana*, whilst the *Kentias* are almost as hardy as any *Palms* grown. *Pandanus Veitchii* is tender; in its place use therefore *Anthericum*

variegatum or *Enlalia japonica variegata*. Of the coloured *Dracenas*, *D. terminalis* is still the most reliable; whilst of the green-leaved sorts, *D. congesta* is the best, save as specimens. *Asparagus plumosus nanus* and *A. tenuissimus* are both of the greatest possible service; so also is *A. deflexus*, which has a future before it in decorations as a basket plant. *Cyperus alternifolius variegatus* is a trifle tender, but it lights up so well; hence, it should be used. Crotons when well prepared being thoroughly well rooted and each kind in its true character as regards colour, can hardly be dispensed with. It should be borne in mind that the broad-leaved kinds, with leaves about the size of those of Laurel, are the hardiest sorts. The variegated form of *Ficus elastica* also tells well, so does the variegated variety of *Dracaena australis*. Of other Palms, *Phoenix rupicola* deserves mention, so does *Euterpe edulis* when well grown. *Aspidistra variegata*, of course, is in the front rank. Of Ferns, none are more appropriate or suitable at this season than the Gold and Silver forms of the *Gymnogrammas*, *Pteris argyrea*, *P. Victoriae* and other kinds of light growth. Dense-growing plants with dark green foliage should be avoided as far as possible.

SPECIAL PLANTS.—These will consist of *Calanthe Veitchi* and some few *Cypripediums*; chiefly, however, forms of *C. insignis* and *C. Spicerianum* and occasionally an *Odontoglossum*, perhaps. From the stove it will be possible to use *Aphelandra Roeziana*, a beautiful dwarf plant with orange-scarlet flowers and silvery foliage, and out of the forcing pit will come Lilies of the Valley, of which the best possible use should be made. The *Beretonias* are beautiful objects at any time, their colours coming out well under artificial light; to use them without protection would be unwise, but if covered with bell-glasses no harm will come to them; the glasses if quite clean cannot be considered unsightly. *Amasonia punicea* is not sufficiently known as a winter decorative plant from the stove, nor is *Reinwardtia tetragyna* grown nearly enough; it makes a beautiful display with its Linum-like yellow flowers. *Plumbago rosea* and *P. coccinea* are both more satisfactory when used as plants instead of being cut; so also is *Euphorbia jacquiniiflora*.

CUT FLOWERS.—These are largely in request, and every means should be taken to make the most of them. When used for the decoration of the dinner or supper table they should be taken off immediately afterwards to a cooler place, where they can be re-assorted and put into more water; this will greatly freshen them for use again. This using of flowers over and over again is not perhaps always agreeable to those who think they have a right to them at the close of the evening's festivities, but it is the way to make the most of them at a time of the year when flowers are none too plentiful. I always think that more colour in arrangements at this season is excusable, a good display being the object aimed at when the attractions of the garden are confined to a limited space. I do not mean by this that persistent overcrowding or the mixture of too many colours is commendable; far from it; the work can be done without that. A free use should be made of *Poinsettia* tops, *Eucharis amazonica* in the spike, not so much in single flowers. *Calanthe Veitchi* in the spike makes a beautiful display. In using flowers in this way it is all the easier to rearrange them differently for another night's entertainment.

DECORATOR.

The weather in West Herts.—Another very mild week for the time of year. On each of the three days ending Saturday the temperature in shade rose to 50°, while on Monday night the thermometer exposed on the lawn never fell lower than 40°. On the coldest night, however, the same thermometer indicated 9° of frost. At 2 feet deep the temperature of the ground now stands at 42°, and at the depth of 1 foot at 41°. The only wet days of the week were Tuesday and Wednesday. On the latter day for a few minutes at 125 p.m. there occurred a very heavy shower of hail. The winds

mostly came from some southerly point of the compass, and were at times very high.—E. M., *Berkhamsted*.

Carnation disease.—I have just received some Carnations from a trade grower, and several of them are badly infested with the fungus that in many localities renders the open-air culture of this otherwise hardy flower impracticable. Distributing diseased plants shows either great carelessness or a want of moral perception on the part of the vendor. Take the case, for instance, of an amateur with a quite clean lot of plants, and who may never have seen a diseased one. Receiving an infested plant and not recognising the danger will probably taint the whole of what might otherwise have remained a perfectly healthy stock. An experienced Carnation grower would at once burn or return to the vendor plants thus infested, and I strongly counsel those who may not be well acquainted with the disease to carefully examine any plants they may purchase or obtain in any way, and if the foliage is marked with dark blotches to destroy them at once. I feel sure that many a fine collection of Carnations has been permanently injured by the introduction of one or two diseased plants. The worst of it is that once the disease declares itself in a garden it never seems to completely disappear. In a very favourable year it may not appear, and may even remain dormant for two or three seasons, but with the advent of a very wet summer or unusually damp winter it will reappear and be as destructive as ever. Some localities are, by reason of their elevated position or low average winter rainfall, so favourable for the growth of Carnations, that the disease never is able to get hold of them. In many places where fogs prevail in December and January the Carnation can hardly be termed an open-air flower. The saturated atmosphere is certain sooner or later to bring on an attack of the fungus. I have quite given up the idea of keeping Carnations all the year round in the open ground. For a year or two they may do very well, and then comes a damp winter and most of the plants get so crippled as to be of little value. This has happened to me several times, so that I am, though much against my will, obliged to shelter my Carnations in frames, just keeping off heavy rains, snow, and fog from the middle of November till March. I do not pot the plants, but lay them in in light soil, and they come out in spring with fairly good balls of earth to them. It is only in this way I can rely on bringing Carnations through the winter.—J. C. B.

Destroying tree stumps.—I wonder the explosive Roburite is not more often used for this purpose where there are many roots to be blown up. The larger and sounder the roots are the more effectively Roburite does its work. In careful hands, blowing up roots by this means appears both simple and safe. The present price of Roburite is 1s. a pound, and it is exploded by means of an ordinary fuse and detonator.—A. L. Y. MORLEY, *Great Brington, Northampton*.

PUBLIC GARDENS.

Gift by Mr. A. F. Buxton.—The Parks Committee reported that Mr. Buxton had offered to the Council two bronze statues to be placed in the gardens of the Victoria Embankment, and suggested that they should be placed to face each other across the gate at the south-east corner of the garden in front of the School Board offices. The statues had already been delivered to the superintendent of the gardens. They recommended that the Council accept the offer of Mr. Buxton, and that authority be given to arrange for the erection of the statues in a suitable position. This was agreed to.

Improving Waterlow Park.—The Parks Committee reported that, during the process of cleaning out the lake in Waterlow Park, a large quantity of mud had been deposited in a low-lying part of the park. The mud was being gradually

dispersed over the various parts of the park, and the result was to leave the place where it was stored in a most unsightly and unsatisfactory state. They had considered how this part of the park could be made more attractive, and were of opinion that the best plan would be to form a second lake. The ground was the lowest in the park, and was at times unfit for public use by reason of its swampy nature. The overflow water from the existing lake would be received into the one which they now suggested instead of being carried away by drains. A sum of £1000 was provided in the estimates for the work, but they proposed at present only to form the lake and leave the work of embellishment to be carried out hereafter. The proposal of the committee was to leave nothing to be desired, for the park had cost the Council very little. The report was agreed to.

Another open space for St. Luke's.—It is probable that in the course of a few months St. Bartholomew's Square, St. Luke's, will be thrown open to the public as a recreation ground. The governors of the hospital, who are the freeholders, have indeed agreed to let the ground to the local vestry at the nominal rental of 1s. per annum, provided the Metropolitan Public Gardens Association lay it out as a pleasure ground for the people, and the vestry maintains it hereafter. The association, ever ready to increase the number of open spaces, has cordially accepted its part of the contract. It only remains, therefore, for the vestry to agree to the terms offered to them.

Open spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, the Earl of Meath presiding, progress was reported in the laying-out of Victoria Park Cemetery, St. Mary's Churchyard, Woolwich, a triangle in Penn Road, Islington, and the Battersea riverside space, and it was agreed to grant seats for the embankment at Wandsworth and for the Bishop's Mead, Fulham, and to offer them for Deptford Green, to enter into negotiations respecting the laying-out of the churchyards of All Hallows, London Wall, St. Mary's, Bow, and St. James's, Pentonville, Albion Square, E., Trinity Square, E., Bartholomew Square, E.C., and other spaces.

Death of A. K. Angus.—We regret to announce the death, from rheumatic fever, of Mr. A. K. Angus, which occurred last week at the Carlton Hotel, Leicester. Prior to becoming the landlord of this house Mr. Angus was a gardener. He was born at Ellon, in Aberdeenshire, in 1853, and started his gardening career at Ellon Castle, afterwards going to Keith Hall, the residence of the Earl of Kintore, near Inverurie. He afterwards came to London to the gardens of the Royal Horticultural Society, Chiswick, where he had charge of the fruit department. He left this situation, and was for some time at Gunnersbury Park under the late Mr. Richards. He returned to Chiswick, and on leaving went to take charge of the gardens at Warter Priory, the seat of Mr. C. H. Wilson, M.P., which he managed successfully for several years. In Leicester, where he had resided for nine years, he was highly respected, and much sympathy is felt with his widow in her bereavement.

Plantains on lawns.—The best and simplest remedy is plain salt. A pinch put on the centre, not pricked in, in dry weather will in a few days eat into the plant and entirely destroy it, and do no harm to the surrounding grass.—REV. CANON ELLACOMBE.

Creosote for stages.—Will any reader say if creosote is injurious to plants? I have two early vineries in which I intend to put up a stage for a month or two on which to stand *Cinerarias*, &c., till they come into flower. I would like to paint the boards with creosote.—A. G.

Names of plants.—R. J. Davies.—*Begonia nitida*.—J. H.—*Libocedrus decurrens*.—*Hamilton Leigh*.—*Hæmanthus natalensis*.—James McNab.—*Odontoglossum gloriosum*.—J. R.—Probably *Calanthe Veitchi alba*; please send another specimen.

No. 1154. SATURDAY, December 30, 1893. Vol. XLIV

"This is an Art
Which does mind Nature : change it rather; but
THE ART ITSELF IS NATURE."—*Shakespeare*.

FLOWER GARDEN.

HYBRID CAMPANULAS.

REFERRING to page 565, I think Mr. Stansfield is mistaken in saying that the Campanula with cernuous dark purple flowers and sickly yellow leaves is not the true G. F. Wilson raised and distributed by the late Mr. Anderson-Henry. I had it either from Mr. A. Henry himself or from Mr. G. F. Wilson soon after it was raised, and have always known it by Mr. Wilson's name. Two or three years ago I saw another hybrid Campanula at Millmead Nursery, Guildford, bearing the same name. It is of stronger growth and has healthy green leaves, but seems to be the same hybrid as the other, viz., *C. carpatica* × *C. pulla*. I thought at first the chalk soil of Guildford might be the cause of the difference, but I have grown them together without their assimilating. I could not learn the history of the green-leaved variety; it may have come in some garden accidentally. As an illustration of this, I may mention an excellent and old hybrid Campanula twenty years ago known as *C. Hendersoni*. I should guess it to be a cross between *C. pyramidalis* and *C. carpatica*. It is so floriferous, that if not frequently propagated it dies out, so it is easily lost; but it is preserved in one or two nurseries. A few years before the death of the late Mr. Tymons, who lived near Dublin, that gentleman sent me a Campanula which he found in his garden, growing, he said, as a spontaneous seedling. This was in every respect identical with what I had always known as *C. Hendersoni*, but as Mr. Tymons had never grown that hybrid, its reproduction was an accidental coincidence. Mr. Tymons' hybrid found its way to nurseries, from which it is still sold as *C. Tymonsi*, and is another instance of the hopeless muddle to which nurserymen reduce nomenclature. While on the subject of hybrid Campanulas, I may mention two or three others which I have long known, two with long pendulous flowers—*C. van Houttei* and *C. Burghalti*—am not sure how the latter is spelt. The former has flowers of pale satiny blue, the other purplish white. Both are very robust and enduring, but, like most hybrid Campanulas, absolutely barren of seed.

There is another hybrid raised and distributed by Mr. Anderson-Henry called *C. haylodgensis*. This, too, has unhealthy-looking yellow leaves like Campanula G. F. Wilson. The flowers seem as if they might be intermediate between those of *C. pumila* and *C. carpatica*, and the habit is dwarf and not robust. These are all the hybrid Campanulas I know except those of the so-called species of the *C. rotundifolia* type, which, including *C. rhomboidalis*, intermix freely and their crosses are fertile. The other Campanulas seem to produce hybrids sparingly, and I have never known a spontaneous hybrid of them except of the class mentioned produced in my garden.

Mr. Stansfield asks about *C. Raineri*, for which he says C. G. F. Wilson is made to do duty. The true *C. Raineri* will always be scarce in nurseries, as it is rather difficult to keep. I have had it two or three times, but none of the Italian Campanulas, except *C. garganica*, thrive on this cold damp soil. The best piece of *C.*

Raineri I ever saw in a garden was at Munstead, where it used to seem quite happy. It is a plant of very dwarf habit, not more than 3 inches or 4 inches high, with small downy leaves like those of the rough variety of *C. garganica*. The flower is erect, widely expanded, and as large as that of *C. carpatica*. The characters are well described in Koch's "German and Swiss Flora," except that he says the flowers are cernuous, which is a mistake. The plant is very sparingly distributed in the Alps of Northern Italy and the Southern Tyrol.

Edge Hall, Malpas. C. WOLLEY-DOD.

P.S.—In a monograph of the genus Campanula by De Candolle, published at Paris in 1830 (kindly lent by Mr. Stansfield), I find a very good description of *C. Raineri*. The flowers are there described as nearly sessile and erect. The mountains round Lake Como are mentioned as its chief home.

NOTES ON HARDY PLANTS.

Polygala Chamæbuxus purpurea.—There is not one, but many varieties, I believe, with flowers more or less purple, that is, with that part of the flower which breaks away in colour from the typical yellow. I have seen flowers of a puce-purple, of a bright rose-purple, and some almost crimson, as well as intermediate shades, and I have also proved that some of these varieties have their colour qualities fixed, appearing with young stock grown under varying conditions; but I could readily believe that the paler purples might be affected more or less by cultivation, say, according to the quality of soil, degree of moisture, or even exposure.

Crococsmia v. Tritonia.—I am much obliged to "W. W." for the reference he gives on this subject. Of course, we all want to be right, and I for one am willing to do even a little groping in order to attain that end, for, so far as I can see, there is likely to be a little difficulty as to what the hybrids may most lean to—*Tritonia* or *Crococsmia*. I am afraid some authorities and raisers of the hybrids have not always been clear on the botanical distinctions—after all very, very narrow ones, and my remarks, if re-examined, will be found to be of the more practical character. I saw the difficulty when I penned my note, but as my object was more to speak of the usefulness of the flowers and their culture, I made my remarks referable to *Montbretia* a sort of compromise, because the class of flowers under notice would be better understood from the past usage of that name for many allied hybrids. Of course, the changes recently made in regard to these genera will be right beyond doubt, but some of us sometimes intentionally or unintentionally fail to follow the leaders for the sake of convenience or purely practical purposes, or both. This, I am afraid, will not seem sound reasoning to botanists or desk gardeners, but those who have a deal of gardening to do, the handling of many hundreds of species and varieties, together with a deal of correspondence and therein have to respect the nomenclature of others, find the numerous changes of names often laborious, sometimes impossible and always inconvenient in garden work.

Primula Forbesi.—As a greenhouse plant this is very pretty, but as a perennial or hardy plant of no value.

Trolliuses.—It will never do to plant these roots at the present season in soil heavily dressed with partially decomposed manure. I know no hardy plants whose roots are more susceptible to decay when they have been newly moved or divided and come in contact with manure than some of the *Ranunculads*, notably the tuberous and fibrous-rooted *Anemones*, *Hellebores* and *Trolliuses*. The place for the manure is on the surface after planting, but for my own part I would not employ it there even until the plants had made a year's growth. As a matter of fact, until they are

established they want no food in the way of manure, and there can only be the risk that such masses of roots as the *Globe Flowers* carry may be contaminated by the decaying matter. It is precisely for this reason that young plants become established more quickly and otherwise are more satisfactory than very big roots. If large clumps are being transplanted, the soil should not be shaken out of them; if by any chance it is, the roots should be dipped in water and immediately dressed with soil or sand. This in a way divides all the fibrous roots from one another. Should this strike you as being too much trouble or scarcely necessary, try it and you will find that it is trouble or care that will pay. Set plants so treated with others in the ordinary way, that is, with the root strings all promiscuously jammed together, and watch the results. Rarely have I found the prepared roots to go the wrong way, but invariably I used to find the big wig of roots a mass of black decayed matter at the end of a year or so, when I dug them up to see why they had dwindled almost to nothing. It is common knowledge that strong roots of *Globe Flowers* dwindle very much after the first season and often die. I believe that the true cause of this is implied in the above remarks.

Hepaticas.—These constitute a group of flowers of the first importance for winter flowering in the open ground as distinct from hardy bulbous flowers, and as I have a word to say about the timeliness of their being planted, I may also as a sort of sequence place the note after that on *Globe Flowers* as their faulty planting is very liable to, and often does, cause similarly bad results. You may not much longer put off the planting of these early flowers. Not only may the ground at any time become frost-bound, but it would be unreasonable to expect good results in February and March if you have not completed the planting by mid-December. As to the mode of planting, if you can have the roots in clumps with soil adhering, so that the root-strings cannot come together in masses and cause each other to decay, so much the better. As already hinted, this *Ranunculus* is susceptible to injury very much in the same way as the *Trollius*, and unless you deal very carefully with large roots it would perhaps be better in the end to plant small ones; but there is no other reason why you should not begin with large specimens that would be showy the first season and continue to flourish afterwards.

Aster Novi-Belgii nanus is, I believe, the authorised name for the pretty dwarf variety which before went under the name of *hybridus nanus*. It is but 1 foot high at the most, and its very bright rosy purple flowers are produced in profusion. It is an exquisitely beautiful rock plant for the late season just when rockeries most want a bit of fresh colour. There is also another very dwarf *Aster* that has borne the varietal name of *nanus*, from 6 inches to 18 inches high, and it has often been confounded with *N.-B. nanus*, but if studied in a growing state it is self-evident that it belongs, as the *Aster* committee have placed it, to *vericolor*. Like the other varieties of the species, its flowers open white, and then change to two other distinct shades of red and blue-purple. This too is a beautiful plant for the rockery, and its panicles of bloom are of the showiest character imaginable. I wish somebody could tell me where I could procure *Aster diplostaphioides*, which I fear I have lost.

Campanula muralis (Bavarian variety).—No doubt this specific name, like many others belonging to this genus, can be shown to be superseded, and the term "Bavarian variety," which I took the precaution to place in parenthesis, was only employed because I knew of no other name (neither is any yet shown that I am aware of) for a variety better than its type—be that *muralis* or *Portenschlegiana*. Whether it is a natural or cultivated variety I know not, and cannot therefore say whether the geographical name has reference to habitat or cultivator. It is not, however, a plant of yesterday, and as I had not seen the name questioned before, I ventured to employ it for the practical purpose of, in the shortest way, directing

notice to a good flower by the name by which it could be recognised, and by the only one by which as yet we can know the variety intended.

Dog's-tooth Violets.—In planting these so late as the present month you will encounter two risks compared with earlier planting. First, the tubers are apt to deteriorate seriously when kept out of the ground so long, and those which have received a spot of decay, however small, might be just as well thrown away as planted. Those that have remained sound will be found to have become shrunken. In planting these, they should be surrounded with comparatively dry soil or sand, and then kept sheltered from rain for a few weeks. This, when properly managed, prevents the over-dried tubers from swelling too rapidly and rupturing themselves, after which they rot. There can be little wonder that these planted unreasonably late, compared with the early season at which they should flower, so often fail. On the other hand, if you plant early, say in August, you can hardly go wrong.

Woodville, Kirkstall.

J. WOOD.

PLANTING LILIES.

DESPITE the fact that the advantages of planting or potting Lilies as early in the season as possible have been many times pointed out in THE GARDEN, it does not appear to be sufficiently recognised, for many people if about to purchase Lily bulbs do not do so till quite a month of the new year and often more has passed away; whereas if these self-same bulbs had been planted two months earlier (which could have been done in the case of most of them), they would be well rooted by the end of January. If about to transplant Lilies in one's garden, this can be carried out whenever they are fit, but in the case of imported bulbs it is, of course, necessary to wait till good well-ripened examples reach this country. Simple transplanting is best carried out whenever the flower-stems decay, and on this point I feel sure that many of the failures with *Lilium candidum* are owing to the operation being delayed too late in the season. Where this Lily succeeds the best advice is to leave it alone, but if transplanting is absolutely necessary, let it be done early in August, or at the latest before the month is out, and I venture to say that it would not be necessary to chronicle so many failures as one hears of at the present time. This Lily is often very hardly treated by dealers in bulbs, for the bulbs are often seen exposed for sale on dry shelves at a time when those in the open ground will have pushed up their tuft of radical leaves, from the centre of which the flower-spike will in due course make its appearance. From bulbs in such a shrivelled state it is, of course, useless to expect a good return in the shape of flowers, and an equally barbarous method frequently seen is that of lifting the bulbs after their radical leaves are developed, as, of course, the roots are then very active and suffer accordingly, not only in being bruised and broken when lifted, but also from exposure afterwards. In the case of most Lilies a good time to transplant them is towards the end of September and in October, but in purchasing bulbs it should be borne in mind that many kinds chiefly come from Holland, and they do not ripen off quite so soon as they do with us, so that it is usually about the end of October before we get the best bulbs from there. Those from Japan are later still, for whereas the first consignments were disposed of on October 19, they were not so well ripened as those that have been imported since. In the case of Lily bulbs that are taken up before they are thoroughly ripened, and packed as those from Japan are, they generally look well enough when first opened, but small spots of decay, probably where they have been slightly bruised, soon appear on some of them, and often the entire bulb becomes affected. Those that reach here from the middle of November to Christmas are usually the best. The large dealers in bulbs who receive great quantities of Lilies both from Holland and Japan with a very limited amount grown in this country do not appear to be

all of one accord as to the most suitable way to keep them in a condition for sale, for by many they are kept quite dry, as in the case of Hyacinths and Tulips, and by others laid in soil, cocoa-nut refuse, or something else in the same way. Both of these methods have their objections, for, in the first place, the bulbs soon become shrivelled and lose a good deal of their vitality, and in the next case, that is those placed under conditions favourable to growth, the roots at the base soon become active and are injured by removal.

The way to prevent this is to purchase all Lily bulbs within a reasonable time, that is before Christmas at the very latest, and place them in their permanent quarters, either potted or planted out. Instead of this practice being generally followed, I know from my own experience, and on the authority of some of our large Lily dealers, that there is a great demand for these bulbs when the return of spring revives additional interest in the garden. Of course at that late period it is only those that have been laid in beds in the open ground and lightly covered that are in a condition to yield even passable results, and in the case of the Lilies so treated there is a very great difference in the behaviour of the various species. Thus most of the Martagon forms will refuse to flower in anything like a satisfactory manner, while on the other hand the upright cup-flowered forms do not suffer from the removal nearly as much. Of this section *L. umbellatum* or *davuricum* in its different forms is sent here every year in large quantities from Holland, and being cheap and a trustworthy flowerer it finds a ready sale. I have seen this bloom well when the stems were grown 3 inches or 4 inches before the bulbs were lifted. *L. auratum* and *speciosum* in their various forms will also flower fairly well if lifted after the flower-stem has begun to push up, but the bulb is weakened very much more by this mode of treatment than if planted or potted at the proper season. In recommending the purchasing of all imported Lilies before Christmas, one notable exception suggests itself, and that is the Neilgherry Lily (*Lilium neilgherrense*), which sometimes in this country does not flower till the end of the year. The stock of this is principally kept up by bulbs collected in their Indian home, which, as a rule, do not reach here till January or February. These imported bulbs, if in good condition, can always be depended upon to flower well the first season, but in the second year the display of bloom will be much less. From its late season of blooming this is essentially a greenhouse Lily.

H. P.

OLD BREEDER TULIPS.

HAVING been fond of these old-fashioned late-flowering or cottage garden Tulips for many years, during which time I have grown them in large quantities and from many sources, I should like to say how much I admired the beautiful coloured plate in THE GARDEN of Dec. 9. I think Myrheer Krelage is a little hard to please in insisting that your artist should have drawn the Tulips *à la* Van Eiden instead of *à la* Van Huysum. I know a little of flower painting and think Mr. C. Jones' drawing and colour most delightful, because so faithful in every way. No doubt any artist would prefer to draw flowers as they grow rather than after they had been cut and tossed about in a box for a day or two, and all that the best of painters can do is to paint faithfully the thing before their eyes as it really is, and not—as they are often told—it ought to be. The older method of drawing florists' flowers was to make a stiff and formal sort of a diagram, and then to colour it in a hard, mechanical way. One way of seeing how inartistic, because untrue, such drawings can be would be to place the plate of which M. Krelage complains beside a Tulip plate in any published work illustrating these flowers. It is hard to do one's best, as I feel sure Mr. Jones really did, and then receive blame because he did not draw the flowers "another way," as the cookery books have it. The exquisite colouring and subtle perspective

shown in the Tulip plate alluded to are really artwork of a kind but too rarely seen.

As to the name "Darwin Tulips," I object to it entirely, seeing that these old breeders were grown in both Holland and England long before the Darwins were heard of or known; hence, we are led to surmise that the name Darwin "was merely selected for trade purposes." They exist all over the country in old cottage and country house gardens, where they are prized for their grace of form and richness of colouring, good qualities which are admirably shown in the plate.—F. W. B.

I notice M. Krelage's remarks on my drawing of Tulips in THE GARDEN of Dec. 9 also your note attached. M. Krelage says: "The florist's and the painter's opinion of beauty will scarcely ever be the same." Well, for art's sake, perhaps it is better that this difference should continue. The geometrical flower forms the florists would have us draw are only fit for catalogues. "The artist likes fantastic colouring," says M. Krelage. Some may, but the true artist certainly not; he paints colour as near as he can to Nature as he sees it. M. Krelage complains that the flowers that I painted look you straight in the face, which they do only when the wind blows them over. Please imagine that the wind has been kind enough in this instance to do so to exhibit to us the pretty blue base of the flowers.—CHAMPION JONES.

NARCISSUS TAZETTA MICRANTHUS.

MR. G. F. WILSON, F.R.S., of Leatherbark, Weybridge Heath, has kindly sent me a flowering scape of a white-flowered Narcissus that most nearly approaches the above small-flowered pure white form of *N. tazetta* as figured long ago by Jordan and Fourreau, a single flower of which I reproduced in my "The Narcissus," plate xxxi., fig. 8. The plant is very much like a diminutive form of *N. papyraceus*, or the "Paper-white" variety as sold for early blooming. Now the small variety named *N. tazetta micranthus* by Jordan and Fourreau is said to be wild near Toulon; whereas Mr. Wilson's bulbs were collected by his son, Mr. Scott B. Wilson, in the Canary Islands; so that one's first inference would be that the plant represented Herbert's *N. (Hermione) canariensis*; but on comparing the fresh specimen sent with Herbert's original drawing, or with the actual specimen at Kew, or with my own figure on t. 48 of "The Narcissus," a considerable difference is at once observable, the scape being much stouter and the flowers at least twice or thrice the size. Still, Herbert's *Hermione canariensis* was a species founded apparently on a solitary specimen illustrated at p. 109 of his book of drawings and MS., now in the library of the Royal Horticultural Society, the original dried specimen, which is of extreme tenuity, being preserved at Kew, as I have before stated. Now comes the question whether *N. tazetta micranthus* may not be also found to extend to the Canary Islands, or whether Herbert's slender *N. canariensis* may not be a far more variable plant than even he, a cultivator, could have supposed. If the specimen is a typical one, then certainly Mr. Scott B. Wilson's plant is very different, and seems to prove that *N. micranthus* grows in the Canary Isles, and may there when not in flower be mistaken for *N. canariensis* proper. Herbert in his "Amaryllidaceæ" illustrates another small white-flowered Narcissus, viz., *N. dubius* (pl. 43, figs. 6, 7 and 8), which he decided is the same as the *N. pumilus* of Redouté's "Liliacées," and he further says that *N. dubius* must be considered as a variety of *N. papyraceus*, and that Redouté's *N. (Quellia) pumilus* must be "expunged as a nonentity." In recent years, however, Mr. P. Barr and others have obtained or collected bulbs of *N. dubius* from the vicinity of Nîmes that look quite distinct from any forms of *N. tazetta*, having narrow semi-Rush-like foliage more resembling that of *N. juncifolius*. Then Mr. Moggridge in his "Contributions to the Flora of Mentone," t. lxxi., b, c, d, figures *N. dubius*, and considers it to be quite different to *N. papyraceus* and its smaller forms,

such as *N. Panizzianus*, a phase near to *N. micranthus*, which he illustrates on the same plate. *N. dubius*, true, is more like a white form of the yellow *N. juncifolius* than any form of *N. Tazetta*, the leaf section being very distinct, but it is very difficult to grow and flower. The specimen Mr. G. F. Wilson sends me bears in all five open flowers and seven unopened buds, and although the bulb which produced it was certainly collected in the Canary Islands, yet the plant is different from the true *N. canariensis* as illustrated and founded by Herbert. It is quite probable that several forms of the ubiquitous *N. Tazetta* are found wild in the Canary Islands, as they are on the mainland of Morocco, and it is just now especially desirable that bulbs of the true *N. canariensis* of Herbert should be obtained. Long before Herbert's time several very small forms of pure white *N. Tazetta* and of *N. dubius* were figured in the "*Campi Elysii*" of Rudbeck, father and son.

F. W. BURBIDGE.

FLOWER GARDEN NOTES.

No long time must elapse after the arrival of new catalogues before some of the things required for the garden in the summer of 1894 will have to be noted and ordered, and each succeeding year finds an increasing wealth of subjects suitable for such work. Many, for instance, remember the introduction of such things as *Nicotiana affinis*, tuberous *Begonias*, and the *Margarita* strain of *Carnations*, which, with other easily raised plants, have helped so much to beautify our gardens. Different situations will have their different descriptions of seedling plants; thus, the commoner varieties of annuals that are used with great effect in masses in the wild garden, sub-tropical annuals that will develop in a few months into tree-like dimensions and help to beautify many a glade and shrubby border, and yet, again, other annuals of excellent habit and long-sustained flowering properties that can be used with marked and telling effect in the more formal garden, or for such special work as vases, pans, boxes, baskets, or raised beds. One has to make up his mind quickly as to the number of things likely to be wanted for the latter purposes, as an increase in the number of seedlings means a corresponding decrease in the number of plants to be raised from cuttings. Many of the special things, too, want sowing early in the year; the seed may be some time coming through, or the plants require a long season of growth before they are ready for their summer quarters. *Cobæa scandens*, so useful as a trailer and for quickly covering pillars, balconies, &c., such ornamental foliated plants as the finely-cut *Grevillea* or the broad-leaved *Cannas* are all long in germinating, and should be sown early and liberally to ensure strong plants in sufficient quantity. Flowering plants of considerable size that will be required for pot work, as, for instance, *Amarantus salicifolius* in variety, *Nicotiana affinis*, and *Salvia patens*, must also be sown early; strong plants in 4-inch pots, well hardened, will then be available by the end of May. If the stock of tuberous *Begonias* is limited or the strain not satisfactory, a packet of reliable seed may be sown towards the end of January and the best seedlings selected therefrom. The flower garden display for 1894 of these *Begonias* will be mainly from tubers selected for colour and habit from 1893 seedlings. I should like to add a reminder as to the great value of the comparatively new fibrous kind, *Begonia semperflorens atropurpurea*, for summer bedding. If grown along quickly from the seed pan and shifted singly into fair-sized pots, plants which will flower abundantly may be had. Beds of *Margarita* *Carnation* did so well this year, despite the unfavourable summer, that this acquisition will again be used liberally. I like to sow from the middle to the end of February thinly in boxes, placing the latter in a cool house. The seedlings may be transferred to a frame made up on a bed of leaves so soon as they can be handled. *Centaurea candidissima*, the best of white-foliaged plants of its size, must be sown towards the end of January.

I have this year noted specially the hardness of this bright and useful plant. A bed from which intervening plants of *R. V. Raspail Pelargonium* were removed, being afterwards rather heavily mulched with the decaying foliage of *Taxodium distichum*, has come safely through 20 degrees of frost. Mention of this *Centaurea* reminds one of a plant easily grown from seed that forms an admirable contrast to it in lieu of the more tender *Coleus* and *Iresine*, viz., Dell's *Crimson Beet*. This is, I think, the highest coloured of its class, although the so-called *Dracena-leaved* may be of more graceful habit. A batch of this may be sown at any time towards the middle of March, two or three seeds in 3-inch pots. There is a class of annuals now raised from seed for the formal garden which from their habit of growth and duration of flowering season makes them good companions for the *Begonias*, *Pelargoniums*, *Ageratums*, &c. Of these the best and most enduring are *Petunias*, *Verbenas*, *Phlox Drummondii*, and dwarf *Marigolds*, equally as showy and far more lasting than the commoner annuals, besides, either from their natural habit or by the free use of pegs, being suitable for almost every description of bed. I think the best of these are *Petunias*, the display is so brilliant and long-sustained. Seedlings of these, also *Verbenas* and *Phlox*, should be pricked out from the seed-pans as soon as they can be handled either into boxes or pits emptied of forced *Potatoes*, if any such are available. Give the seedlings enough room, so that they grow into nice plants by turning out time, and pinch once or twice to keep them sturdy and compact. Care must be taken in the selection of beds for the different varieties of *Petunias*; some of them grow so vigorously that any amount of pegging will fail to keep them within bounds. Such a strain should be planted in large beds where there are as dot plants some nice specimen conifers 4 feet or 5 feet high. *Petunias* also rank among the best window-box plants. Plant two rows, allowing the one to trail over and hang down, and insert a few twigs of *Pea* boughs at the back on which the back row plants may run at will; a splendid bank of bloom some 3 feet or 4 feet in depth is thus obtained. The above comprise most of the subjects for first or second early sowing; other useful plants will be mentioned in future notes.

E. BURRELL.

Claremont.

Crococsmia aurea and its varieties.—I am sure Herr Max Leichtlin will absolve me from any blame for the "ill-treatment" he has suffered with regard to his variety of *C. aurea* called *imperialis* (see p. 512). My knowledge of the plant is, as stated on p. 462: In December, 1888, a plant called *C. aurea* var. *imperialis* was presented to Kew by Herr Max Leichtlin, who wrote: "I send you a bulb of *C. aurea* var. *imperialis* which has been raised here. It grows to a height of 3 feet and likes a rich soil. It is deeper in colour than and twice as large as typical *C. aurea*." At about the same time Mr. O'Brien sent a plant of his variety *maculata*. These were planted separately in a bed in a warm greenhouse, where also we placed a tuft of the South African *Lissocylus Kretsi*, among which there were a few corms of *Crococsmia*. They all flowered in the following summer, and whilst variety *maculata* was exactly as described by Mr. Baker, that called *imperialis* was identical with the plant growing with the *Lissocylus*, and distinct in colour and width of segment from Mr. O'Brien's plant. Possibly Herr Max Leichtlin's plant was not true to name, but I have never seen any other variety than this under the name of *imperialis*. I am, however, in a position to corroborate what he states with regard to the improvement made by him in *C. aurea*, as I possess three flowers given to me years ago by Mr. Goldring, who had received them from Baden-Baden. They are labelled "Specimens showing improvement in flowers of *C. aurea*—1, type; 2, first improvement; 3, the variety *macrantha*." The last named is a gigantic flower, being 3½ inches across, and each segment is seven-eighths of an inch wide, quite ovate, and overlapping. I have, however,

never seen this plant alive. If Herr Max Leichtlin possesses it, perhaps he could spare a corm for the Kew collection. It is evidently a very fine variety, perhaps the finest of all. Mr. J. S. Whall is quite right in preferring to winter his *Crococsmias* in sand, but the difficulty is to keep them from growing and getting weak during the winter unless they are kept dry. The "runners" have to be sacrificed if the corms are dried. At Kew we do not lift them, but cover the beds with dead leaves for the winter. Sometimes, however, alterations compel us to lift them, and then they have been wintered as advised on p. 462.—W. W.

HARDY ERYNGIUMS.

In the *Jardin Alpin d'Acclimatation*, in Geneva, we now cultivate fourteen different kinds of hardy *Eryngiums*, all belonging to the "Blue Thistle" group, so called on account of the colour and of the spiny character of the plants.

ERYNGIUM ALPINUM is a very rare species found on chains of the Alps in Switzerland, Savoy, and Tyrol. It is a neat and curious plant, 2 feet or 3 feet high, with heart-shaped leaves, not cut at all, and borne on long petioles. It bears one to three heads of flowers and a marvellously cut involucre, very finely incised and of the deepest blue. The upper leaves and the superior part of the stems are of the same colour, and retain that curious bluish tint when cut and preserved for the winter. The flower-heads are large, and the involucre measures more than 4 inches in diameter. The flowers appear from June till August. A good deep soil and a partially shaded situation suit it best. It is reproduced only from seed. It is one of the best of alpine plants either for the herbaceous border or for the rockery. It has been said that *E. alpinum* grows upon the Rocky Mountains, but neither in Boissier's herbarium, De Candolle's, nor Delebert's, nor yet in Asa Gray's books do I find any mention of this fact. Until some American reader corrects me, I shall assume that this plant is not American. In the Pyrenees the genus *Eryngium* is represented by quite another species,

E. BOURGATI. The plant is hardly a foot high, has very deeply incised and divided, rough and spinescent leaves of a bluish or whitish green, and very strongly nerved. The flower-heads are not so large as those of *E. alpinum* and are whitish; the involucre is of quite another character, and formed of spinescent, narrow and very hard leaflets, bearing a thorn at their summit, and becoming pale blue at flowering time, which is June till August. It endures well the hottest sun. The highest summits of Sierra Nevada and Morena, in Spain, give us another very interesting *Eryngium*, called

E. GLACIALE. It grows upon barren summits between 7000 feet and 9000 feet in altitude, and is very rare in gardens. It has a dwarf habit, not more than 8 inches high, and bears from one to three flower-heads, surrounded with an involucre of the same character as that of *E. Bourgati*. The leaves have long petioles, are whitish nerved, spiny and deeply cut. Its flowering season is June and July, and it needs a rockery with a sunny aspect. The stems and involucre become bluish from May to the end of July. It can be increased only from seed. The chains of the Apennines and of the Southern Alps, in Tyrol and Croatia, give us the fine

E. AMETHYSTINUM. Its leaves, with whitish nerves, are long and very deeply cut. The flower-heads, borne on stems 2 feet long, are of a deep amethystine-blue, not so large as those of the preceding species, but they are very numerous and form a corymb. The stems, involucre and leaves in the summer-time are all quite blue. If we go into Turkey over the Balkans, or into Greece, we find the interesting

E. CRETICUM. The growth of this plant is quite distinct, as the stems at half their height suddenly divide into many branches, so as to form an umbrella-shaped top. The branches are of the deepest

blue, and the numerous little heads are set in spiny blue involucre. This plant needs full sun and dry sandy soil. In the Caucasian mountain meadows we find the elegant

E. GIGANTEUM, which is somewhat analogous to *E. alpinum*, but differs from it in its leaves, which are more ovate and elongated, and in the involucre, which is not cut, but toothed only, spinescent and of a very hard and leathery texture. In the Taurus and Libanus ranges we find

E. FALCATUM with ovate, entire, radical and often trilobate leaves and a stem $3\frac{1}{2}$ feet high, bearing numberless small heads of flowers with spinescent little involucre, which are blue from June to September. It grows freely in any sunny place.

E. PLANUM grows in Siberia and the Ural Mountains, and differs from *E. falcatum* by having its radical leaves cordate, with long petioles, and never trilobate, and having also the bracts of the involucre narrower and longer. In Asia Minor there are three important *Eryngiums*—*E. Olivarianum*, a tall growing species with very hard leathery involucre; *E. cœruleum*, which extends to the alpine heights of the Himalayas, and *E. multifidum*, nearly allied to *E. amethystinum*. There are three other European kinds which are worth cultivating, although their stems do not turn blue. These are *E. maritimum*, a glaucous species, growing by the sea-shore; *E. spino alba*, of the Cevennes Mountains, and *E. vulgare*.

All these *Eryngiums* are interesting and well worthy of cultivation. They grow so easily from seed that it would be very easy to introduce them into America, where they would certainly prove valuable, since they endure the hardest winters as well as the hottest and driest summers. They all are very easy of cultivation here in our garden at Geneva.—H. CORREYON, Geneva, Switzerland, in *Garden and Forest*.

SWEET-SCENTED PELARGONIUMS.

TO THE EDITOR OF THE GARDEN.

SIR,—I am sending for your inspection a large leaf from a seedling sweet-scented Pelargonium. The plant was discovered self-sown in an Onion brake; it was carefully watched through the summer, lifted and potted in the autumn and grown on in a cool greenhouse. The stem is $1\frac{1}{2}$ inches in diameter already, the plant quite 30 inches high from the rim of its 8-inch pot and furnished to the base with these large handsome leaves. It has not yet bloomed, but should its flower prove as relatively fine as the foliage, it will be a splendid acquisition. I grow these scented Pelargoniums chiefly for cut greenery in the winter, and plunge or plant them out in summer for the same purpose. I have already collected over seventy varieties, but am sorry to say have only about sixty remaining. I hope the two or three other sprays I send you will show how useful they are for mixing with all flowers by reason of their diversified forms, not to mention their invaluable fragrance. I have plants from the collection of the late Miss Frances Hope, of Wardie Lodge, Granton, N.B., besides many others collected from every part and from old, small and big gardens. When in flower altogether in one house in spring they are most attractive and interesting, though not showy. I find it difficult to get them properly named, no nurseryman having them under the same appellations, and as they are apparently not much sought after, care is not sufficiently exercised in cataloguing them correctly. I have had from several sources no fewer than six totally different plants under the name of Lady Scarborough. The Dowager Lady St. Oswald had, I believe, a nice collec-

tion at Nostell Priory, and I was fortunate enough to get cuttings of them all, and I often come across odd varieties in my travels in various gardens that I do not possess and have not seen before, so there is clearly still a field for a collector. I have some promising young hybrid seedlings coming on. Seed was freely produced on most of my plants last spring, but I am sorry to add that no record was kept or system observed in hybridising them. None of these seedlings, however, look to me to be of such promise as the Onion bed seedling, the appearance of which in the conservatory at present is more that of a well-grown *Aralia japonica* than anything else. I should be glad to meet with other collectors of these plants and exchange varieties. I see no leaf in Sweet's "*Geraniaceae*" at all resembling that of my seedling.—DORA H. GROSVENOR.

*** A most interesting and charmingly varied series of these delightful plants.—ED.

THE WASTE OF GARDEN GROUND.

THERE are hundreds of gardens about the country where there is a lamentable waste of good garden ground, and the productive capacities of which are sadly circumscribed. Especially is this true of old gardens which are found attached to residences built many years ago, which have become the picture of neglect, and many new ones, by reason of unskilful or inappropriate planting, or by planting things unsuited to the soil and position, fail completely to yield that of which they are capable under different conditions. It is because these things exist that I have headed this paper "Waste of garden ground." Unfortunately, many persons who are the possessors of such gardens are careless as to their condition, mainly perhaps because they fail to see improvement is practicable, though when a change is made, as sometimes happens, and a gardener who knows his business takes one in hand, this change for the better is at once discernible.

Let us look into one of these neglected gardens, and what meets the eye? We see old and useless trees that shut out the best of the morning sun, and prevent anything like the ground beneath them being cropped to advantage. Shrubs planted singly or in clumps have out-grown all reasonable dimensions and encroached upon soil that would otherwise be productive, or they have grown tall and, becoming bare at the base, are unsightly objects. Then there are overgrown hedges that rob the extent of the garden of many yards of good ground, and which might be cut in, as in the case of the shrubs, and converted into pea-sticks, firewood, &c., or be burnt to supply wood ashes. One sees fruit trees and bushes crowded and cankered, overgrown and interlacing each other, and occupying ground for which their annual crops prove no equivalent. In the gardens of the working classes, and especially of agricultural labourers, there are to be seen many overgrown trees shading the ground and preventing the growth of green crops which would prove much more largely remunerative and acceptable—gardens that with better cultivation might be made to produce double what they do and everything of better quality if the tenants could be made to increase their interest in cultivating them, cutting down an old Maple or an overgrown Elder in the hedgerow, repairing broken-down fences, cutting the hedge close in, making the walks few and straight and no wider than 3 feet, and covering every inch of fence or house-wall with something useful or beautiful.

In the summer I was called upon to go through a group of Berkshire villages and make awards to the best gardens. The most favourably tilled and cropped gardens were those where the cottages had as inhabitants workmen following other occupations than those of agricultural or garden labourers. Some were working carpenters or bricklayers, or

men who were following some occupation on their own account, and in nearly every case the gardens were remarkably well kept. Perhaps the farm and garden labourer, after following work all day, found any continuation of it in the evening somewhat irksome and monotonous, while to the artisan it came as an agreeable change from a mere mechanical occupation. Many of these cottage gardens were far too large to be kept in anything like good condition by the head of the family, who had but little, if any daylight in which to work in autumn and winter, and if such gardens could be divided among two or three occupiers, or a portion employed to rear some agricultural crop, it would be better than allowing them to go to waste as they do now. R. D.

Myrica californica.—One may search for this in vain in most catalogues, yet it is a decidedly ornamental evergreen shrub, and one especially noticeable just now by reason of its bright green foliage. The two commonest members of the genus are our own Sweet Gale or Bog Myrtle (*Myrica Gale*) and the North American Candleberry Myrtle (*M. cerifera*), both of which, however, are not nearly so much seen as formerly. In general aspect *M. californica* differs widely from either of these, forming as it does a free-growing bush in this country, though in its native state it is said to reach a height of 30 feet or 40 feet. At a little distance it bears a certain amount of resemblance to an *Arbutus*, the narrowish bright green leaves being from 3 inches to 4 inches in length. The genus *Myrica* is by no means an extensive one, yet it is of wide geographical distribution, for the five species which are mentioned in the "*Dictionary of Gardening*" are *M. californica*, *M. cerifera*, from Canada; *M. Gale*, Europe; Northern Asia, and North America; *M. Nagi*, China and Japan; and *M. quercifolia*, Cape of Good Hope. They are all uncommon at the present day, and difficult indeed to get from nurseries.—H. P.

A Japanese Hemlock.—Of the Hemlocks found in Japan, one is northern and the other southern; both are common at high elevations, and one at least forms extensive forests. The great forest, which covers the Nikko Mountains at an altitude of more than 5000 feet above the ocean, is composed almost entirely of the northern Hemlock (*Tsuga diversifolia*), which is distinguished by its bright red bark and by its small leaves and cones. This Hemlock forest, which is the only forest in Hondu which seems to have been left practically undisturbed by man, is the most beautiful which we saw in Japan. The trees grow to a great size, and while they stand close together are less crowded than the trees in an American Hemlock forest under which no other plants can grow, and light enough reaches the forest floor to permit the growth of Ferns, Mosses and many flowering under-shrubs which clothe the rocky slopes up which this forest stretches. We found *Tsuga diversifolia* in scattered groups on the rocky cliffs of Mount Hakkoda, in the extreme north of Hondu, the most northern station which has been recorded for this tree, which is still to be introduced into our gardens; but, south of Nikko, it was replaced by the second species, *Tsuga Tsuga*, which we saw in great beauty on Koma-ga-take, where, however, it does not form a continuous forest, but is scattered in groves of considerable extent among deciduous trees and *Pinus densiflora*. It is this southern species which is cultivated in our gardens, where it appears to be as hardy as our native species, which it surpasses in its more graceful habit and in its broader and darker coloured leaves.—*Garden and Forest*.

Vines with coloured leaves.—Will any reader tell me the names of Vines that colour well in autumn—purple, red, or any other tint? Among the species, varieties of our own or of continental gardens, there must be some distinguished by beauty of colour more than others, and for any help from your readers I will be grateful, as I wish to see what may be done with Vines for their beauty of form and foliage.—DUBLINENSIS.

ST. CATHERINE'S COURT.

THIS ancient, yet particularly well preserved residence is situated rather more than four miles north-east from Bath and is reached by narrow, old-fashioned lanes, winding through a very picturesque tract of country. The exact age and little or nothing of the history of this favourite resort of antiquaries and others interested in ancient buildings I am unable to give, though there must surely be some mistake made by those who assert that all traces of its history have disappeared. That it existed early in the sixteenth century is evident from the following extract from an old book on bygone days, the title of which I failed to note down during the short time it was in my possession :—

John Malte, the King's taylor, was highly esteemed by Henry VIII., who entrusted him with

months. The Court as well as the church has been restored at different times, and it is thought the beautiful porch shown in the engraving was added during the reign of Charles I. Mrs. Drummond, the present owner of the place, is a member of the Strutt family, who have for a long time held possession of the Manor, and who have spent considerable sums in restoring the house, fortunately without destroying or marring the good old style of architecture for which St. Catherine's Court and other places in the same district are noted.

The structure being located on the side of a rather steep hill, with a road immediately below it, has rendered it a very awkward place for the landscape gardener to lay out, and to all appearances no serious attempt has ever been made to do much other than form terraces on

very delightful summer resort, and presents a by no means desolate appearance in the winter.

W. I.

The recent galea and newly-planted trees.—Wherever any large amount of new planting has been done this past autumn, those in charge thereof will do well to turn their attention to the present condition of the trees. This will apply to nearly all trees, but more particularly to such as are exposed to the full force of the wind. Evergreens, as Fir trees, Hollies, Cupressus, Thujas, and similar plants, will all feel the effect of the wind if not steadied. We may before long have a downfall of snow to further aggravate the case of loosened trees. The work of steadying should be done in a careful manner, first applying a band or bandage to prevent friction, then the tying should be secure. At the same time it will be a good plan to tread around the trees, so as to



St. Catherine's Court, near Bath. Engraved for THE GARDEN from a photograph sent by Miss A. E. Wilmot, Warley Place, Essex.

the education and guardianship of Ethelred, his illegitimate daughter by Joanna Dyngley, alias Dobson. She was always represented as Malte's natural daughter, and the king in the 38th year of his reign granted to John Malte and Ethelred Malte, alias Dyngley, the manors of Kelston, Bath-easton and Katherine Court, which had belonged to Bath Abbey, and soon afterwards were obtained in marriage with Ethelred by John Harrington, of Stepney, as her dower. That gentleman, by his second wife, Isabella Markham, was father to the celebrated Sir John Harrington, Knight, Queen Elizabeth's godson.

The church of St. Catherine's, which gives its name to the Court, was originally built in 1499, and this small, but very substantial structure was evidently the burying place of the Harringtons—a very quaint monument in the chancel being one of the attractions to numerous tourists who visit the place during the summer

the south and east fronts, those so well shown in the accompanying woodcut being the west and south ones. Anything in the shape of a formal modern garden would be altogether out of place in connection with St. Catherine's, and it is to be hoped that future owners will not attempt to greatly alter its character. When it is stated that the lawns and terraces run into the kitchen gardens, there being no border line between the two, and that in some places there are turf steps leading up to terraces where too often we find far too much stonework, that there are several large, if not particularly well-formed, clipped Yews in pairs and Ivy-clad forest trees everywhere, it might perhaps be thought that some change might be made with advantage, but I hold it would be a mistake all the same. Everything is old-fashioned, and in that lies the charm of the place. It must be a

make them firm at the roots. The appearance of stakes may not look quite the thing, but it is far better than dead or injured trees. One season will usually be sufficient for this safeguard. The choicer the tree the greater should be the care taken of it. Large standards of such as Planes and Limes are often loosened after planting, but instead of laying on one side, may still be upright; through the greater faculty of recovering their position. These ought not to escape notice—H. G.

A useful protector for plants.—When plants have to be taken out of their growing quarters during frosty weather for decoration, some protection is absolutely necessary. Instead, however, of doing this in a temporary or makeshift fashion, it is far better to set about it in a systematic manner, so as to have the appliances at hand whenever they are needed. Many a good plant, which it has taken months to grow to a state of perfection and which would last for many more,

has been permanently injured by thoughtless exposure, the blame in the end falling not on this, the true cause of injury, but upon the position it has occupied, be that ever so favourable to its safe keeping. It is not often that a contrivance is arranged to effect this, but it is as essential where much decoration has to be done, let the weather be what it may, as the hand-barrow upon which the plants are carried. One plan is to have a light framework fitted to the hand-barrow in a secure manner and of any height, so that the barrow can be carried safely with one or two to steady the top, in addition to two pairs of hands for the removal. A light framework can be easily made by any handy man where a carpenter is not within easy reach. Upon this light framework some of the stout brown paper as prepared by the Willesden rot-proof and water-proof process can be fixed very easily with ordinary tacks or small wrought nails with large heads, what are termed clout-headed ones being the best. This paper has only to be strained tightly upon the frame and the work is done, provision being, of course, made at one end for the putting in and taking out of the plants—a kind of door, in fact. Such an erection could so be made as to take on and off any hand-barrow, according to the weather. The brown paper is extremely light, being at the same time quite impenetrable to wet and keeping out quite as much cold as wood that is twice its thickness. I am surprised that this, the Willesden rot-proof and water-proof paper, is not more generally adopted. There is no reason why our Chrysanthemum exhibitors should not employ it for the making of the boxes in which to carry their show blooms on boards. These “boards” even might give way to the paper strained on light frames, thus saving quite half the weight in many cases. This would be no small gain where excess has to be paid by railway transit. There are new ideas about concerning the make of show boards, why not of the material also?—SOUTHON.

STOVE AND GREENHOUSE.

BORNEAN FETISH PLANTS.

AMONGST the numerous plants used for sacred or votive uses in the Malayan Archipelago there are three or four deserving of some notice. They are the *Dracæna* or *Cordyline terminalis* with red or carmine leaves, the yellow-stemmed Bamboo, the Rice-field Lily, and *Plumeria rosea*, or as it is more usually designated, in the vernacular of the island, “The Dead Man’s Flower,” its stems being thrust into the sod of every newly-made grave, so that the rich perfume of the *Plumeria* or Frangipane (as it is called in the western tropics) usually indicates the vicinity of a native burying ground. The fourth species is *Eurycles australasica*, a plant sacred to the Rice or Paddy fields, in one corner of which it usually occupies the place of honour, no one daring to molest it in any way.

The first named species, *Cordyline terminalis*, is wild in Polynesia and Eastern Australia, and is, curiously enough, one of the most widely diffused of all fetish plants in tropical countries, and our culture of the plant and of its numerous seminal forms is quite modern as compared with the affection long entertained for the plant in the eastern tropics. It may not be generally known, but the thickened root-knobs of this and other *Cordylines* as well as those of *Yuccas* are by no means bad eating when roasted in a forest fire.

The following extract relating to this *Dracæna* and other “fetish” plants is taken from Low’s “Sarawak” (pp. 272-274), a rare and very interesting book of travel, full of curious facts about tropical life, &c. :—

The *Dracæna* resembles the species known to botanists as *Dracæna terminalis*, and is not a na-

tive of the island. It is planted near their houses and around the “Bulu Gading” or Ivory Bamboo, which is held in great reverence. This beautiful cane, one or more tufts of which are found near every village, grows to the height of the largest of the genus; its stems are of a bright yellow colour, with a smooth and ivory-like appearance. Beneath its shade, and amongst plants of the crimson and pink-leaved *Dracæna*, is generally erected a little Bamboo altar, covered in winter from the rain with a roof, but more frequently open. When protected, a ladder is usually placed for facilitating the ascent of the spirit to the offerings upon the stage, which are placed there on all their festival occasions. When the altar is roofed, it in general resembles a Dyak house, and thus becomes a little temple. No worship is paid to the tree, but the place on which it stands is considered sacred; and a plant is always procured and tended with care in every village until it becomes a large and handsome bush. Its gracefully beautiful stems and foliage probably first attracted the attention of these people, and induced them to suppose plants, which were to them of so pleasing an appearance, equally the favourites of the gods.

There are very fine groves of this noble yellow-stemmed Bamboo at the village of Kiau, at the foot of the great Kina Balu Mountain, so celebrated as the home of the largest and rarest of all the Pitcher Plants or *Nepenthes*, *Rhododendrons*, *Orchids*, &c., many of which, although well known to botanists, are as yet unintroduced to our gardens. One of the handsomest, however, of all the fetish plants is the “Bunga Si-kudip,” or Rice-field Lily, which the natives plant out when they sow the rice fields during the wet monsoon, and they bring in the bulbs after they have flowered at the rice harvest which takes place during the dry monsoon. According to Mr. (now Sir) Hugh Low—

The Bunga Si-kudip, as it is called by the Dyaks of the southern branch of the Sarawak River, and amongst whom it is held in the greatest esteem, though known, I believe, to all the tribes, is the plant described by botanists as the *Pancratium amboinense* or *Eurycles coronata*, or *E. australasica*, a native of the Moluccas and other islands to the eastward, but as far as is at present known, a stranger to the flora of Borneo, in the western parts of which the order *Amaryllideæ*, to which it belongs, is only represented by one species of *Crinum*, which is found on the muddy banks of the river. By the Si-booyoh Sea Dyaks this plant is called Si kenyang. By the Dyaks of the southern river the roots of this bulbous plant are preserved with jealous care, being always taken up when the Padi is ripe, and preserved amongst it in the granaries, to be planted again with the seed Padi in the following season. It bears a beautiful crown of white and fragrant flowers, which rise about a foot above the bulb; the only plant which I saw in a flowering state was at Sennah, and no consideration would induce the owner to part with it. These and other Dyaks assert that the Padi will not grow unless a plant of the Si-kudip be in the field, and on being asked respecting its origin they answered “that Tuppa gave it to mankind with the Padi, and requested them to take care of it,” which they now do. The plant I saw in flower at Sennah had a Bamboo altar erected over it, on which were several offerings, consisting of food, water, &c. I think there can be little doubt that the plant has been brought with the Dyaks from the country whence they first emigrated to Borneo, and as it is not at present known to be an inhabitant of any country west of the island, it would follow that the people came from the eastward, perhaps from the opposite island of Celebes; but conclusions of this nature cannot be drawn until the habitat of the plant be better ascertained. Should it be found to be held in the same veneration amongst the Kyan tribes, and the wild inhabitants of Celebes and the Arafouras of the different islands to the eastward become better known, the fact of this plant having been carried westward may be of considerable importance in setting at

rest the long agitated question regarding the direction in which the tide of population in the eastern islands flowed.

As this *Eurycles* is now known to come from Australasia and the islands to the east of Borneo, Mr. Low’s references and conclusions may be taken as so far proven. In the Bruni district, *Pancratium zeylanicum*, however, is grown in place of the *Eurycles*, or Brisbane Lily.

F. W. B.

Oranges in small pots.—Oranges are very bright when grown in small pots and used for decorations of various kinds. The only fault is that from our experience the leaves quickly fall off, but this may be obviated to a great extent by keeping the plants in a warm greenhouse if possible, the dry air and dust of dwelling-rooms quickly spoiling healthy specimens. One sees them at the present time hawked in the streets or sold in shops. If kept in the greenhouse until wanted they will remain in beauty over a long season.

Amaryllids in flower.—A perusal of the interesting and valuable list of “Plants, flowers, &c., certificated by the Royal Horticultural Society from 1859 to 1893” reveals the fact that nearly all the numerous garden varieties of *Amaryllids* which have been awarded certificates were exhibited in the months of February, March and April, thus showing that the spring is their usual season of blooming. The pretty *A. reticulata* flowers during the autumn and early winter, and this feature is transmitted to some of its progeny, of which, however, there are not many. These facts being pretty generally understood, it was a surprise to many to see a large group of numerous varieties of *Amaryllids* exhibited at the National Chrysanthemum Society’s meeting at the Westminster Aquarium on December 5. They certainly attracted a considerable share of attention, and as many of them still had unopened buds, they would under favourable conditions remain in beauty for some time, and in the depth of winter their large and showy blossoms would in many cases be especially valuable, more particularly where Christmas decoration on a large scale is carried out. Possibly the almost tropical summer we have experienced had a good deal to do with the anticipating of the usual flowering season by a couple of months, but in any case it would be very interesting to know whether the plants had received any special treatment to induce them to bloom thus early. The plants alluded to were shown by Mr. Perkins, gardener, Greenlands, Henley-on-Thames. Some flowers of the *aulica* class were noticed and a few lighter tinted forms, as well as the large bright-coloured flowers, which are now so well known.—H. P.

Pandanus javanicus variegatus.—Until the advent of *P. Veitchi*, this was the only variegated form that was grown. It is still well worthy of cultivation. As a table plant it is not so good as *P. Veitchi*, but as a vase plant in larger sizes it is a worthy companion to that variety. Another of its features is the additional row of spikes upon the underside of the midrib, these being set in the opposite direction, so that it is not an easy matter to tie up its leaves if that has to be done.—H. G.

Acalypha Macfeeana.—Although a first-class certificate was just recently awarded to this richly coloured decorative plant when shown by Mr. H. B. May, and that most deservedly, it is not altogether a new plant, having been introduced from the South Sea Islands in 1877. This is another instance in which an introduction has won its way on its own merits. It is easily grown and readily propagated in an ordinary stove, but over-potting should be guarded against, otherwise the additional vigour thus imparted will increase both the height and the size of the leaves beyond what are really desirable. Plenty of light should be accorded it, somewhat after the manner of a *Croton*, whilst too much moisture is not desirable, otherwise the leaves will be soft and flabby. This is one of those decorative plants which can be quickly grown on from cuttings, there being no

need to try and nurse a plant that has suffered from exposure so long as a few stock plants are in hand for the requisite further increase.—H. G.

The variegated Pine-apple (*Ananassa sativa variegata*).—Although this plant has been in cultivation for many years, it is not yet any too plentiful. Its mode of increase of course is slow. I once had the good fortune to possess a plant which instead of developing a single crown formed a cluster of crowns with scarcely any fruit. In this case I took about three dozen small plants from the one top; this is a rare occurrence, however, or else the price of a good plant would now be less than it is. There is another, but much inferior variegated variety; therefore, it is always necessary to mention the botanical name. This sort has quite a different habit, being semi-erect instead of gracefully arching over the pots. It is needful to keep the plants as close to the glass as possible to ensure a compact growth and the richest possible colour.—H. G.

THE DOUBLE CHINESE PRIMULA.

BESIDES the *Chrysanthemum* there are other flowers we cannot spare from our gardens at this season of the year, and next to it I would place the varieties of the Chinese *Primula*, double and single. They are exhibited, and sometimes in splendid form, at the various exhibitions in November. I allude now principally to the double varieties. In some schedules prizes are offered for Chinese *Primulas*, no allusion being made to their being single or double; exhibitors, therefore, show as they please, and it happens sometimes that the judges have to deal with half-a-dozen plants of the single varieties competing against as many double sorts, or single and double mixed; this makes it more difficult for the judges to arrive at a just decision. In some cases a class is provided for each, and it is well that it should be so, for some allowance ought to be made for the greater difficulty of producing the plants of the double *Primulas* which must be grown from cuttings in the spring; whereas the single forms can be produced in any quantity from seed. I have seen the double varieties well shown at the Brighton exhibition. The old double white so well known to the growers for Covent Garden Market is usually well shown, and when grown to the highest standard of excellence, and the plants uniform in size, with a good head of bloom, the effect is excellent. There is a type of double variety with much larger, more double flowers, pinkish white, mottled red, and sometimes nearly white, occasionally exhibited. This type was shown some fifteen or twenty years ago by Mr. R. Gilbert, gardener to the Marquis of Exeter, in three or more varieties which seemed to be distinct at the time, but they have long since been merged into one variety. A salmon-red variety was also grown at that time which is still in cultivation. The pinkish white mottled variety was exhibited in capital condition at the Kingston *Chrysanthemum* show this year by Mr. Mease, the Gardens, Downside, near Leatherhead. I well remember the fine growth and profuse bloom of Mr. Gilbert's plants exhibited at South Kensington, but they did not come up to the high standard of the plants exhibited by Mr. Mease, which were not too strong in growth and most profusely flowered. They were thought so highly of by the judges, that a silver medal given for the best examples of culture in the show was awarded to them.

The culture of these double varieties of Chinese *Primulas* is not at all difficult when once the details of the work are well understood. The plants require to be propagated from cuttings, to which a piece of hard stem is attached. The plant should be quite dry at the roots before removing the cuttings, and great care must be taken with them until they are well rooted. Each cutting should be planted in a small flower-pot containing sandy soil. I find a mixture of loam, leaf-mould and clean white sand answers best for them. The compost should be rather moist when it is used, for it is better not to water the cuttings for a few days, as an over-supply may cause them to rot from the

cut portion upwards. Place them in a close hand-glass or in a propagating frame inside the house. The top of the frame or light should be removed daily and the glass wiped dry. The mere act of doing this gives the plants abundance of fresh air, and this, added to the removal of the condensed water, prevents any damping off. I have struck cuttings of these double varieties without any casualties merely by not forgetting to remove and wipe the glasses daily and by not giving any water until roots had begun to push from the cutting. When they are in a close frame they do not dry up much. As soon as it is seen by the growth of the young plant that it has fairly started, it ought to be removed from the glass case into the freer air of the house, and this may be continued until all are rooted. When the 2½-inch pots are well filled with roots, repot the plants into 3-inch pots, and all through their growth an open, moderately rich soil is best for them. For the second potting I use loam two parts, leaf-mould one part and an addition of decayed manure, with enough sand to keep the compost open. When the plants have once started to grow they push forward very rapidly and should be repotted as they require it. Cuttings struck in the spring will grow large enough to need an 8-inch flower-pot for each. During the summer and autumn months the plants should be placed in ordinary frames, so that the lights can be drawn off in fine weather. The main point in the culture of these, as indeed of most greenhouse flowers, is to give them plenty of air, exposing them well during summer. This causes a compact, hardy and healthy growth to be made, which is sure to result in the production of good trusses of flowers. Flimsy foliage, with long, drawn-out leaf-stalks, naturally produce flowers of similar quality to the leaves. When the growth is made and the flower-buds well formed in the autumn, the plants should be placed in an airy greenhouse near the glass, and in cold damp weather artificial heat and a rather dry atmosphere with ample ventilation are necessary to prevent the plants damping off at the neck. Single and double varieties are alike liable to damp off in a close atmosphere, and the conditions are aggravated by a low temperature.

J. DOUGLAS.

SPIRÆA PALMATA FOR POTS.

THIS is one of the finest hardy plants we have for forcing, or rather I should say for early flowering in pots, for it does not require forcing, but simply to be grown under glass with just sufficient warmth to keep out frost. If required very early it may be given a little more warmth to start it. It starts best if the crowns are well covered with cocoa-nut fibre refuse, say about 3 inches thick. This may be shaken off when the crowns begin to show through. The plants may be placed under a stage or anywhere out of the way until they have started. After they are well started they should be removed to where they can get as much light as possible. As the foliage develops a little liquid manure will be beneficial. The plants will require a considerable quantity of water, as if allowed to once get too dry the edges of the leaves turn brown. It is advisable to stand the pots in water when the plants are well advanced. Care must be taken not to give them too much warmth, or they will run up tall and weak.

English grown clumps should always be used in preference to imported ones, as the latter never make such good growth or fine foliage. Grown in 6-inch or 8-inch pots they will make fine specimens and come in at a time when large flowering plants with good foliage are not very plentiful.

Medium-sized clumps may be potted up as they are taken from the ground, but larger ones will require to be broken up, as the centres will have no good crowns. If broken up even to single crowns they will do equally well. About eight strong crowns will make a mass. A great recommendation for this *Spiræa* is that it makes a large specimen with little trouble, and the bright rosy-pink flowers and fine foliage are very attractive. I grew a few plants of the white variety last year

and found it equally suitable for pots, though not so tall growing as the pink, and as there are so many other good white flowers for early flowering, I shall not recommend it too strongly. *Spiræa astilboides* is a more desirable plant; this I should grow in preference to the elder favourite *japonica*, being of a lighter and more graceful habit. Hitherto this has been rather expensive, but it may now be bought at a reasonable price, and may be given the same treatment as *S. palmata*. F. H.

NOTES FROM THE ALBERT NURSERIES.

WHEN in the extensive nurseries of Messrs E. D. Shuttleworth and Co., Peckham Rye, a few days ago we made note of many interesting plants. This nursery is one of the largest near the metropolis, and devoted to all kinds of plants from Palms to hardy flowers, whilst the firm has also grounds at Fleet, in Hampshire, where perennials, Roses, and fruit trees in particular are grown.

There are upwards of twenty houses, and the majority of them are 100 feet in length, so that one can judge of the extent of glass. The Palm house is very large and contains splendid specimens, including *Kentias* of remarkable dimensions. *K. Fosteriana* is represented by a superb plant; also *K. Belmoreana* and *K. Canterburyana*, whilst one sees thousands of the pretty *Cocos Weddelliana* in all stages of growth. *Areca lutescens*, *A. Baueri*, and *A. sapida* are the chief species of this genus. We have never seen a finer collection of *Gecnomas*, beautiful Palms that are none too common in gardens. *G. gracilis* is one of the most popular, and grown in immense quantity. It does not get so common as some, as the seed germinates slowly, but when of suitable size it is a gem for table decoration. *C. Seemana* is also of note as a Palm for choice decorations. It is impossible to enter into details respecting the Palms here, as every species and variety worth growing are represented. Another important feature is the *Dracæna*, and the kinds with attractive foliage are in fine character. We made note especially of two kinds, *D. Lindenii* and *D. Massangeana*, both handsome plants when well grown. The former has the broad foliage green with yellowish-coloured stripes, so to say, down the centre, but in the case of *D. Massangeana* this is reversed. The *Crotons* are cultivated also on the same extensive scale, and every variety of consequence is included. Three very fine kinds are *C. Hawkeri*, in which the leaves are green and yellow; *C. Queen Victoria*, one of the most popular of its class, and the leaves of fine colour; and *C. Mortii*, the foliage of this being deep orange blotched with green. When over fifty varieties are to be seen, one is struck with the great variety amongst the various forms. In addition to those already described, we may mention as of much merit *Aigburth Gem*, the leaves finely coloured with crimson, and a very distinct variety, *Cheloni*, *Flambeau*, *Baron James de Rothschild*, and *Laingii*.

Ferns are grown in large quantities, and one might almost call this a Fern nursery. The demand for quite small plants for table and other forms of decoration is very great. It is interesting to notice that those grown so largely are comparatively few, although the collection itself is extensive. Besides *Adiantum crenatum*, the greatest demand is for the *Pteris*, especially *P. cretica* and its varieties, *albo-lineata*, *cristata*, and *Mayi*. *P. tremula* and *P. t. Smithiana* are also favourites for rooms. One house is almost wreathed with *Asparagus plumosus*, and it is only by visiting such a nursery that the immense popularity of certain indoor things is apparent. Thus, *Araucaria excelsa* is grown in thousands for rooms and other purposes, and houses are filled with *Marguerites* for blooming about Christmastide.

The collections of *Fuchsias*, Chinese *Primulas*, and *Pelargoniums* in various sections are of great merit. The Ivy-leaved class is increasing in popularity, and it may interest our readers to know that a very good half-dozen kinds are the following: *Galilee*, rose-pink; *Jeanne d'Arc*, white, touched with very pale lavender colour; *Louis Thibaut*, rich red; *Mme. Thibaut*, pink; and *Souvenir de Charles*

Turner, the flowers very large and rich pink, with a feathering of maroon on the upper petals.

One house was in large part devoted to the Lily of the Valley, which it is interesting to know was in bloom on the 1st of November, and shown at the Aquarium on the 7th, when an excellent display of it was made by this firm. A plant in full bloom was *Impatiens Sultani*, which we are sorry to see is gradually dropping out of cultivation in many private gardens. It is, however, too good to neglect and very easily grown. Few things are brighter in colour or more free-flowering. Azaleas of all kinds, *A. mollis* especially, are largely grown, and note may also be made of the Orchids, which form not the least interesting feature. They are chiefly of the more popular kinds, as *Celogyne cristata* in variety and *Odontoglossum crispum*. *Lycaste Skinneri* was in bloom, and when a good collection is cultivated one sees much variety in the colours of the flowers, particularly of the lip, which varies from self crimson through many beautiful shades. *Oncidium tigrinum* quite scented a large house, the fragrance like that of Violets. Few Orchids are so beautiful at this season as this species.

In such a nursery as this many plants not usually seen in gardens are grown. Thus in one house is a large batch of *Sonerilas*, bright little flowers, which are acceptable at this season. *S. maculata*, or *S. orientalis*, as it is also called, is the principal kind, and even when out of bloom it is conspicuous for the green and silvery leaves. We do not care greatly for variegated plants as a rule, but a yellow-leaved bedding *Lobelia* is worth a note as of use in summer arrangements. It is a good yellow, not sickly, and retains its distinct character even in the winter.

Amongst other plants noted were *Carex europæa variegata*, a charming little Grass, very graceful, the leaves narrow and distinctly variegated. Also beautiful was the old, but handsome *Cissus discolor*, which, though not often seen in private gardens now, was not many years ago grown in every stove. The large Palm house contains *Aspidistra lurida* and the variegated variety in quantity. For room decoration, corridors, and even shop windows no plant is more useful. It resists cold, dust, dirt and even neglect better than any other plant used for the same purpose. These are brief notes only of a large and important nursery, but sufficient has been written to show its interesting and varied character.

TUBEROSES.

Few flowers are more valued in autumn and winter than the Tuberose. Especially is this so where there is a large and constant demand for such as are useful in button-hole work. Tuberoles, it must be admitted, are suited to this class of work, and alike useful are they in wreaths, crosses, or bouquets. It is now possible to have them in bloom almost all the year round, and though, of course, in common with all flowers, they open very slowly in the depth of winter, yet it is satisfactory to know that a fair percentage of their flowers expands tolerably well. To secure the flower-spikes from accident, a stick should be placed to each, with a loose tie to admit of future growth, and if the pots are stood closely together, little harm should result. At this time also keep them free of the side growths that form about the bulbs to the detriment of the flowering stem and flowers. Give the plants abundant supplies of water at the root and weak liquid manure every other day. Syringe freely and regularly so as to check as much as possible the progress of red spider, thrips and the like, which are almost sure to infest them. An occasional watering overhead with clear soot water will also conduce to the same end. Best of all, perhaps, is an occasional syringing with quassia chips and soft soap. Take a 6-inch potful of the quassia chips and place in an old saucepan with soft water, and boil steadily till the whole of the chips have sunk to the bottom; then drain it off and add a large teaspoonful of soft soap, stirring

well till dissolved, adding sufficient cold soft water to make two gallons of the whole, but if not sufficient, increase the proportion of chips and soap till enough has been made to give a good syringing all round. In using the syringe for this purpose the jet is always preferable to the rose, because with the former a steady spray is maintained, and all sides of the plants can be reached. It is a mistake to dash quantities of these insecticides against the plants, because the great bulk goes to the soil and is lost; whereas with the jet a mere mist-like spray is the result, and has the effect of just damping the leaves and stems. A spraying of this kind may be repeated frequently and at a very trifling cost, and gardeners should not lose sight of this cheap and effectual remedy. In the case of Tuberoles persevere with it while the plants are yet outside and the insects less numerous. When the plants are housed the drier atmosphere conduces to their rapid increase, when they frequently get the upper hand. Provide abundance of air on all favourable occasions, and daily while the plants are in frames at closing-time give them a nice sprinkling overhead with a fine rose. This will also tend to keep insect enemies in check. From time to time the most forward may be introduced into warmth as required, and with care a supply of flowers may be kept up till the end of the year.

E.

A note on zonal Pelargoniums.—The zonal Pelargoniums exhibited on several occasions recently by Messrs. H. Cannell and Sons, of Swanley, have been remarkably fine, and a few kinds of especial merit we have made note of. The new Double Life is a poor thing compared with the splendid single zonal varieties, with flowers of beautiful colour and form. One of the best of all is *Mme. Melba*, the flowers white, touched with light salmon-red in the centre, and *Etoile de Lyon* is bright and effective. It is of the *Souvenir de Mirande* type, rather too loose, however, but the reddish scarlet colour, passing to white in the centre, is very distinct. A good word may be said for *Raspail Improved*, the flowers being larger and fuller than those of the parent, and of the deepest crimson colour. A good white is the single *Albion*, and other single kinds worthy of mention are *Mme. de Boideville*, white, flushed with rose-salmon; *Ethel Lewis*, rose, white centre; and *Stella Massey*, which has flowers of a delicate pink colour.

Peperomia argyræa (known also as *P. Saundersi*).—Having for several years grown this beautiful little Aroid as a decorative plant I can recommend it with confidence. My first attention was called to its beauty not by personal observation, but from noting that others frequently admired it. It is easily grown, being readily increased by division in the spring. The temperature of an average stove suits it well, and it resists the damp with impunity.—H. G.

Phrynium variegatum.—This near ally of the *Maranta* and *Calathea* is a decidedly beautiful decorative plant, being also very distinct. I have noted it several times this year in mixed groups in which it has played an important part. It is not what may be termed a dinner-table plant as that qualification is generally understood, but it is none the less most useful in that way, as it is also for other indoor purposes. This plant is beautifully variegated with creamy white on a bright pale green ground; the variegation is greatly diversified, no two leaves being at all alike. It is an instance in which a plant has surely won its way upon its own merits. A first class certificate was awarded to it in 1886 under the name of *Phrynium jucundum*.—H. G.

Increasing Malmaison Carnations.—In THE GARDEN, Dec. 2, J. Crawford details his method of propagating this plant by making an incision in the shoots selected, much the same as for layering, and binding the wound round with damp Moss instead of burying the wounded part in soil; but why propagate this Carnation by either of these methods? My method of propa-

gating this Carnation is as follows, and I rarely lose a cutting: When the side shoots are 4 inches or 5 inches long I strip them off, remove the lower leaves with a sharp knife, pot them singly in very sandy soil and peat in 2½-inch pots and plunge in a close frame, watering as required. In about a month the cuttings are rooted and ready for 5-inch and 6-inch pots. After hardening off place outside.—WM. HARRIS.

Croton undulatus.—This variety, which was introduced by Messrs. Jas. Veitch and Sons from the South Sea Islands, and first put into commerce in 1870, still holds its own by reason of its very distinct and unique character. When well coloured there is not a variety to surpass it, the markings or blotches of the brightest crimson on a dark, almost olive ground are in such contrast to each other, whilst the peculiar wavy line of the leaves is another distinct feature peculiar to this species, for a true species it is without any doubt. It has also the property of retaining its foliage for a lengthened period in the best possible condition. The younger leaves have pale yellow markings on a light green ground, changing with maturity to the deeper shades first alluded to. The growth is not in any sense heavy or dense, thus making a capital table plant when well developed, and of not more than 1 foot in height. Croton growers who have not given this excellent variety a trial are advised to do so.—GROWER.

THREE GOOD WINTER YELLOW-FLOWERING PLANTS.

BRIGHT yellow flowers, though most welcome, are not plentiful at this time of the year; yet anyone having an ordinary greenhouse or a cool conservatory may without any difficulty have a grand display of *Abutilon Golden Queen* and *Linum trigynum*, and wherever the temperature of a house can be kept at a minimum of 60° during the winter, a third plant, the lovely *Linum tetragynum*, may with advantage be added to the list. Little need be said here about the *Abutilon*, as other varieties with flowers white, pink, and red of various tints are well known and found in nearly every private garden where cut flowers are in requisition during the winter. There, under a generous treatment and planted out in the border of the greenhouse or of the conservatory, either against a wall or as pillar plants, they produce in great abundance their lovely flowers, which are so well adapted for bouquets and for table decorations.

ABUTILON GOLDEN QUEEN is a decided improvement on the better-known *Boule d'Or*, being of better habit and a much more profuse bloomer. Its beautiful bell-shaped flowers of a particularly bright yellow colour are produced from the axils of the leaves at nearly all times of the year, and a plant so treated forms a most attractive sight during the dull months of the year. *Abutilons* are easily propagated from cuttings, which root freely at almost all seasons, although those struck in early spring are the best. They may also be considered clean plants, the only insect to which they are subject being the green-fly, which is readily destroyed either by fumigating or by syringing the plants, especially the underside of the foliage, where the vermin generally collects, with a weak decoction of quassia chips, which leaves no unpleasant smell and is very effective.

LINUM TRIGYNUM is the commercial and popular name for *Reinwardtia trigyna* of Dumortier, a very neat-flowering plant of shrubby habit, native of the mountainous parts of the East Indies. Although of equally easy culture, this plant requires a little more attention than the foregoing, but at this time of the year its flowers, of a rich orange-yellow colour, amply repay the cultivator for any extra care bestowed upon it. *Linum trigynum* is essentially a greenhouse plant, and is best adapted for pot culture. Its propagation is effected by means of cuttings made in March and April, and these if properly treated form in the course of the season bushy, well-furnished plants in 4½-inch pots, which during the dreary months of the year

greatly assist in the decoration of the greenhouse and conservatory. The strongest shoots produced from plants which have been cut back soon after they have done flowering form the best cuttings, which should be inserted in a compost of a sandy nature and kept in a close propagating frame where they root readily, after which they should be potted singly in a mixture of fibrous loam, partly decayed leaf-mould, and silver sand in equal parts. To ensure free growth it is advisable to add a small quantity of some fertiliser to the above-named compost. When rooted, and until they are fairly well established in the pots in which they are to flower, the young plants benefit by being kept in an intermediate temperature, while in autumn a position in a low frame where plenty of air and sun can be admitted is best, as it is necessary to ripen the last-made wood to favour the formation of the flower-buds. During their growing season, and especially while in a young state, the plants must be frequently pinched to ensure their growing into a compact shape. The last pinching, however, should take place not later than the end of July, or there is a danger of not allowing sufficient time for the formation of the flower-buds, especially if it should happen to be a rainy season. A temperature of 50° to 55° is that in which the flowers open best and are least likely to damp off. On account of its being subject to red spider *Linum trigynum* must be frequently syringed, and care should be taken that the water reaches the under part of the foliage. During the hot weather, from July to September, when the plants are best stood outside altogether, it is advisable to give them three or even four syringings a day, preference being given to rain water whenever procurable. After flowering the plants may be cut back and subjected to similar treatment, but it is preferable to propagate and grow fresh plants every year. Left to its own resources, *Linum trigynum* forms a straggling, unshapely bush varying from 2 feet to 3 feet in height.

LINUM TETRAGYNUM is another beautiful yellow flowering plant of shrubby habit, but its requirements are not met by cool treatment. It is a native of India, and must be grown in a warm house all the year round. If we only judge by the outward appearance, we find that it has a great affinity with the plant just described; indeed the differences are mostly botanical, inasmuch as its flowers, as the specific name *tetragynum* implies, are four-styled; whereas those of *L. trigynum* are three-styled. As a decorative plant for winter it is of as great value as the other; its flowers, which are produced in greater abundance, are disposed in large fascicle-like racemes at the summit of the branches and branchlets; they are of a very pleasing pale primrose-yellow colour, and often 1 inch in diameter. The plant, as may be seen by some handsome species now very attractive in Messrs. J. Veitch and Sons' nursery, is sometimes literally covered with its delicate *Convolvulus*-like flowers. The propagation of *Linum tetragynum* is not limited to cuttings only, as this pretty species produces underground suckers, by which it may also readily be increased. S. G.

Impatiens auricoma (the Golden Balsam).—The above is the name which Professor Baillon, of Paris, has given to a remarkably handsome plant recently introduced to Europe quite accidentally. The history of *Impatiens auricoma*, like that of several other plants of great merit, such as *Begonia Rex*, *Pteris argyrea*, &c., also introduced accidentally, is very singular and interesting. The plant was originally discovered some ten years ago in Madagascar by Mons. Leon Humblot, who sent the dry materials necessary for identification and classification to Professor Baillon, who then described it in the "*Bonplandia*"; but its introduction in a living state was purely accidental. Some two years since M. Humblot sent to a nurseryman friend of his in Paris—Mons. L. Landry—a few Orchids and Tree Ferns, all of which arrived dead. Two stray seedlings, however, developed themselves upon these Tree Ferns, and it is from these plants that the entire stock of the beautiful Golden Bal-

sam has been worked. This new-comer is a vigorous grower, with distinctly toothed dark green leaves, from the axils of which the flowers are abundantly produced and above which they stand conspicuously. Each individual flower, borne on a slender upright peduncle, is of a peculiar helmet shape and of a bright yellow colour, which forms a most pleasing contrast with the dark hue of its equally ornamental foliage. It is a remarkably handsome plant, which, like the well-known and deservedly popular *I. Sultani*, is suitable for either stove or greenhouse in the winter and very useful for outside decoration during the summer months, especially in somewhat sheltered places, being of a hardier nature than the beautiful, but shy-flowering *I. Hawkeri* and more robust, though quite as free-flowering as *I. Sultani*. It is readily increased by means of cuttings, which, like those of the other species to which it is related, root freely at almost any time of the year. This striking plant will be distributed next spring by Mons. Godefroy-Lebeuf, of Paris.—G. S.

FINE-LEAVED BEGONIAS.

THERE is now among the fine-leaved Begonias an infinite variety, some being suffused all over as with silver, whilst the combinations of pale green, dark green, bronze and silvery



A fine-leaved Begonia.

variegation in many kinds are beautiful in the extreme. Some of these form quite a picture of themselves, and are well worth a study. These Begonias are most accommodating plants, being of free and vigorous growth. They are excellent plants for an amateur to grow in his greenhouse, where he does not let the temperature ever fall below 40°. For the stove and intermediate house they are also well adapted. Where a wall which is unsightly wants covering with growing plants, these Begonias are first-rate material to use. All that they seem to require is just sufficient soil to establish themselves; after this their roots will ramify in all directions and cling to the bare wall, more particularly if it be bare brickwork. If the position be a damp and shaded one, these Begonias do equally as well or even better than under what might be thought to be more favourable conditions. If they are required to cover a dry wall, all that one has to do is to keep them well supplied with water. I have been particularly struck with the beautiful effect produced by their use in a planted-out fernery. Here the roots will delight to ramble and cling to the rockwork, particularly sandstone. Thus grown in a cool fernery they will generally retain their foliage all the year,

looking bright and cheerful in the dull days of winter. As pot-plants their value is pretty well known and appreciated for the decoration of plant houses. They also make capital decorative material for the house, in many instances being singularly appropriate to the surroundings. Small plants usually face all one way; thus they are well adapted for vases upon brackets, niches, or corners. They are most accommodating as to soil, but that which is light suits them best; mellow loam, leaf-mould, and sand answer well. Large pots are not at all requisite, but rather to be avoided as a disfigurement than otherwise. Propagation is simple and easily effected by the leaves; all that one has to do is to prepare a pan with sandy soil, and then after cutting through the ribs of the leaves to peg one or more upon the surface of the soil, the outer portions of the leaves being cut away. Plenty of young plants will soon be the result. This is far better than the cumbersome system of dividing the older plants, whereby the beautiful effect of a small plant is lost.

A variegated Sax frage.—When at Syon House Gardens recently we made note of the variegated variety of *S. sarmentosa*, the "*Mother of Thousands*," named *tricolor superba*. It is very handsomely variegated, the roundish leaves deep green in the centre, passing to a lighter shade and surrounded with a zone of creamy white, touched with rose at the margin. With age this variegation gets more attractive.

CHRISTMAS TREES AND EVERGREENS.

THE trade done in these subjects from the middle of December well into January is something enormous around London alone, and there is no reason whatever to doubt that the same condition of things is found in other centres of activity as well. One scarcely knows whether to deplore this cutting of so much good material, evergreens more particularly always serving such good purposes as shelters during the winter season, or to approve of it as a means of affording to great numbers of children and larger assemblies also additional pleasure and enjoyment at a season when we all like to see cheerfulness predominant in the household as well as at other gatherings. The use of such means of decoration has descended to us through a long series of years, dating, as in the case of the Mistletoe, back to druidical times and customs. To say that it is a relic of barbaric usages would not be right, for the Druids certainly could not be looked upon in that light. Turning to other parts of the globe, both in the eastern and the western hemispheres, we find that at certain periods of the year the inhabitants make use of the products of the vegetable kingdom as it exists around them. Some instances of this were, if I remember rightly, recorded by the authoress of the "*Voyage of the Sunbeam*" when calling at islands in the Southern Seas. The records in *Holy Writ* also bear on and confirm the use of the products of the localities therein mentioned, and not in a symbolic sense at all. Taking all things into consideration, the use of Christmas trees and cut evergreens must, I think, be justified on grounds of expediency alone.

With care, cut evergreens can be chosen so as to benefit the plants instead of being any injury to them. To cut them indiscriminately cannot be too strongly condemned; this is barbarous in the extreme, and such customs should not be allowed to exist. At the first glance it seems a waste to cut down or root up so many Firs as Christmas trees,

but with a moment's reflection it occurs to me that if it were not for the demand in this particular article not nearly so many would be grown; thus, after all, it is not perhaps a waste, but merely an outlet for superfluous stock.

I note in one of the gardening papers what an enormous number of Christmas trees is disposed of by one firm alone. Having seen this immense stock I can vouch for its accuracy; 20,000 trees, from dwarf ones that could be stood upon a table to tall ones which in many rooms would touch the ceiling, were to be seen just recently at Messrs. Fromow and Sons, Chiswick Nurseries, a sight to be wondered at as indicating the great demand at present existing. The majority of these trees were in pots or being potted, so as to go out in as complete a manner as possible. The number of pots alone leads one to think of the future and their use; many no doubt will be turned to a good account for other plants afterwards. Evergreens in a cut state come into the London markets by hundreds of loads, many such loads coming from districts where the Holly, the Yew and the Box all thrive in the best manner possible. As to berries, the crop is a variable one in the case of the Holly, some sorts in my own particular case being much better cropped than others, the variegated varieties being on the whole the best. Fortunately, there has not been any severely prolonged frost, otherwise the berries would have been attacked by the birds as a means of livelihood where the crop of hips and haws is not an abundant one. Judging from the prices of Holly, the country supply is considered a good one as regards berried shoots. Continental Mistletoe, as usual, is present in by far the largest quantities, and perhaps it is as well that it should be so, in order that home-grown examples may be spared in some degree. Those who have looked forward will no doubt have sufficient supplies of dried Grasses and flowers, to which well-developed fronds of the common Bracken are no mean addition.

FILICES.

TREES AND SHRUBS.

THE TRUE PINETUM.

MANY have noticed the failures, from every point of view, of what is called the pinetum in many country seats. It is, perhaps, incident to the beginning of all things that failures should occur, but the failure of the pinetum is general. Distorted and grafted trees, the cemetery look and the toy-like shapes, the planting without artistic grouping or massing for any real effect, a "spotty" appearance everywhere, varied by labels—anything more wearisome to people accustomed to see trees in broad, natural masses could hardly be devised. A better way is to plant fewer sorts in bolder masses, paying more attention to the kind, *i.e.*, making sure that it is what we like and that our climate will mature, and in which it will be quite hardy in all seasons, unlike many of the Mexican and even the Californian conifers, which are not really hardy in Britain, though some of them, like the Monterey Cypress, may make a great show for a few years in a seaside place like Dublin, Sligo, or Bournemouth. We have to avoid the rubbishy varieties which are sent out, variegated with disease; these are very nice in the nursery, but who ever saw a decent plant of them anywhere else? Then there is the grafting danger. Some new kinds of Pines are put on common stocks, which can only be disastrous. It is enormously better to buy a thing on its own roots, and if it will not live on its own roots, let it die. Apart from the plan of planting bold groups of things we know will do, like the Corsican Pine, the Larch, Scotch Fir, or any other hardy Pine we may fancy, there is the slightly different plan of planting a large number of kinds together.

We are now dealing with a field of about 9 acres, in which, instead of making one mass of a Pine, we are trying from a few hundreds to a score of each hardy Pine that interests us. Instead of labelling them and sticking them out in a formal way, as in pinetums, we plant the whole field as if planting Larch or Scotch, but a little more openly, because most planting of this kind has been much too thick hitherto. Why people should put in young trees 18 inches apart, as we often see them, we cannot tell. As nine people out of ten never thin in time, it means death or weakness to the trees. So we plant our little Pines never closer than 5 feet in the line and 3 feet apart, and so we fill up the field with anything promising in the way of a Pine. In such a wood we should thin the trees very carefully and early so as to secure fair development, and finally, when the trees become large, it would be easy to cut delightful walks through the wood, so that in general effect in the landscape, and in detail, such a pinetum would be as interesting an expression of this great family of plants as one could well see. There are, of course, no labels, as what is not worth knowing is not worth growing; and when one plants a number of a Pine it is not easy to forget it.—*Field.*

The Scarlet Oak in Surrey.—Mr. Anthony Waterer sends us some of his Scarlet Oak foliage, splendid in hues this year as usual. We wish some one who knows the American woods would tell us of all the Oaks that show fine colour there, as they are important trees for us. In their case, however, their natural vigour is interfered with by grafting, which prevents any clean and free growth, and on many soils leads to the death of the tree. The really hardy American Oaks should be grown on their own roots from seed. Seed is plentiful, and if it would not carry well it would be easy to get over during winter, seedling plants raised in America. It is curious how rarely one sees these Scarlet Oaks in our parks or even pleasure grounds. This, we think, is owing to the deaths through grafting. So many plant in single specimens, that the losses through death are not always seen. If we plant in groups or masses and use grafted stuff, we are lost, and anyone can then see the extent of the loss.

The deciduous Cypress (*Taxodium distichum*).—In some sheltered situations, usually in low ground near water, this handsome tree carries its foliage well into the winter long after it has turned brown. When this is the case a good specimen is very striking, the effect being glorious when lit up by the winter sun. The graceful and delicately tinted foliage when in the green state, too, is very lovely, and quite unlike that of most other trees, to which it forms a good contrast. How seldom do we see really good trees such as this planted with any attempt at boldness, so as to gain the best possible effect from their use; more often than not a single specimen only is planted where a dozen might be used with far better results, and even then the chances are that it is spoiled in its younger days by being choked with scrubby Laurels or some other dense undergrowth that keeps both light and air away from tree and soil, and from which good, but slow growing things are lucky to escape with life and vigour enough to develop into something like trees.—J. C. TALLACK.

MISTLETOE.

JUST at this season the olive-green twigs and pearly berries of the Mistletoe are thrust upon our attention, so it often follows that many attempts are made to propagate it just now by sowing its berries on the branches of Apple or Hawthorn, or Oak, Poplar, or Pavia, as the case may be. This is wrong, however, for the berries or seeds are now unripe, and the weather is too cold for them to germinate even if they were.

The ordinary notion as to the propagation of Mistletoe by means of seed or berries is to slit or pierce the young bark of the host plant, or tree and then push the berries into the slit. Now, in all good gardening operations there are three or four things at least necessary to success, viz., to do the right thing at the right time, and in the best manner in the proper place or under the most suitable conditions. But most people do not quite bear this axiom in mind, and they often fail to get Mistletoe berries to grow. Having had considerable practical experience in this matter, and having often failed, I think that at last I have found out how Mistletoe may be grown from seed as easily as Peas or Beans, and the information may be of interest to those who would fain have it growing in their gardens. The best practice is not to cut or slit the bark at all for the due reception of the seeds or berries, but to press or rub them on to a smooth, young, healthy branch of Apple or Hawthorn with the fingers. The berry is a little slippery at first, but as the viscid pulp dries you will find the seed firmly glued or gummed down to the clean bark. Two or three berries thus stuck on may be covered with a bit of black muslin or crape to secure the seeds from the birds, which sometimes peck them off the branches unless protected in this way. If the bark be slit or cut its cut edges at once turn brown and harden into corky layers of tissue inimical to the growth of the seeds.

The right time to thus affix the seeds to the bark of the host plant is in April or May, because at that time the berries are ripe and the seed inside is fully developed, and probably its growing points or radicles will be seen protruding like little green pin's heads amongst the sticky pulp.

Where missel thrushes abound it may be necessary to net or otherwise protect the seed-bearing Mistletoe, or they will probably steal every berry during hard frosty weather, so that there will be none left to sow. The proper method having been above described, the best place and conditions are to fix the berry on the underside of the fresh and healthy branches of Apple, Crab, Hawthorn, Oak, Pavia, or Poplar as the case may be and opportunity occur. A young Apple tree of strong growth like Blenheim Orange Pippin suits Mistletoe perfectly. So does a young and healthy Hawthorn or Pavia rubra. Mistletoe is rare upon the Oak in England, but can easily be established on the young free bark of healthy trees. I have seen Mistletoe luxuriant on Mountain Ash and on the White Beam tree, both species of *Pyrus* or *Sorbus*, of the fruits of which the larger species of thrush is particularly fond as well as of the Mistletoe berries—hence, no doubt, their popular names.

Now having rubbed ripe fruits of Mistletoe on to a suitable host tree in April or May, the seed will gradually appear to shrivel away and seem to vanish altogether; but, unless pecked off or otherwise knocked away, it will not really have done so. The first thing that happens is the protrusion of the green growing point, or rather the radicle of the seeds. These curve over and fix their thickened ends (which resemble a fly's foot somewhat) into the young bark of the tree. In order to support its growth the contents of the seed are gradually absorbed, and finally only a mere scrap seems to remain where the plump seed originally had been. But if you look closely at the bark in the following autumn, say six months after sowing, you will observe the bark of the Apple branch swollen above and below where the seed was placed, and perhaps a green point or two of growth may be seen to appear about the centre of the swelling, and by the spring the first twin pair of leaves will have developed and the plant is firmly established under the bark of the tree. As above treated Mistletoe is slow perhaps, but its growth is as sure as that of a Pea or a Bean, and there is no really difficulty in introducing it wherever it may be desired. I have now several sowings in different stages on Apple trees as thus treated during the past three or four years, and I am now experimenting on other host plants, such as Oak, Plum, Poplar, Medlar, Quince, Pinus and Horse Chestnut, in place of the genus Pavia. The luxuriance of

Mistletoe on the genus *Pinus* in Austria and on Poplars in Brittany and Normandy and France is well known.

Having succeeded so well in growing Mistletoe, I am now most anxious to try other vegetable parasites of similar character, such as the *Loranthus* europeus of Europe, and the American Mistletoe (*Phoradendron*) of the United States, and seeds of both or either of these would be very welcome in due season, together with a note as to the host plants on which they best and most luxuriantly grow in their native habitats respectively. The above is my own simple and successful practice, but I shall, of course, be glad to hear of a better or even of "another way."

F. W. BURBIDGE.

THE TIMBER OF EXOTIC CONIFERS: USES AND COMPARATIVE VALUE.*

THIS subject embraces such a wide field for discussion, that to enter particularly into every detail would involve an amount of description which to most people would seem uninteresting and superfluous. I shall therefore confine my remarks to the timber of some of the most tried trees, apart from many of those of early introduction already so well known as to require no mention here—amongst the most prominent of the latter being the Larch, Silver Fir, and Norway Spruce, three most valuable trees in this country—and those of later introduction, of which little is known of the value or quality of their timber. It may be taken for granted that it is now beyond question that many parts of this country, especially Scotland, are exceedingly well adapted for the profitable growth of many of the exotic conifers, the variety of soil and diversity of climate giving us a great range of natural adaptation—our deep, narrow dells and glens contrasting very favourably with the natural habitat of several of the varieties after named. But we must not expect that we can ever produce timber of the same size and quality as that produced in the true and natural home of the trees enumerated below. Yet it is not too much to expect, judging from the examples found in Scotland and elsewhere, that with proper selection of soil, situation, exposure, and climate, four necessary conditions, we can greatly improve our timber supply, if not in quality at least in quantity, although it is to be regretted, for many reasons, that quantity takes precedence of quality. A large volume in a given time is really what is wanted since iron beams have taken the place of those of timber. Whatever opinions may be entertained by experts or by persons having only a very limited knowledge of timber as to the commercial value of many of our exotic conifers, compared with the native variety and those of early introduction, I have by using the timber proved to the satisfaction of all who have seen the wood in use that they are very valuable indeed, both in regard to colour and beauty of "grain" as well as durability. The data for comparative value I have taken from over 40,000 measurements, and by giving a well-known tree, the Scotch Fir, as a standard of value, the values of all are easily arrived at. For example, Scotch Fir at 100 gives Larch a value of about 216, and with this in view I shall fix the standard of average value of Scotch Fir at 100 per unit.

Taking the old nomenclature, I begin with the beautiful

ABIES ALBERTIANA.—The timber of this tree is valuable on account of its elasticity. It is quite equal to the Larch, and not unlike the wood of

that tree, though as yet its durability when grown with a moist soil has to be proved. Except in that case, what is known of the timber of this tree grown in this country proves it to be valuable. The wood is of a yellowish white colour, fine-grained, and takes a good polish; the saplings make first-class ladders for slaters, plumbers, and the like, much lighter and stronger, and in every way more reliable, than the Norway Spruce. Value 200.

A. CANADENSIS.—The wood of this tree resembles that of the foregoing generally; is less elastic, but better adapted for house-fittings. The wood when old is hard, fine-grained, and stains dark brown under treatment with French polish or varnish. Good for railway-line posts and housework. Value 75.

A. DOUGLASSI.—The timber of this valuable tree resembles very much that of the Larch, though not so strong or heavy as that wood, owing no doubt to its very rapid growth. It is capable of being profitably used in all works in which Larch is used, except for boat skins, riddle and basket making. The wood is extremely easy to work, and when dressed does not warp and twist like the Larch. It takes varnishing well, and polishes to a rosy brown colour. There is little doubt that wood from trees well matured by age will be quite equal in every respect to that of the Larch, and can be used in all architectural work where the yellow and other Pine timber are available, and with much better effect, owing to its colour. For Gothic roofing, principals, purlins and sarking it cannot be equalled. Value 225.

A. MENZIESI.—The timber of this tree at first sight resembles that of the common Norway Spruce (*Abies excelsa*), but a closer acquaintance proves it to be a much more valuable wood than the latter, being tougher and more easily worked. The common uses of the wood are for roofing and fittings of agricultural and other buildings, and for lining rooms on the "lap-joint" system. Massive dining-rooms, studies, &c., done with this wood are extremely beautiful, and examples of the work are to be seen in the Birnam Hotel, near Dunkeld, and several of the best houses on the Murthly property. The wood is easily worked, though similar to common Spruce, and is suitable for piles, aqueducts, staves and headings for dry goods casks, as also packing-cases, and where closely grown is suitable for herring barrels. Value 220.

A. MORINDA OR SMITHIANA.—In appearance the timber of this tree is a facsimile of that of *Abies Menziesi*, but with this difference, that the tree being much slower in growth, the timber is harder and more brittle. The wood does not appear to possess valuable qualities, being of less value than that of the *Abies excelsa*. Value 55.

A. ORIENTALIS.—The wood of this tree as grown in this country resembles very much that of the black American Spruce (*Abies nigra*), but is much more valuable on account of its toughness and durability. The "grain" is very marked by the autumn growths being so dark in colour and those of the earlier part of the season white. Having only seen one log of Scotch-grown *A. orientalis*, I am not able to give any particulars. It is not a fast grower, but the wood has the appearance of being valuable. Value 75.

ARAUCARIA IMBRICATA.—The wood of this tree when aged is extremely hard and fine-grained. The heart-wood is of a rich brown colour; it polishes well, showing beautiful silky shades, owing to corrugations in the growth. Under certain treatment it appears like the American Birch in figure, except that the Pine lines are seen in both the end and longitudinal sections. The timber chisels well, and, besides the common uses of Pine timber, it is adapted for various articles of furniture, and is easily worked. Value 140.

CEDRUS ATLANTICA.—The timber of the Mount Atlas Cedar is so well known that describing it may be out of place. The wood is very fragrant, beautifully marked, and polishes well. It is highly suitable for bedroom furniture and linings of drawers, cabinets, sideboards, and the like, but the chief use to which it should be applied is flooring for bedrooms. No moth will venture near where this wood is used, and no carpet would be required.

It diffuses an agreeable odour, which is believed by some to have a slightly narcotic effect and to be beneficial to health. Value 141.

C. DEODARA.—The same remarks apply to the use of this wood and other particulars. Without the aid of the microscope it is impossible to distinguish the wood of the one variety from that of the other, they are so similar in every respect. The timber of the three Cedars (*atlantica*, *Deodara*, and *Libani*) is very similar, and one may be sold and used as any of the three trees. The value of the *Deodara* is about 142.

CRYPTOMERIA JAPONICA.—The timber of this tree is of a beautiful red colour, strongly scented. The wood is very suitable for the same purposes as the foregoing Cedars; makes beautiful architraves, panel frames, mantelpieces, and flooring. It is light and very tough, but easily worked. Value 130.

CUPRESSUS LAMBERTIANA.—This tree produces very valuable timber, having an agreeable odour. It is suitable for many purposes, but its chief uses are for furniture, the fittings of the best classes of dwelling-houses, drapers' shops, and the like. From its lightness, hardness, and beautiful colour it is altogether a most desirable wood, and being a rapid grower in favourable situations in this country, is valuable as a forest tree. Value 283.

C. LAWSONIANA.—The timber of this tree is also of fine quality and strongly scented. The wood, which is easily dressed, is elastic and of a yellowish white colour. My experience of this wood is very limited, but, judging from the little I have gained, I think it will be a useful and lasting timber. Its commercial value is about 120 to 185.

C. MACROCARPA.—To the unaided vision the wood of this Pine is in every way similar to, but having a little more density than, that of *Cupressus Lambertiana*. The same remarks apply to this timber as to that of *C. Lambertiana*. Value 190.

LIBOCEDRUS DECURRENS.—Why this is called "White Cedar," while its timber is nearly as red as that of the Californian Redwood, one is at a loss to understand. In a young state the timber is of a yellowish white colour, but the heart wood, which begins to form usually about the eighth year, is of a mahogany-red colour, strongly scented; strong, elastic, durable, and easily worked. It is highly suited for furniture, for finishings for superior houses, and for shop fittings, as well as for the commoner uses for which Pine timber is adapted. Value 110.

PICEA GRANDIS (Douglas).—A tree producing timber superior in quality to that of *Abies Douglasi*, but less in quantity in a given time. The timber is very white, elastic, and easily worked. It is suited for most purposes for which Pine timber is used—scantlings, beams, and general roofing and flooring. In general appearance the timber of this tree is somewhat unique. Value 160.

P. LASTOCARPA (Lobb).—This tree produces timber more dense than the foregoing, of the same colour, but having larger knots and more inclined to heart-colour earlier than the *grandis* of Douglas. It does not, in my experience, produce nearly the same amount of timber in a given time as that tree. Value 140.

P. NOBILIS.—A tree producing harder timber, but quite as easily worked as either of the foregoing. It is durable, and when well-seasoned is hard and light, eminently suited for architraves, panelling and framing for doors, windows, and the like. In the young state it is not to be recommended for flooring, as it is apt to get "scooped" out between the growths, leaving narrow ridges like corduroy. Its value is about 170.

P. NORDMANNIANA.—This tree is of much slower growth than the tree last named. The timber has the same appearance, but is harder and apparently more durable. In one or two instances the timber shown to me resembled very much that of a fast-grown *Picea peccinata*, but timber from trees I have known had very little resemblance to the wood of that tree, especially the heart-wood. The timber is useful for any purpose for which ordinary Pine is adapted. Value 125.

* Paper read by Mr. D. F. Mackenzie at the Conifer conference, Oct. 7, 1891.

P. PINSAPO.—The wood of this tree does not appear to be very valuable. It is difficult to work, very brittle on account of the numerous knots, and rots quickly when in contact with the soil. This and the timber of *Picea cephalonica* and *Picea numidica* resemble one another so closely, that it is almost impossible to distinguish the one from the other. Value 96.

PINUS AUSTRIACA.—The timber of this tree is well known to most people. It is coarse-grained, tough and durable, but considerably inferior to the Scotch Fir. Value 70.

P. CEMBRA.—From the slow rate of growth, the timber of this tree is of very good quality as a rule, being hard, even-grained, easily worked, and very durable as flooring, scantlings, window and door framing. Its value is about 60.

P. EXCELSA.—The timber of this tree is coarse, soft, easily broken, and not very durable. The wood is faulty through the numerous "pools" of resin throughout the entire structure, induced, no doubt, by the ulcerated condition of the bark, a disease to which this tree seems especially liable. As to bulk of timber it is about equal to Scotch Fir. Value 100.

P. JEFFREYI.—This tree produces valuable and durable timber, very regular in growth, though rather soft while in the young state. It produces heart-wood rapidly, and thereby becomes valuable for any purpose to which Pine timber may be applied. Its value as to timber and quality is 140.

P. LARICIO.—A well-known tree, fairly fast grower, wood soft at first, but very hard when matured, durable and easily worked. The wood is quite suitable for every purpose for which the timber of the best Pine is used, and its comparative value is about 125.

P. MONTICOLA.—The timber of this tree is valuable both from the great bulk produced in a given time and from its elastic quality. It is easily worked and stains beautifully. The wood is light, tough, and durable, but liable to the depredations of moths. It produces wood highly suitable for house furnishings, for which purpose it should be cut in winter, to lessen its liability to attacks by moths. Its value as compared with Scotch Fir is 210.

P. PONDEROSA.—The tree produces what may be called dense, heavy-grained timber. The heart-wood is full of resin and of a yellow-brown colour, the autumn growth being marked by a very distinct line of a dark Spanish brown colour, which gives the wood a character of its own. The timber is exceedingly well adapted for piles for jetties, embankments, &c., flooring, joisting, and roofing; but probably railway sleepers, for which it would excel the best Larch in point of duration, would be the chief market for the timber. It is difficult to work, oil being constantly required for the tools in working. The few specimens I have had cut up exceeded in specific gravity anything I have seen in the Mar, Rothiemurchus, Nethy, or Dalnain forests of thirty years ago. It promises to be a very valuable timber when at full maturity. Its value is about 125.

P. PYRENAICA.—A tree producing timber similar in appearance to *austriaca*, but finer grained, more elastic, and better adapted for general purposes. Value 75.

P. RIGIDA.—Like the *Pinus ponderosa*, the timber of the *Pinus rigida* is heavy and full of resin, and in other respects very similar, being durable, useful for the same purposes, and equally difficult to work. So far as I have had opportunity of observing the growth, it is slower and more formal than that of *Pinus ponderosa*. The value is 95.

SEQUOIA (TAXODIUM) SEMPERVIRENS (the Californian Redwood Tree) produces beautifully coloured wood, suitable for many purposes, chiefly shop and house fittings, panelling, dados, picture-frame and mirror backs, mantel-pieces, &c. The colour under French polish is a rich "porty" brown, having, however, the Pine markings quite distinct. The timber is not very durable in contact with damp, but as it absorbs oil very freely it can be made lasting at pleasure. Like the Kanri Pine, it is well adapted for carriage panels, and forms beautiful work when used with Butternut (*Caryo-*

car nuciferum). In any of the home-grown specimens I have seen or have cut up I have not observed any "curly" wood, but no doubt time would produce that figure in the home as well as in the foreign article. For bulk as well as for beauty of timber this tree is very valuable. As compared with Scotch Fir its value is 204.

WELLINGTONIA GIGANTEA.—The timber of this tree resembles in colour that of the foregoing; it is, however, more porous, lighter, not so durable, and fractures more easily. It is very liable to be attacked by fungi, but withal is a very good timber, and is chiefly suitable for the same purposes as the *Sequoia sempervirens*, and for any of the purposes for which Pine timber is adapted. The growth alone gives a value of 370 as compared with Scotch Fir at 100.

It will be observed that I have omitted many very useful trees from the above list. Had I been writing a theoretical paper on the subject, I should probably have doubled the number, but I have confined my remarks to the timber of such trees as are well known to myself—trees the timber of which I have had cut up and put into use. As must be well known, the timber was cut from comparatively young trees, not in any way matured by growth: at the same time they have been compared with the Scotch Fir, Larch, &c., of the same age and under the same circumstances. As to the comparative values, the figures given represent the conclusions arrived at by actual measurements and personal observation. While this is the case, I feel satisfied that in many cases the values I have given will fall far short of what the actual value will be when the trees arrive at maturity in this country. I have little doubt most of those trees I have named, and many I have omitted, will carry out the profitable rate of growth till maturity. If I am nearly correct in such an assumption, there is a great and profitable future in store for those who will at once begin to plant on a large scale the trees named.

It may not be amiss for me to say a word about the planting of one or two varieties, because the success or otherwise of that operation has a marked effect on the quantity and quality of the timber produced. If my advice were asked by the owners of large, or even small, woods and plantations that have become "blanky" through the injurious action of the winds and other causes—conditions very common in the woods throughout Scotland—I should at once advise the planting of these spaces with those beautiful trees *Cupressus Lawsoniana*, *Abies Albertiana*, and *Thuja gigantea*. I need not here enter into reasons for such advice further than to say that these trees of all others are pre-eminently suited for such work. For pit wood alone these trees are invaluable. In, say, twenty-five years an acre of these would be worth about £60, planted as above or even in forests by themselves. In this respect they would on a given area, in a given time, exceed the value of the best Larch. The great drawback at present is the cost of the plants. Unlike other commodities, however, demand in this case would cheapen the article. What I advocate here about *Cupressus Lawsoniana*, *Abies Albertiana*, and *Thuja gigantea* is no mere theory. In 1886 I bought a quantity of the above plants, described in the catalogue as from 2½ feet to 3 feet, and a few *Picea grandis* (Douglas) 3 feet. I planted these where the winds of the previous winter had uprooted all the trees. At the present moment many of those plants are 16 feet high, having a diameter of over 6 inches at 1 foot from the ground, nearly every tree having a 6-foot length suitable for common pitwood. In some cases they are planted at less than 9 feet apart,

in others more. Under the above treatment *Cupressus Lawsoniana* produces more timber than *P. grandis*, although the latter is quite as tall, but it will not bear crowding, while the other varieties will stand quite thickly together without harming each other. A quality possessed by the *Cupressus Lawsoniana* and the other two trees I have named is that crowding makes their timber of better quality, while the quantity produced does not seem to be appreciably diminished. The three are undoubtedly shelter-loving trees, and should be treated as such in order to get the greatest possible bulk of timber in a given time.

I feel I cannot close this paper without recording a curious fact observed in the working of the various Pine timbers I have named. It was found that the wood of those Pines having three leaves in a sheath was, as a rule, much harder than that of those having only two, while all those having five leaves in the sheath were uniformly soft, and when dressed had a silky appearance. So general is this characteristic that one could almost at once tell to what class a certain plank of Pine timber belonged. The same rule holds good with the *Abies* tribe, the timber of the true Spruce, as represented by the Norway Spruce, being quite distinct in appearance in every particular from the pseudo variety represented by *A. Douglasi* and others. This distinction is also plainly visible in the timber of the Silver Firs, the variety represented by *P. Pinsapo* being quite like the timber of Spruce, while that represented by *P. nobilis* resembles the wood of the five-leaved Pines. While these characteristics are pretty general, it is well known that soil, exposure and elevation have a very marked effect on the figure, quality, and quantity of timber, so much so that it is difficult to get the "points" of character constant unless the trees are grown side by side and in masses.

GARDEN FLORA.

PLATE 942.

THE HONEY BALM.

(WITH A COLOURED PLATE OF MELITTIS
MELISSOPHYLLUM.*)

BEE BALM, Bastard Balm, and Honey Balm are all local names for the charming plant figured in the accompanying coloured plate. It is the only species known to botanists, although Thunberg mentions a *Melittis japonicum* in his observations on the flora of Japan, published in the *Linnean Transactions*, vol. ii., page 338, and which is the *M. melissophyllum* of "*Flora Japonica*," page 248. I have never met with this species, if such there be, and in the "*Genera Plantarum*" the latter plant is not noticed, the distribution being confined to Europe. It is found in copses from Wales and Gloucester to Cornwall and Sussex, though the large-flowered variety known in gardens as *M. grandiflorum* is a form that is more often found in the garden than the field. It is, however, by far the showier of the two, and forms a beautiful compact flowering plant, perfectly hardy in all soils, and invaluable even in small collections. It flowers from May to July, and when first open emits a pleasant fragrance, which, unfortunately, is not lasting. It is, however, a splendid bee plant, a large quantity of honey being secreted from the glands at the

* Drawn for THE GARDEN by C. Jones in the Royal Gardens, Kew. Lithographed and printed by Guillaume Severeys.



base of the flower. Clusius mentions a form of this plant found in Switzerland which is in all respects smaller, the flowers being pale red, sometimes white. There is also a white form of the larger flowered form, and I remember having seen a very fine specimen at Benthall Hall, in Mr. Maw's rich collection. It is, unfortunately, rare, and I consider it much finer as a decorative plant than the form figured here. *M. melissophyllum* grows about 18 inches high, and will be found a useful plant to associate with the dwarfed *Dracophyllums*, the *Scutellarias*, the *Thymes*, and other low-growing labiates in the rock garden. A strong grower, it requires plenty of rich soil, a not too dry situation, and abundance of sunlight. It is readily increased by division, which may be done either in early autumn or spring. D. DEWAR.

Glasgow.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

THE seed catalogues will now be coming in, and a careful examination will have to be made as to what improvements can be made in the season's supply. Notes taken during the past season will have to be looked up, for although we may not have a repetition of the season now closing, it will have been observed that some kinds of vegetables did well during the intense heat. The superiority of the produce in many instances was, perhaps, more a matter of careful cultivation, not exactly at the time, but through precautions taken during the less busy season. It is of little use to make a note of supposed superior varieties of vegetables if ordinary care is not taken in making due preparation of the soil. The failure may have occurred solely in some instances through the want of this due preparation, and I cannot too strongly impress the advantage of improving soils at this less busy season of the year. We all know a good supply of water is useful in any garden, but this will not save crops if the soil is only shallow worked, especially that of a light and gravelly nature.

ORDERING SEEDS.—Although some kinds of seeds will germinate when more than a year old, it is much the wiser plan to secure a fresh stock every season. Old seeds do not germinate at all freely, and sowing these often leads to untold disappointments. At this time perhaps it is seen that fresh seeds must be had, with the result, perhaps, that the crops are much later than intended. A system which I have relied upon for years is to keep a copy of the previous year's seed list, and improve upon this the following season, that is if it is open to improvement. Old standard kinds I know I can rely upon, but novelties I always add with caution. Do not grow a supposed improved variety until the novelty has been given a fair trial. A good word of advice I can offer to younger men who may have had little or no experience in making out a seed list is to try and secure the previous year's one from the seedsmen if it cannot be had otherwise. The mistake must not be made of ordering too many kinds of one vegetable, as if so, confusion will surely arise. A little of this kind and a little of another does not find favour with cooks, or even those who may have to partake of them. Peas are often ordered in large quantities, and it is no uncommon occurrence to see almost as many varieties as there are rows. All kinds of seeds should have the highest percentage of germinating power this season; so the seed order need not be increased to what is more than thought will constitute a sufficient supply. I do not advise cutting it down too low, as often unforeseen failures occur, and employers do not care to see the seed order added to after the first supply is in.

SEASONABLE WORK.—The old stock of Pea and runner Bean sticks should be overhauled, and it will then be seen what new ones must be added.

The taller Pea sticks may be of little value for the use they were subjected to last season, but by cutting off the decayed ends they come in for dwarfier kinds. In windy districts it is often necessary to have some kind of support for even French Beans. Short pieces of spray are useful for this purpose. These may be cut out now and tied up in bundles for future use. In country districts Birch brooms often have to be made. The Birch for another season's use should now be cut, tied up in bundles and stacked evenly in a dry and airy shed; not, however, on the floor, but overhead. By cutting the Birch whilst the sap is dormant the wood becomes tough, and so wears well. If left until the sap is rising, the wood is very brittle and will withstand but little wear.

ROOT CROPS.—Such crops as Salsafy, Scorzonera, Parsnips and Artichokes retain their flavour better and are also more tender when boiled if left in the ground. It is at this time that these vegetables are appreciated, making, as they do, a welcome change. Although I do not advise that the whole of the roots be taken up now, yet a few might now be lifted and stered in sand on the floor of a very cool shed. Especially is this necessary if a spell of frost should come. A supply will therefore be assured for at least three weeks. If the supply of saladings is not likely to hold out, some roots of Witloof may also be taken up and stored similarly, so as to be at hand in case of severe frost. The roots, by being left in the ground until now, give better produce when forced than if taken up earlier. A. YOUNG.

ORCHIDS.

UP to the time of writing I cannot say that the fogs have touched a single blossom of the most delicate kind, and owing to the generally mild weather there has been no need to overheat the pipes to keep up the temperature. Those who wish for full details as to heating, ventilating, damping down, &c., can refer back for the last six weeks, and the instructions there found will be available now and for a few weeks longer. I often feel when writing these calendars and explaining about the cool house, intermediate house, East India house, &c., that the gardeners in charge of such houses may think some of my instructions a little too trivial. Many gardeners now called upon to grow Orchids, although they have had a regular training for the ordinary routine of gardening, have not had the advantage of cultivating Orchids in their youth. Another class of Orchid growers is the amateurs who have never had a training for garden work, but who like to grow their own plants. Some of these have such an innate love for gardening, that they gradually, as it were, feel their way, and succeed in growing plants which have taxed the ingenuity of the best professional Orchid growers. As an example of such I can quote the Rev. Francis D. Horner with his wonderful specimens of *Cattleya citrina*, grown as no professional Orchid grower known to me has ever yet grown them. Anybody can grow this species and flower it well for a few years, or I presume as long as its native energy lasts, but who can take charge of worn-out plants and bring them back to rude health again? I have questioned Mr. Horner as to his treatment of them, which he freely communicates, but I have not been able to lay hold upon any detail that would account for his extraordinary success, except that the roots are never allowed to get so very dry as some persons have an idea they ought to be. They have a *Cattleya* house temperature, but an atmosphere that is never so dry in winter as a *Cattleya* house usually is, for in it are grown many species which naturally do not succeed well with a dry air even in winter. I noticed that *Dendrobium Wardianum* was in a fair way of establishing itself in the same house. The plants were making most extraordinary growths and also flowering well, and this led me to question the wisdom of placing the plants of this lovely species in a greenhouse temperature and allowing the soil to become so dry that the growths shrivel considerably. They do very well with this treatment for a few years, but, to the chagrin of their owners,

they, after a certain period, show symptoms of decline, and grow so poorly, that they have to be discarded as not worth troubling about. A good many Orchid growers may remember the furore caused by the exhibition in London of a splendid specimen of *Vanda cœrulea* with four immense spikes upon it. The plant was subsequently sold for about eighty guineas, and, as far as I could ascertain, the gardener who produced this fine plant was not an Orchid grower, nor did he make any pretence to practical knowledge of the subject. The plant had been put into a *Cucumber* house, and took twelve years to produce its first flowers; whereas under the usual system of culture the plants flower splendidly the second or third year after their introduction.

A good Orchid grower called here the other day, and on observing some plants of *Lælia majalis*, he informed me that he had recently seen a collection, and the only Orchids doing well were plants, of this same *L. majalis*, and they had been grown in a house with no shade at all. I have before alluded to the fine collection of *Phalenopsis* belonging to the late Mr. Partington, and the gardener who grew them so well informed me that he kept the atmosphere well on the dry side in winter, and in summer a double shading was used whenever the weather was too hot and the sunshine likely to affect them; moreover, the paths and stages, which were of coarse gravel, had a good dressing of salt annually. Chemists might say that salt could not have any effect by evaporation, but a gardener or an amateur feels his way to success, and may be quite ignorant of chemistry or any other science. It is well known that the *Phalenopsis* is found in its native habitat so near the coast line, that the plants are almost washed by the salt spray. Experienced Orchid growers are also well aware that certain plants will do very well in one position in the house, but if shifted to another position in the same house they may not do quite so well, and it is also remarkable what a very large number of species and varieties of Orchids can be grown in one house when the right positions have been provided for them. I have grown *Phalenopsis*, *Cattleyas*, *Cypripediums*, *Dendrobiums*, *Oncidium*s, *Aerides*, *Epidendrums*, *Vandas*, *Lælias*, &c., all in one house, and would not hesitate at any time to undertake the culture both of *Cattleya* house Orchids and those belonging to tropical countries together by simply arranging those requiring most heat at the warmest end. I would give the *Cattleyas* 2° or 3° more heat than is usually recommended, and the warm house plants 2° or 3° less. Moreover, it would not be wise to attempt the culture of any Orchids difficult to grow. An amateur had better go in for such Orchids as *Cattleya Mossiae*, *C. Mendeli*, *C. labiata*, *Lælia anceps*, *L. purpurata*, *Cymbidium Lowianum*, and such *Odontoglossums* as *O. citrosimum*, *O. vexillarium* (*Miltonia*) and others. An immense number of *Cypripediums* can also be grown in the *Cattleya* house, and the flowers are so long-lasting either on the plant or in a cut state, that they are considered the best possible plants to grow either for home use or to cut for market.

The cool house Orchids are quite distinct from the others in their requirements, and it does not answer to grow them in the *Cattleya* house even. Cool house Orchids are not at all difficult to grow, in fact they are the easiest of all, and the flowers of most of them last long in good condition—so long, that the plants become exhausted through the efforts to support them. Some of the best species and varieties are the popular *Odontoglossum crispum* in its numerous varieties, the more graceful *Odontoglossum Pescatorei*, *O. triumphans*, *O. Halli*, and *O. luteo-purpureum* with their numerous natural hybrids. It has been found exceedingly difficult to cross-fertilise these *Odontoglossums* to obtain good seed from them in our gardens, but where different species grow together in their native habitat they are frequently cross-fertilised by insect agency, and by the colour and form of the flowers it is not difficult to distinguish the source from which they have been derived. The *Masdevallias* are easily grown, and the most

useful are *M. Veitchiana*, *M. Harryana*, *M. Lindenii*, *M. ignea*, *M. Davisii*, and the pretty little *M. tovarensis*. The few *Oncidium*s which succeed in the cool house surpass any that are natives of more tropical climes, such as *O. macranthum* and *O. Marshallianum*. There is no need to set any house entirely apart for Orchids. We grow many beautiful Ferns in our cool house, including the best of the *Gleichenias*, and all our *Chrysanthemum* cuttings are struck in it. In fact, all Orchid houses should be made interesting by the presence of other tropical plants suitable to the temperature.

J. DOUGLAS.

PLANT HOUSES.

THE CONSERVATORY ARRANGEMENT.—Every effort should now be made to have this department as attractive as it is possible to make it. In order to do this more effectually so as to admit of a few plants which in the usual course should have more warmth, it will be found advisable to slightly increase the temperature. Thus, if 45° as the minimum has been the rule, 50° might be aimed at just for a few weeks, less of the two certainly than beyond that standard. This increase will require to be modified in a measure by increasing the atmospheric moisture if *Camellias* in any number are permanent occupants of the house, or if they are in pots, these also needing more at the roots as well. By choosing the warmer end it is thus possible to keep late *Poinsettias* and other moderately hardy stove plants with a fair amount of safety. It would not of course be advisable to risk plants that are not increased annually from cuttings, or which it is intended afterwards to grow on. In a cooler temperature the chief thing to guard against is over-watering; when plants are thus being used they take far less water, the better plan being to allow them to be almost on the point of flagging before giving them any.

By having a good supply of such flowers as the Roman Hyacinth, not forgetting the newer addition in this way, the straw-coloured French variety, which I take every opportunity of recommending because of its colour, a pale, clear yellow, it being at the same time as free as the well-known Roman. *Duc Van Thol* Tulips (the crimson, the scarlet, the yellow and the white) are also extremely useful now; so are the double Roman and the early Snowflake *Narcissi*. The essential advantage of these early bulbs is that they can be used in places where we would not care to place double *Primulas* or well-grown single varieties, as well as *Carrations*, *Ericas* and *Epacrises*. If the bulbs be shaded or have an otherwise unfavourable position, it is not of material consequence as far as the future is concerned. The grouping should therefore follow in each particular case, according to its peculiar circumstances. The bulbs, it is as well to add, will look all the better if covered upon the surface with a little green Moss, as the pots will not be any too well hidden with foliage. If Moss be scarce, a small Fern, if stood between each pot of bulbs, will have the desired effect. The better and more particular plants, as far as position is concerned, should have the most light and other advantages given them as far as possible. The Ferns used should be of the hardier kinds, as *Pteris serrulata* and small *Aspleniums*, such sorts as *A. bulbiferum* and *A. filicoides* in 3-inch and 4-inch pots; a stock of such size and kinds is always useful.

CLIMBING PLANTS.—The climbers in the conservatory, if not already thinned out or pruned according to their several needs, should have this attention given to them. Indiscriminate pruning is altogether a mistake; thus to prune *Habrothamnus Newellii* now would be utterly wrong; rather save every shoot and prune immediately after the flowering season in the spring. Another instance is the well-known, but none too frequently grown *Bougainvillea spectabilis*, which in contradistinction to *B. glabra*, flowers from the terminals of the previous year; here, again, pruning would be wrong. Instances need not be multiplied beyond these two. *Lapagerias* should be carefully thinned,

merely taking away the weaker or spray-like shoots. See that this plant does not get dry at the roots; it should never suffer from this cause. Look closely after young shoots, which in favourable positions may soon be pushing up from the base, and guard against slugs and even snails; these shoots appear sometimes farther away than one would for the moment think of looking. Where large or medium-sized plants are in pots or tubs and there is any idea of planting out, it had better be attended to at once, using rough loam and peat, turfy and fibrous, with a liberal addition of road scrapings or silver sand.

Plumbago capensis may be pruned hard and be thinned freely, too much wood if left being a check to strong growth, which is the best for flowering. *Tacsoarias* should be pruned moderately, spur-pruning rather than cutting hard back being advisable. *Solanum jasminoides* should be cut back freely, otherwise it becomes master of the situation. *Cobæa scandens* requires similar treatment, but the best check to this climber is to drape its shoots, letting them as far as possible hang downwards, thinning out the rest as growth proceeds. Roses in conservatories which are not kept absolutely cool are rather awkward to manage at times, being predisposed to start into growth too soon. To remedy this in a measure it is best to keep them quite on the dry side for the time being. Any climbers which are known to be a trifle tender should, if possible, be dropped from the roof to where it is a little warmer. Thus treated, they may be kept safely. *Passiflora quadrangularis* is thus wintered here in a house which in the coldest parts often drops to 36° and lower, but the plant in question has its roots near the pipes and the shoots away from the glass. The white scale often troubles conservatory climbers that are of a hard woody character. Wherever this pest exists, no time should be lost in attacking it with determination whilst work in other quarters is not so immediate and pressing.

JAMES HUDSON.

FRUIT HOUSES.

PINES.—If ripe fruit is wanted in May, a batch of well-prepared plants of the Queen variety should be started not later than the first week in January. A light compartment, or the warmest and lightest end of a larger house ought to be got ready at once, commencing by thoroughly cleansing the glass and woodwork, the walls being limewashed. A brisk bottom-heat is most essential, and if it is generated by either good Oak or Beech leaves in quantity, that will answer best. A mixture of spent tanner's bark and leaves is sometimes tried with good results, but tanner's bark alone is not recommended now-a-days, owing to its heating powers being greatly impaired in the tan-yard. Stable manure is apt to heat too violently and does not last long enough. Some kind of plunging and gently heating material is needed even if the bottom-heat supplied by hot-water pipes is very strong, a very dry heat being undesirable. Plants to be started ought to have their pots well filled with roots and should have been previously kept somewhat cool and dry at the roots. A bottom-heat of about 90° should start the flower-heads quickly. Plunge rather loosely at first, well ramming the heating material about the pots after it is seen there is no likelihood of injurious overheating taking place. A top-heat of 70° by night and an increase to 80° on sunny days is sufficient to start with, and after giving just enough water to moisten the soil in the pots, keep the plants on the dry side till it is seen flower-heads are showing. If watered too freely many of them may commence a fresh leaf growth instead of fruiting. A rather moist atmosphere should be maintained by damping down the walls and floors. Should there be any fruit well advanced towards ripening, these also would be benefited by an increase of bottom-heat, the plants being plunged alongside those newly started. These must be kept uniformly moist at the roots, a little liquid manure being given each time water is required. When

colouring commences give no more liquid manure and little or no more water.

SUCCESSIONAL AND YOUNG PINES.—In order to be certain of a good succession of fruit during June and July, a portion of the stock of fully grown plants of Queens should be kept for starting a month or six weeks hence. These must be kept rather cool, the temperature of the house ranging from 55° to 60°, and the pots being plunged in comparatively cool, moist material, no water should be needed or given for the present. Extra strong well-rooted suckers of Cayenne and Rothschild if shifted into their fruiting pots now and kept growing in a brisk top and bottom heat would develop into good plants for fruiting next winter. Use a rough fibrous loamy compost, avoid over-potting, and water very carefully at the outset. Other rooted suckers should have the benefit of a bottom heat of about 75°, the top heat being kept at 55° to 60°. They ought not to be allowed to become very dry at the roots, but if all are looked over every week and watered when dry, no severe check will be experienced and premature fruiting be prevented accordingly. Strong suckers from late fruiters may be taken off and placed in 6 inch pots, these being plunged in a bottom heat of 85°, the top heat being kept at from 60° to 65°.

FIGS.—The earliest crops are best obtained by the aid of trees in pots, these being plunged in a brisk bottom heat of about 80°. If the pots are set on loose brick piers the heating material can be banked up round them, loosely at first, and when the heat declines, more solidly, renewing it when necessary without disturbing the pots. Start with a top heat of from 50° to 55°, increasing this another 5° after top growth has well commenced. Syringe overhead freely at least three times a day, and keep the roots uniformly moist. Strongly-rooted trees should be given a rich top-dressing when top and root action has commenced, a mixture of equal parts of turfy loam and nearly fresh horse droppings answering well. Trees rooting in narrow borders or otherwise restricted ought now to be in readiness for starting, but may well be kept cool for another three weeks. Later trees should be pruned, taking care to leave a sprinkling of well-ripened young shoots all over the trellis or wall area. A few of the longest and most naked branches should be sawn off near to the main stems, others being shortened back to well-placed back growths, this being done with a view to keeping the centre of the trees properly furnished with bearing wood. It is not safe to syringe Figs with petroleum and water, and if there be any mealy bug or scale on the trees, the better plan is to well scrub the whole of the wood with thoroughly hot soapy water. The old wood may also be dressed with a weak mixture of clayey water and gas tar, though if the scrubbing with hot water is properly carried out there ought to be no necessity for this. The borders ought not to be neglected, but should be kept regularly moist, a fairly rich top-dressing being given in all cases where the soil is well occupied by roots. Avoid planting young trees in a rich compost. A mixture of fresh loamy soil and mortar rubbish, three parts of the former to one of the latter, is quite strong enough at the outset, and even this must be put together firmly, or the growth of the trees may be very sappy and unfruitful for the first year or two.

EARLIEST PEACHES.—These have started quickly and strongly, and that, too, without the aid of much fire-heat. Supposing the night temperature was kept at from 45° to 50° by night and 5° or rather more higher in the daytime, an increase all round of 5° may be given with advantage. When the trees are coming into bloom, cease overhead syringing for a time and attend well to fertilising the flowers. This should be done towards midday, and either with a camel's-hair brush or, better still, a rabbit's tail tied to a long stick. Most pollen will be found on the small flowering varieties, and if these are touched over first, some of it will be transferred to the flowers of the less free setters. Very little disbudding ought to be resorted to just yet, and not many young growths should be rubbed off at one time.

EARLY STRAWBERRIES.—Those given the benefit of a gentle bottom-heat have started remarkably well. Before the flowers expand, move all the more forward plants to shelves at the back of forcing houses where they will open strongly and be more easily attended to. Many probably will have already struck root from out of the bottom of the pots, and in any case they ought not to be suddenly shifted from moist to comparatively dry quarters. If the shelves are covered with a good thickness of fresh Moss and this be kept constantly moist, the roots will soon take possession of this and the plants be otherwise benefited. When the flowers are fully expanded, the pollen ought to be evenly and surely distributed with the aid of a camel's-hair brush, the plants being gone over towards noon every day. Unless this is done the chances are a light crop of imperfectly formed fruit will be the outcome. Introduce more plants into the pits to be started in bottom-heat, and more should also be placed on shelves in gently heated Peach houses and vineries, where they will start strongly, if slowly.

PRACTICAL.

KITCHEN GARDEN.

FORCED POTATOES.

THE demand for forced vegetables in most establishments seems to be constantly increasing, even in gardens where there is but little convenience for such work. The trouble to bring things forward where there is no proper accommodation is considerable, but this seems to be taken little account of, some people who have a garden thinking that everything ought to be grown in the same manner as if all the modern appliances that are needed for their successful growth were at hand. Over-crowding, as all gardeners know, soon causes weakly shoots. Much, however, may be done by having a thorough knowledge of a plant's wants, but no amount of experience will cause things to grow to perfection if the surroundings are adverse to their growth. Take for example a frameful of Potatoes. The sets of these are usually started in shallow boxes in heat; they are afterwards planted where the soil and surrounding atmosphere are warm and moist. Owing to the fermenting material employed in making up the bed, growth pushes freely in the course of a few days, so that the young tender shoots appear above the soil. Earthing up is then done, by which time the heat of the bed begins to decline, and if there be no means of raising its temperature, growth receives a check, which usually comes at a time the young tubers are forming, so that they do not grow out so rapidly as they ought or as they would had the same degree of warmth been maintained. No doubt this difficulty to some extent may be obviated by having properly heated pits, for then there would be a more uniform temperature, but where the cultivator has to depend for his heat on fermenting material he is placed at a great disadvantage. Look at the conditions under which Potatoes are grown naturally; there we find the outer soil gets warmed as growth proceeds, till by the time the tubers are formed it has reached the maximum temperature, so that instead of there being any hindrance, growth goes steadily on till the tubers have attained their full size. If this be taken into consideration, it will then be understood that in forcing this vegetable the heat of the soil in like manner should be maintained, if not increased as growth proceeds, instead of being allowed to decline, as is so often the case, causing the tubers to set their skins prematurely and to eat watery. It is much the best plan to plant in pits heated by hot water and

not requiring any heating material, as by this means there would be no decline in the temperature of the soil. The beds should be well drained and at least 9 inches of soil used for planting. The soil ought not to be nearer to the glass than 18 inches, for if the foliage comes into contact with it, it is liable to be injured through frost. Water should be sparingly used for this crop, and the soil should be rich enough in the first instance to cause a free growth without the aid of any fertiliser; in fact, it cannot well be too rich if it is light and porous. A little kainit, however, is very beneficial to the young tubers if given before earthing, unless the soil naturally contains salt. Sufficient moisture must be maintained in the soil to keep the plants growing, but at no time should it approach a wet state, for this has a tendency to lower its temperature, thereby causing stagnation in growth. Air should be admitted on all favourable occasions, but the temperature should never be lowered by so doing, for, though it is necessary to plant life, a sudden lowering thereby brings on disease. As the foliage of Potatoes is so near the glass when grown in pits, a great amount of air circulates amongst it by passing through the laps of the glass; but should sufficient not be admitted in this manner, a ventilator placed in front of the pipes will usually admit all that is needed in such weather. When the sun is bright in the middle of the day, the lights may be tilted a trifle at the back, but a cold current must be strictly guarded against.

H. C. P.

Rhubarb Prince Albert.—I believe this is still the best forcing Rhubarb in existence if it can be obtained true. This, however, is a difficult matter, as various sorts are palmed off as Prince Albert which are altogether inferior to it. Some years ago I obtained roots from an Essex garden where I knew the true variety existed, and have ever since been able to pull Rhubarb in three weeks from the time of placing the stools in heat. In the garden above referred to I have seen it in snowy weather in spring pushing its heads through the slight mounds of litter which had been placed over the crowns to protect them. It is of medium stoutness, of a deep crimson colour, and is a great favourite in the kitchen. One characteristic of the true Prince Albert is the absence of a cavity down one side of the stick, which may be seen in nearly all other sorts.—JOHN CRAWFORD.

TOMATOES FOR WINTER USE.

THERE is no disputing the fact that Tomatoes are most in demand during the warmer parts of the year, and would be even during the winter months if they could be had as cheaply. From March till the end of September well-ripened Tomatoes are largely eaten in a raw state as a salad, and if good sound fruits, or any ripened on the plants in heat, were forthcoming in colder weather, there would yet be many only too glad to have them daily in an uncooked state. Why there are fewer in the markets at this time of year is principally because it does not pay to grow them, or rather market growers are under the impression that such is the case. In this I think they err somewhat, and would strongly advise them to make yet one more attempt to cultivate Tomatoes for winter consumption. As far as very many private gardeners are concerned, there must be no complete break in the supply of Tomatoes. Common vegetables are plentiful enough, and what we want during the winter is choicer kinds with a little character about them. In Tomatoes are comprised so many good qualities, that their value during the duller

parts of the year can scarcely be over-estimated. Even if they only tended to create an appetite, that would be much in their favour, but, if experts are to be believed, they combine medicinal properties with their other qualities. Instead, therefore, of so much room and attention being bestowed upon their cultivation from March to October would it not be a step in the right direction to take proper precautions to have them good and fairly plentiful from November till February inclusive?

In order to be thoroughly successful with winter Tomatoes, an earlier start with the plants must be made than is often thought necessary, or otherwise failure, partial or complete, is almost inevitable. The crops will not go on setting and swelling freely during the cold short days of the late autumn and winter months, and it is only a waste of house room and fuel trying to make them behave differently. No; the crops must be set in August or September at the latest, and they will then be nearly or quite fully grown before the unfavourable weather arrives. The seed should be sown in June and the plants got into their fruiting quarters late in July or early in August. Some of the fruit may ripen before it is really wanted, but by far the greater bulk would not do so, but would ripen slowly and surely in succession during the whole of the winter. No one ought to keep a house or houses empty waiting for a stock of Tomato plants to fruit during the winter, but if they were regarded as a close and natural succession to Cucumbers, then few or no mistakes would be made. Late Tomatoes might also succeed a batch of early Tomatoes that have been fruited in pots.

Pot culture also answers well in the case of winter Tomatoes, these being either set on the back shelves in three-quarter-roofed forcing houses, or along the fronts of the same, the plants being trained up the roof with one stem only. They succeed equally well, sometimes even better, in boxes of different kinds, and require less water than when in pots. They are still less trouble when planted out in a border or narrow ridge of perfectly fresh loamy soil. Tomatoes should never follow Cucumbers as far as the soil is concerned, as the latter are only too likely to leave a legacy of eel-worms behind, than which there are no worse enemies to Tomato roots, and therefore to the crops. When the start is made much later than the dates given, there should be no planting out in beds or ridges of soil, or the chances are very many of the plants will die off in an almost unaccountable manner. Soon after a cluster or two of fruit has set, a close observer may notice a contraction and discolouring at the stems just above the soil, but it may be several days or even weeks before the plants flag badly, owing to the disease having effectually cut off the connection with the roots. Apparently this is simply the outcome of tropical plants being treated more as denizens of the temperate zone, as it has been repeatedly proved that pot plants seldom behave similarly, owing, presumably, to the extra warmth that reaches the roots. Other troubles may also be caused by being either too free with the watering-pot or manures of any kind, while diseases of a fungoid nature are inevitably rife and destructive if too much moisture is maintained in the air. Very high temperatures are not recommended, but it does not follow Tomatoes will long stand being exposed to low temperatures and damp. If they can be kept at about 55° by night and from 60° to 65° in the daytime, a little air being given on mild days, they will do well, an occasional drop of from 5° to 10° in frosty weather not signifying much. When the roots

are well furnished with plants hung with great clusters of fruit—and this is by no means difficult of achievement, always provided the start is made in good time—there are no such failures in the winter. Once the fruit is nearly or quite fully grown, it will ripen well even though disease does over-run most of the leaves, but if late-planted Tomatoes become diseased, they will not do much good. It is worthy of note that neither fruiterers nor those who eat Tomatoes are fastidious as to the form and colour of the fruit during the winter, though perhaps they would be more particular if they were more plentiful. Those varieties with a little of the Large Red blood in them are naturally the freest setters, and they are of passable quality, but *Chemin Rouge*, *Challenger*, and *Ham Green Favourite* set freely enough and are of decidedly superior flavour. W. I.

A running Kidney Bean.—On page 504 of THE GARDEN of December 2 there appears a note from Messrs. Sutton and Sons, respecting the remarks made by Mr. Iggulden (p. 472) describing and recommending a climbing French Bean he saw at Longford Castle some years ago. Messrs. Sutton say that a variety sent out by them in 1892 under the name of *Tender and True* is exactly what Mr. Iggulden describes as having seen at Longford. This, to some readers, may be misleading, and we therefore think it necessary in our own interest, as well as on public grounds, to state the following facts. The Bean Mr. Iggulden refers to was raised by Mr. H. W. Ward, of Longford Castle Gardens, and in March, 1891, he sent us a trial packet. Our trial of it in that year and in 1892 and 1893 so confirmed the good report we had received of the Bean in 1890, that we have obtained the entire stock from Mr. Ward, and will distribute it at once under the name by which it was certificated at both Taunton and Exeter flower shows in August last. We grew a row of *Tender and True* alongside of it this year, and it was apparent to the most casual observer that the two were distinct from one another, for while, as Messrs. Sutton state, *Tender and True* was only 4 feet high, our Bean ran up to 6 feet or 7 feet, and was proportionally more vigorous in every way and much more prolific. The same conclusion was come to by a well-known writer on vegetables who saw Mr. Ward's Bean growing at Longford, and had before that seen Messrs. Sutton's Bean growing.—R. VEITCH AND SON, *Exeter*.

ORCHARD AND FRUIT GARDEN.

WORK IN THE ORCHARDS.

OWNERS of neglected old orchards are at last awakening to the fact that these would well repay for being taken in hand with a view to gradual renovation. Doubtless the finest fruit, as a rule, is to be had from comparatively young trees, but these latter are many years before they attain a size equal to the production of 20 bushels or more of fruit, while in the case of that valuable variety *Blenheim Pippin*, large old trees are much the surest bearers, fine fruit being also had from them. In most cases neglected trees are of poor varieties, and in any case much too crowded, perhaps badly overrun by Moss and Lichen, and nearly always starved at the roots. All these shortcomings have been duly brought home to many proprietors of orchards, and remedies also suggested, but surely the propounders of the latter had no conception of the interpretation that would be put upon the latter, or their advice would have been more explicit. For instance, one owner of large standard Apple trees decided to re-graft these

with superior varieties, and being under the impression, or having heard that a considerable number of grafts should be placed on each tree, had sawn the trees off just below where the stem commenced to branch, and then inserted the grafts as thickly as possible all round the edge. When I saw them about one half were growing strongly, and the prospect of ultimate crowding and confusion was only too evident. In any case it is a mistake to cut down the trees thus severely, as the aim should be to change their character, and yet not have to wait three or four years before fairly heavy crops of fruit are again had from them. The proper course to pursue is to cleanly saw off the branches 12 inches or so from where they have divided a third or fourth time, this being done now, and to insert one or two grafts in each when sap movement commences next spring. It should also be decided now what varieties are to be used as scions next spring, and the requisite number of straight young shoots ought to be obtained and half plunged behind a north wall, fence, or hedge. Bundles of this young wood should be opened out before being plunged in the ground, or otherwise those in the centre may fail to touch the soil and dry up accordingly. Being stored in this manner they will keep perfectly fresh, and the sap movement will be considerably retarded. Seeing that the union of scion with the stock is more likely to take place when the sap movement in the latter is in advance of that in the scion, the importance of retarding the latter becomes evident enough. There is also another good reason why the scions or grafts should be looked up now. Deferred till near the end of the pruning season, the chances are the requisite supplies will not be available.

In the same neighbourhood that I saw the re-grafting already alluded to, another orchard owner had applied very drastic renovating measures, or what were intended as such. The tops of the trees were at one time undoubtedly far too crowded for producing profitable crops, and as a matter of fact only the outside branches of the outer rows and quite the upper surface of the rest had borne good crops for a long time past. When, however, thinning and pruning became the order of the day, enough wood was cut out to fill several waggons after being made into faggots. That is not the first time by a long way that I have seen orchard trees thus recklessly thinned out, and according to precedent it will be several years before the recovery is complete. Thinning out when long delayed must be moderately severe, but the process should extend over two or three years. When the limbs are lopped off wholesale, this must have a most paralysing effect on the roots, and does so to the extent of materially checking top growth for at least one clear season. All the half dead underwood may safely be sawn cleanly out at once, but the thinning out of the better placed branches should be of a more piecemeal character, the aim being to let more daylight and air into the centres of the trees, and also to promote the formation of fresh healthy young wood. This latter should gradually replace the older wood till eventually most of the latter is got rid of, and it will then be found that the crops of fruit obtained will be very much superior in quality to what were previously produced. Where the outer branches run too much into each other, practise forest-shortening or the cutting back of straggling branches to better placed inner ones, and this whether the trees are old or comparatively young. There should be no jagged or gaping wounds made by downward strokes of the bill-hook, but the pruning should be principally

done with a small saw, the edges of the wounds being rounded off with a chisel.

Clearing the main branches and trunks of Moss and Lichen is a remedial measure that no one will err in adopting in some form or other. These parasites effectually exclude air and moisture from reaching the inner bark, and, in addition, afford protection for the larvæ and eggs of various insect pests. Scraping the stems and principal branches with an iron scraper of some kind is usually recommended, but I am of opinion that this somewhat laborious preliminary—for that is all it can be termed—is scarcely necessary. A free use of quicklime is one of the best remedies I know, and the simplest and most effective way of applying this is neither by shaking it through a bag all over the limbs when these are in a moist state, nor by mixing with water and brushing into the bark, but rather by mixing it with water and distributing it with a syringe or garden engine. Enough caustic lime should be dissolved in water to make this quite white without greatly thickening it, and after being passed through the finest of wire sieves this mixture must then be driven well into every crevice in the bark and very freely all over the lower part of the tree generally. This will be followed by the gradual disappearance of the Moss and Lichen, and unless the surroundings are low and badly drained, an occasional repetition of the dose will keep the trees free of the parasites in after years. Some few orchards may need draining afresh owing to the old drains being choked by the roots of either the fruit trees or, what is more probable, some of the large shelter trees that are wrongly tolerated near to very many orchards. Great overhanging Elms, Beeches, and such like should be cut down, and new deep drains formed midway between the rows of orchard trees wherever found necessary. Surface or open drains are also of good service in some few cases.

FEEDING.

The fact of fruit trees greatly impoverishing the soil is too often overlooked by many owners of orchards. The Americans, on the other hand, are fully alive to the importance of well sustaining the fertility of the soil, and resort to an easy and good way of accomplishing this. Instead of turning cattle and horses, including very destructive colts, into orchards to graze upon the trunks, limbs and branches of the trees as well as the Grass, our more shrewd rivals prefer to fold sheep among their trees, and feeding stuffs being liberally used, the sheep fatten rapidly, and at the same time greatly enrich the soil. In many cases there is nothing to prevent a similar practice being resorted to in this country with equally as good results. On cultivated ground a mixture of superphosphates and kainit would not unfrequently prove beneficial to the trees, this being applied now at the rate of three pounds of the former to one and a half pounds of the latter to each fairly large tree, this being sown well away from the stems and lightly stirred in with a hoe. It is, however, the grass covered orchards that are most impoverished and of which I am principally writing, and for these 5 cwt. of superphosphate of lime, mixed with 3 cwt. of kainit, would be none too much for one acre of ground. Well crush any lumps there may be, mix thoroughly, and sow broadcast over the whole of the ground. Unless applied now there is very little likelihood of these slowly-acting manures being washed down to the roots in time to do any good next season. Farmers and all who have large liquid manure tanks connected with their mixed cattle yards need not look beyond these for a good supply of manure.

The rainfall having been fairly heavy, the manure will be sufficiently diluted to apply direct from the tanks, and it is during the winter, or while yet the roots are inactive and the ground sufficiently moist to absorb and retain the manure, that it should be very freely given. Applied when the weather is hot and dry or when the ground is dry, strong farmyard liquid manure is worse than useless, and may easily do more harm than good. A heavy dressing of good, partially decayed farmyard manure, from 20 tons to 30 tons per acre being none too much for a first application, would also act most beneficially, this being spread broadcast, and applied now would have a good chance of being largely dissolved and washed down to the roots by the rains that should fall between this and May. If the dressing is delayed till the spring, much of the manure may cake badly, and the juices never reach the roots accordingly. Better, therefore, run the risk of some small portion of the manurial elements being washed down into the drains by the rains than that all of it should be locked up. Top-dressing with a mixture of fresh soil, and either good solid manures or mixtures of chemical manures, wood ashes and such like are sometimes recommended, and occasionally very curiously applied. Breaking up the surface of the ground and top-dressing to a distance of not more than 4 feet from the trunks of old orchard trees is little short of so much labour wasted. The feeding roots are principally or wholly as far away from the stem as the principal branches spread, and unless the top-dressings reach to a distance of not less than 10 feet from the trunks, I fail to see any great benefit that is likely to be derived from their application. There ought to be no deep digging resorted to, but the surface should be very lightly broken up with a fork so as not to disturb many surface roots, and instead of turving over again, roughly chop up the turf and return Grass side downwards. This will have the very beneficial effect of letting the air well into the roots, and the Grass will grow again quite soon enough. Old orchard or even single tree sites ought not to be replanted with young trees, though very many owners go to work in a manner to indicate they either think differently or else have not given the matter a second thought. Ground that has supported fruit trees for fifty years and upwards must be completely impoverished of very much that is needful to sustain fresh trees in a healthy, profitable state. Where a few old trees have either been blown down or grubbed out it may be desirable to plant some to take their place, but there ought to be no wholesale replacing of old trees by young ones. The stations for what few fresh trees are planted should be formed well away from where the old trees stood, and for every one of the latter put in two new ones, as it is very certain these will never attain the dimensions of the first occupants of an orchard. Nor is this all that ought to be done. The stations for new trees should be of not less than 6 feet in circumference, and much of the old soil to a good depth be either replaced by fresh loam, or be enlivened by a fairly rich loamy compost such as I have often advised should be given fruit trees. The collars of newly-planted trees ought to be kept well above the ordinary ground level to allow for sinking, while strong stakes should be placed to each tree and animals warded off.

W. INGOLDEN.

Regrafting Apple trees.—Notwithstanding the enormous crop of Apples grown in this country during the present year, I question

whether it will make much difference to the sale of imported ones, for what with the bad keeping of kinds that usually do keep well, and the comparatively few varieties that are grown specially for keeping much after Christmas, there is a long period during which imported fruit is relied on by fruiterers, for the simple reason that they cannot get home-grown. I think we grow far too many early and second early sorts and neglect really late keepers. It is an undoubted fact that a great number of kinds that would keep for months are not only sold, but used direct from the tree, and that keeping for any length of time has not yet received the serious attention of English growers. My impression is that anyone going into Apple culture on a large scale ought to make the proper storage of the fruit one of the first considerations. I should advise the heading down at once of all the early sorts that do not find a ready sale, re-grafting in spring with some of the really good keepers, such as Wellington, Lane's Prince Albert, Bramley's Seedling, French Crab, Court Pendu Plat, Golden Knob, Alfriston, Northern Greening, &c. If re-grafting is done on the small branches it does not take long to get full bearing trees again.—J. G., *Hants.*

THE PEAR APPLE.

I SEND you a photograph of two Apples, which with many others of the normal shape grew on



The Pear Apple. Engraved for THE GARDEN from a photograph sent by Mr. Smale, Torquay.

one tree in the garden of Major Chillingworth, Torbay Hall, Torquay. The right hand fruit which you have engraved has the form of a Pear. Several gardeners who have seen it have mistaken it at first sight for a Pear, so complete is the resemblance. Yet it has the skin and eye of the Apple. Is it at all probable that the pollen of the Pear can have had any influence on this fruit? I should like to have an opinion on this point, or can any reason beyond mere chance be given for the form the fruit has taken? It is proposed to take care of the pips, sow them, and await the result.

W. B. SMALE.

Pruning Gooseberries.—In the excellent article on Gooseberries by "W. I." (see p. 566) reference is made to the fact that market growers prune far less, but get a great deal more fruit than many private gardeners. Gooseberry bushes at least ten years old, and which have never had any pruning more than to take out some of the strongest shoots for cuttings, are by no means too thick, from the fact that after the first three or four years they make but little wood growth indeed, even the terminal growths being short and stubby. It is the hard cutting that causes a forest of sappy shoots, and which when once begun necessitates still harder cutting to clear the centres of the bushes. As Gooseberries gathered in a green half grown state pay better than when allowed to get

fully ripe, market growers do not mind the bushes being thicker than would be thought correct by those who grow for exhibition. I was led to adopt this plan by seeing it practised in a small private garden, where, on noticing the enormous crop borne by some bushes, the gardener said the bushes had never had the knife at all. "We plant," said he, "young trees, let them grow in their own way, and when they get too big we plant young ones, grubbing the old ones up and burning them." Although a good many would not like the extreme course of dropping the pruning knife altogether, I feel certain that there would be a much more abundant supply of Gooseberries if pruning were more moderately done and later in the season.—J. G., *Gosport.*

The keeping of fruit.—Several notes have appeared upon this subject from various correspondents in different parts of the country both in this and other gardening papers. The most noticeable feature in my case has been the forward state of the dessert Pears; this appears to be pretty general. The only kinds now left in the fruit room are Beurré Rance, a splendid crop of medium-sized fruit which never fail to ripen in the best possible manner; Josephine de Malines, larger than usual, but not a heavy crop, a few dozens only for once in place of several bushels; and Ne Plus Meuris, also thin this season. The first named will, however, carry the season on towards the end of February without any difficulty. Catillac, still the best all-round stewing Pear, has as usual borne a heavy crop, which is of deeper colour than usual, being more fully matured after the manner of Jersey fruit. Now and again a fruit is found which has gone off or "turned sleepy," to use a familiar expression, but no fault can be found on the whole. Of Apples, I have this year one of the best and cleanest crops of Wellington, medium-sized, but clear in the skin, the past season having evidently suited it, the black spots being quite absent. Blenheim Orange is disposed to shrivel a little, but King of the Pippins is keeping well, as are most other kinds. In many instances the fruit this year has had to be gathered earlier than is wont to keep it from falling; probably this and the more rapid ripening have been a fertile source of non-keeping.—POMONA.

Well-ripened fruit buds.—On all sides one cannot fail to note the very promising appearance of fruit trees this pruning time, the buds being plentiful, whilst they also look sound and plump, all the wood likewise being thoroughly matured. I have been trying to forecast the future crop as to its early or late period of flowering, and have come to the conclusion that the well-matured buds will not start any earlier, if they do so early as usual, or, in other words, my impression is that the season will not be an early one. I have more than once noticed that it is the immature wood which starts into growth first, and I see no reason why this should not follow with the fruit buds; hence the latter if well ripened will not start so quickly. I may be wrong; still my impression is strongly in this direction. There has not yet been any too much rainfall for the fruit trees; this also is a consideration to be taken into account as regards the coming spring and the future crops.—G. H.

THE ORCHARDS.

TO THE EDITOR OF THE GARDEN.

SIR,—In the review you kindly gave of my treatise on fruit culture, "The Orchards," in last week's GARDEN your critic's remarks on the shortcomings and clerical errors are perfectly right and justifiable, but I cannot admit or agree with him that the industry I am advocating is ten years behind the times, or that the subject at the present time has no claim for further development. No doubt if the same interest had been taken twenty years ago as now, the country would have been greatly benefited; but even now, however late in the day, it will possibly take another ten years before the cultivation of fruit by the farmer is brought up to a high standard. I have not the pleasure of

knowing your correspondent, and have no knowledge as to the locality from which he draws his conclusions, but I can imagine that it must be advanced and "quite up to date" in all matters of fruit culture. I am, however, quite competent to speak as to the conditions of my own and the adjoining counties, and can vouch for the truth that there is not one farmer in a hundred who knows anything about fruit growing, and it will take a vast amount of teaching before he is brought to understand what to grow and how to grow it. In advocating the culture of fruit upon every holding, I am not so rash as to suppose that it will entirely take the place of corn growing, nor have I advanced such a theory; but what I do advise is that it should be adopted as an adjunct to the farm in all localities where fruit can be grown, and this together with other industries would be the means of helping the farmer to pay his rent. But for a farmer to stubbornly persist in growing corn at present prices can only result in his ruin. By having recommended this industry to the farmer in this manner, I fail to see where the "mischievousness" comes in or how "misleading." Rather than disparage such an important industry it would be far wiser to do everything possible to encourage the production of a better class and quality of fruit, as well as to extend its cultivation; and when a better sample has been produced and sent in proper condition to market, there will be no difficulty whatever in selling or realising good prices. It is the amount of rubbish that is sent into the market that kills it and ruins sales and prices. Only a week or nine days ago I was in Covent Garden Market, and there saw barrels and baskets of Apples, miserable, wretched samples one would hardly suppose people would take the trouble to pick up. That a readier outlet and a better means for the grower to dispose of his fruit are needed everyone must admit, and when fruit of a better class and quality is produced and more pains taken in grading and packing, these difficulties will soon be overcome. "W.I." gives an instance of a large fruit plantation in Gloucestershire which had been under cultivation eight years before it was made to realise 5 per cent. profit. Surely if small fruits had been grown and mixed plantations made, there would have been no occasion to have waited eight years before making profitable returns. Against this I can give an instance of a farmer in this neighbourhood who three years ago planted fifty acres of Strawberries; the second year he had a good paying crop, and the third, viz., last year, he realised between £30 and £40 per acre. I do not say that all farmers can do this, but there are few farms where something in the way of fruit growing cannot be done. Nor do I wish to make believe that there are no drawbacks to fruit-growing, or that there are not occasional failures, but under good management I maintain that fruit growing in this country is a profitable investment, and that money is to be made at it. The same cannot be said of other crops (excepting perhaps Hops) that are now being grown on the farm.

King's Acre, Hereford.

JOHN CRANSTON.

ROSE GARDEN.

FORCING HYBRID PERPETUALS.

GRAND and varied in colour as the Tea-scented and Noisette Roses are, we are obliged to go to the Hybrid Perpetual class for anything darker in colour than Reine Marie Henriette. True, there are others—Souvenir de Thérèse Levet and Alphonse Karr for example, but these are not so suitable for forcing as some of the freer blooming Hybrid Perpetuals. The superiority of the Teas over the Hybrid Perpetuals for this purpose is so marked, that we can have little encouragement to grow any others than the very dark shades. Even with such free-flowering varieties as General Jacqueminot, we do not find the quality in their second crop maintained so highly as is the case with Teas.

In addition to the variety named we have Prince C. de Rohan, Fisher Holmes, Annie Wood, Abel Carrière, and Charles Lefebvre which will afford intensely deep colours not to be found in the Teas. All of these grow freely, and will produce a large number of useful blooms if not pruned too severely. Medium size and quality, with quantity, seem to me the chief object in early forced Roses, and where a stout shoot of 3 feet to 5 feet has been produced upon the plants, it is a great mistake to prune this so hard as the majority of Hybrid Perpetuals are served. When pruned hard we get two, or at the most three blooms from such a growth. I counted the blooms upon some of our plants last season, and found them average nine flowers to each shoot of this style and strength. But these had not been cut back to within a foot or so of the joint they broke from; in short, they were treated as nearly like pegged-down plants as the fact of their being in pots would allow. The plants were stood on one of the side borders of my Rose house, and a few short sticks fixed either in the pots or in the soil between them as the length of the shoots required. It being impossible to keep each plant's growth confined to its own pot, I did not attempt anything in this direction, but simply tied the shoots down to fill up the space as evenly as possible. This, the last week in December, will see the same border filled again, and as it has proved so successful a method of getting a number of dark-coloured Hybrid Perpetuals, I propose to give my routine of operations from this point.

Before bringing the plants into the house I trimmed out the few weakly shoots there were, looked to the drainage, and mulched them with a rich compost. This is generally done before they are stood into a pit towards the latter part of October, but pressure of work during the past autumn compelled me to place them under cover and do the mulching, &c., while shifting them to their flowering quarters. I do not approve of this so well as if done earlier. Throughout their growing and blooming period they are treated exactly the same as other pot Roses, and are, in fact, in a house occupied by Teas and Noisettes, with the exception of this one side border. Where the shoots are grown on any but the horizontal system I find them far too tall for side borders; nor do they flower throughout their length, all but the few eyes at their extremity remaining dormant. When grown as I have endeavoured to point out, I get flowers from almost every eye, and I have had shoots of Abel Carrière bearing two dozen blooms at once. Good as this Rose is outside, it is far better under glass, and provides a deeper and more glowing maroon than any other of the dark varieties when under cover. I think this section of Roses derives much of the velvety characteristics from a freer ventilation than it is safe to afford them under glass. The average height of the growths will not exceed 2½ feet, including the depth of the pots, so that it is evident they are very suitable for a low bench or border when grown as above. Taken as a body, I do not think the Hybrid Perpetuals will bear so hard forcing as the Teas, and so make it a practice to omit them from my earliest batch. Those I am now treating upon will have very steady heat until I can see the flower-buds; after this point there is no danger in hurrying them on. Like the climbing Teas and Noisettes, they will have their wood which has flowered cut away soon after the blooms are secured, strong growths from the base being the most useful for a second season. The fact of cutting this growth away allows of the blooms being gathered with as much stem and foliage as they possess, and thus greatly increases their value and beauty. Many of my readers have admired the heavy crops of bloom seen upon a bed of pegged-down Roses, and can imagine from that picture the usefulness of this system under glass. When pruning them back, I stir over the surface soil and stard the pots a little closer together, growing the stout sucker-like shoots in an upright direction similar to the young rods of Maréchal Niel and others. They do not often reach more than 4 feet, although I have had them occasionally go to double that

length. Ripening of these rods is secured by standing them outside during summer and autumn, and they are encouraged to grow strongly until this time. It is a mistake to feed with artificial and liquid manures while they are flowering and withhold this aid during the time their later growth is being made. Vary these stimulants about every two weeks, change of food being very beneficial. R.

CANKER IN ROSES.

ON page 518 Mr. J. C. Clarke has a very interesting note upon the above. I am glad that he, too, thinks soil has a great influence upon canker in Roses. Respecting canker upon Apples and Plums, I think both soil and stock have great influence. During the past summer I saw a quantity of fruit trees upon their own roots. Ribston Pippin and Lord Suffield were remarkably healthy and quite free from any canker, but young grafted plants of the same varieties were entirely ruined by it. In this case soil was not so much the cause as the stock; both were growing side by side. I have noticed many instances among Roses where one plant out of many developed canker with exceeding rapidity, and yet its neighbours under precisely similar conditions were exempt. One such case occurs to me where I carefully lifted the plant, and gave it and the soil a thorough overhauling. I did not find any swelling at the point of union which seemed sufficiently severe to cause this attack; several of the healthy plants possessed quite as much. Nor was there any difference in the soil. But when I made a thorough examination much was explained, to my thorough satisfaction as far as this instance was concerned. An overflow pipe from a cesspool ran from 3 feet to 4 feet deep in the soil. This was made of the common clay pipes used for land draining, and the roots of the Maréchal had penetrated the interstices and forced the pipes more open still. Consequently the surrounding soil was charged with moisture and a strong fertiliser. I found a good proportion of the roots quite dead, and attributed this to the saturation all through the dormant period with so powerful liquid. As a rule I have found canker more prevalent upon cold soils, especially those which lie very wet during the winter. Strange to say, I find it upon extra light soils also, so that this does not prove the soil to be the only cause. Nor can the stock be blamed entirely, for plants upon their own roots are also subject to canker.

There is much in Mr. Clarke's note respecting mildew attacks upon young wood, and I believe this and any little injury of similar nature may often lead to canker. I will not go so far as to say it causes it, but in the case of varieties so subject to this disease as Maréchal Niel and William Allen Richardson, I am certain it conduces to its development. In all cases where I have cut open and carefully examined any of the protuberances caused by canker above the soil, I have found a few insects. These have varied, but none the less it seemed that they had punctured the bark in a young state and been feeding upon the sap which exuded. We get very much the same protuberances when the American blight attacks Apples, and it certainly seems as if insects had the same effect with canker. We know how fond insect life is of the sweet juices which exude from any injury, and which would, if left undisturbed, soon form into a healthy callus. In a previous note I called attention to unequal growth, or rather disposition towards this, as a probable cause of canker, and I think we can either find one of the above causes strongly pronounced, or else a combination of many.

About ten years ago I was called in to look at a house filled with Maréchal Niel Rose. The plants had covered the roof and were breaking most satisfactorily. The owner was looking forward to a most profitable crop and contemplated filling other houses in the same manner. These were all grafted plants and had been grown in 10-inch pots the first season. Stood upon a bank of turfy loam

down each side of the house, they had soon rooted through the pots. After the first crop they grew rampantly, and when it was contemplated to remove them to the open for more efficient ripening, they were so firmly rooted into the turfy border that this was found impossible. I saw them the following spring and they had then been covered with more soil some 3 inches above the pot. Just as the buds were forming it was evident they were one and all developing canker rapidly; in fact, hardly any of the flowers were worth cutting. I saw them being removed and every one had been constricted at the root where it emerged from the bottom of the pot. In some cases the swelling was enormous and upon both sides of the constricted part.

RIDGEWOOD.

The Sweet Brier.—There have been several notes of late on wild Roses and their fruits in addition to the interesting and instructive article from the pen of Mr. Lynch, but the common Sweet Brier hardly ever has its due. Very few plant it in any quantity, and yet it is charming nearly the year round, for scarce has the last of its hedges fallen before the buds begin to burst. Through autumn and winter, however, it is one of the brightest and best in fruit, which hangs in rich clusters long after every leaf has fallen, and provides many meals for birds and ground vermin. In addition to its many aspects of beauty, the Sweet Brier is a most useful plant for protecting the garden from marauders. Cattle will not face it, and a good fringe at any vulnerable point of the garden will be found valuable.—A. H.

Rosa lucida.—Now that wild Roses are coming to the front this should be largely planted. We have a large fringe of it, and even when flowerless, leafless, and shorn of the last of its hedges, it still stands out conspicuous from its kindred by reason of the red bark of the shoots. When the sun shines upon the bushes they glow with colour, and produce as fine an effect as the Siberian Dogwood or the Cardinal Willow. An isolated bush would have the same effect, but as these wild Roses need no cultivation, they should not be treated as rarities or planted niggardly. They would admirably clothe the banks that are too often covered with the monotonous Laurel, Privet, and similar poor common things that are seen everywhere in great quantities.—A. H.

Cloth of Gold, or Chromatella was sent out in 1843 by Coquereau, and was in great favour until the appearance of *Maréchal Niel* in 1864. It is rather tender, but quite as strong a grower as *Maréchal Niel*. I cut some wood from a very old plant a few days ago; the stem is completely covered with Lichen, and is 4 inches or 5 inches in diameter. This plant carried a fair amount of bloom during the past summer, and has made excellent growth. As this is thoroughly matured and the plant stands in a sheltered position, which it has occupied for considerably over twenty years, the prospects of a comparatively good show of bloom next year are good. I use the word "comparatively" advisedly, for this Rose is perhaps the shyest bloomer of all the strong growers. During the past summer I had several blooms upon maiden plants, but have not been so favoured before. A few two-year-old standards gave a fair crop some years ago, but being rather exposed to a frosty wind the following winter they were too much crippled to pay for their room. In warmer countries this is really a grand Rose, and from the manner in which the brave old specimen I have under notice has behaved, I am inclined to think it might be grown to advantage in the Isle of Wight and the warmer parts of Cornwall. Cloth of Gold will submit to no pruning. The knife should never touch Cloth of Gold except to cull a bloom or remove dead and frost-bitten wood. Comtesse de Beaumetz, a seedling from this, introduced by Nabonnand in 1876, is not sufficiently distinct.—R.

Rose Anna Ollivier is one of the grandest and most reliable Tea-scented Roses grown. For indoor or outdoor culture it is equally valuable.

Sent out by M. Ducher in 1872, it soon became a general favourite. Its constitution and habit are both as good as could be desired, while its freedom of growth and bloom is remarkable. I do not know how to describe the colour, as it varies so much. I have often cut three or four blooms from one plant which were so different in colour, that one would not recognise them as the same variety were it not for their foliage and wood. The blooms are cupped, large, deep and very full centred; the petals large and stout, while their lasting qualities, both on and off the plants, are remarkable. Buds cut when just bursting will open into large blooms and seem to grow almost as freely in water as upon the plant.—R.

ROSE ROOTS IN DAMP SOILS.

ONE of the most difficult things to understand in Rose culture is the behaviour of the Dog Rose when it is brought into cultivation, if I may use such an expression in connection with its use for standard Roses. When growing wild it thrives luxuriantly on a dry hedge-bank, and also in swampy ground, but take it from either of these positions and plant it in a naturally damp, undrained soil, and work a Rose upon it, and the probability is that not more than 10 per cent. of the stocks so worked will support the Rose in a satisfactory condition after the first year. Left to grow in its own way the stock will thrive vigorously, but as soon as it loses the support of its own branches and has to depend on the growth of the Rose to maintain its vitality it declines in vigour, showing that the influence of the union with the Rose is not appreciated. Although the conditions I have described are not imaginary, it may be that they are far from being general; in fact I know they are not, but the explanation of the behaviour of this stock under such conditions may help perhaps to explain the cause of failure in some isolated cases.

It is not quite correct perhaps to speak of Rose roots in this instance, as they do not actually come into contact with the soil, only so far as they exercise an influence through the stock. But that this influence is greater than we sometimes imagine, is clear when anyone attempts to grow standard Roses on a heavy undrained soil. For a period of over fifteen years I have had opportunities of watching the behaviour of Roses in such a soil, during which time it has been proved that they will not be satisfactory after the second year; the plants do not die, nor does the growth die back, as is the case with standard Roses in some soils, but the branches get so weak and the flowers are so small, that one cannot recognise what they are. Dwarf Roses on the Manetti stock are much more satisfactory in the same garden. Those worked on the La Grefferaie stock, however, cannot survive a severe winter. Seeing that a clay soil is the best root medium for standard Roses, it seems strange that they will not thrive in it if it is not well drained. This was, however, recognised by a large Rose grower of my acquaintance more than thirty years ago. I have reason to remember this, as I assisted in laying down drains over quite one-third of a large nursery, and more recent experience shows that the same argument is good to-day. It must not, however, be supposed that all clay soils require draining for Roses. It all depends on the character of the subsoil at 18 inches or 2 feet below the surface. If at that depth it retains moisture to the same extent as that above it, it is very clear that it is necessary that it should be drained for standard Roses. Quite apart from the nature of the soil is that of the position of the garden. If that is low, lying, as many gardens are, on a level with the surface or not far above that of a river or stream of water, draining or planting on raised beds is a necessity. The experience in the garden to which I have referred makes it clear that the most suitable stock for Roses can only be chosen when the character of the soil is understood.

J. C. CLARKE.

ORCHIDS.

ERIOPSIS RUFIDOBULBON.

It is very pleasant to find that Orchid growers are hunting up the old favourites of years gone by, and trying again to grow these plants in a satisfactory manner. Charles Edwards writes to me asking the reason his plant never flowers. He also says he has had the plant some five years, that it grows well, and now has much longer and better bulbs than when it was imported. He says he has obtained this success by growing the plant in a warm stove. This is where I think he has made a mistake, for I have grown it in a house with many of the *Sobralias* and *Epidendrums* of the tall-growing kinds, and my plant of this Orchid flowered annually. It used to be rested in the cool house with the *Odontoglossums*, for it must be remembered that this species is found growing mostly on the stems of Palm trees in the state of Antioquia at some 4000 feet or 5000 feet elevation, and fully exposed to the sun. As to your question as to its being the true plant, I have not the least doubt about it, as you say the pseudo-bulbs have a rough skin like the hide of a crocodile, freely spotted all over with purplish-brown. The flower-spike issues from the base of the pseudo-bulb and is nodding, about a foot long, bearing many flowers. The sepals and petals are of a rich orange-brown; the lip spurred, and the side lobes of a purplish-brown, the middle lobe white, spotted with purple, and stained with orange at the base. It flowers during the autumn months, so that your plant having shown no signs of blooming this season, you will have to wait until next year. The drainage for this plant must be good, so that nothing of a stagnant nature lies about the roots. If in the spring-time the soil is found to be in a sodden and worn-out condition, the plants should be repotted. They should be hung up in the sun and light during the summer, but in the winter it is best to take them down and stand them on a side stage. The soil should be composed of good peat fibre and chopped Sphagnum Moss. During the summer season this Orchid likes an abundant supply of water, and even in the winter, although a very much reduced quantity is requisite, do not allow it to become exceptionally dry. It is a beautiful species and well deserves extended cultivation.

WM. HUGH GOWER.

Maxillaria Sanderiana.—This was found by Klaboch at about 4000 feet elevation in the mountains of Peru. I have found the plants do best when kept in the cool house for part of the year, but when the spring comes round I would take them into the coolest part of the Cattleya house. The plant is a robust grower and produces its large blooms very freely. It succeeds well as a pot plant, but I prefer to grow it in a basket so as to allow some of the flower-spikes which I have seen decumbent find their way out. These baskets must be well drained. For soil use good brown peat fibre and Sphagnum Moss in about equal parts. During the resting season the plants must be kept tolerably dry, but not so as to injure the bulbs or leaves.—W. H. G.

Pilumna nobilis.—"J. S." sends a spike of this for a name. The plant is scarcer than it used to be some few years ago, I think; at least I do not see it in collections in anything like the numbers that I used to, many of the plants having been killed by being grown in too great heat. I have found this thrive and flower most freely kept in the same temperature as *Odontoglossum Alexandræ*. This plant was introduced some years ago by M. Linden, of Brussels. Its pure white, sweet-scented flowers are very suitable for button-

holes, &c. The individual blooms are some 3 inches across the petals, and upwards of 2 inches across the lip, the whole being of the purest white, having an orange-coloured eye-like spot at the base of the lip. As the plant always flowers at this season of the year, its value for cutting may naturally be inferred. Pot in peat fibre and Sphagnum Moss, and keep the plants in a good moist condition. During the resting season, too, it requires to be kept moist.—W. H. G.

Sophranitis violacea.—This is a very pretty and showy plant that used to be grown in the late Mr. Day's collection. The flowers are of a rich clear violet colour, and they continue in great beauty a considerable time. It likes a cool temperature with a considerable amount of moisture, and thrives best on a block of wood.—W. H. G.

Thrixspermum unguiculatum.—J. Berry sends me a flower of this plant which he says he bought as *Phalenopsis grandiflora* some three years ago. The flower before me is quite 2 inches across, thick and fleshy in texture, the middle lobe small, pale yellow with crimson dots. The plant when growing might be easily taken for some species of *Phalenopsis*, but the delusion is quickly dispelled when the blooms appear. It is not so showy as a *Phalenopsis*, but it is a species well deserving attention. This plant thrives well treated in the same manner as a *Phalenopsis*.—W. H. G.

Cœlogyne barbata.—Although this plant has been introduced between fifty and sixty years, it is at the present time by no means a common Orchid. At present fashion appears to run more on the *Odontoglossa* and *Cattleyas* of South America than on the cool Orchids of Northern India. How much would be lost by the entire neglect of the latter was well exemplified by a panful of this *Cœlogyne*, beautifully in flower at the Royal Horticultural Society's meeting on Dec. 11. This plant had numerous spikes 18 inches high, which produce the flowers in a cluster near the top. Each flower is 3 inches across, the sepals and petals being of the purest glistening white. In striking contrast with these is the lip, which, although white on the outside, is covered inside with numerous brown hairs; it is to this bearded character that the name refers. This species belongs to the same section of *Cœlogyne* as *C. ocellata* and *C. corymbosa*, all of which are well worth cultivation. For the greater part of the year they may be grown cool, although a little extra heat in spring when they are commencing growth is an advantage.

Chysis Oweniana.—Under this name there was exhibited at the Drill Hall, Westminster, on December 11, a very pretty *Chysis*, quite distinct from the well-known types of the genus, *C. aurea* and *C. bracteata*. The pseudo-bulbs were 15 inches to 18 inches long, and nearly the same thickness throughout, and therefore without the curious swelling in the centre, which is so distinctive a character in the two older species. The flowers, of which there were nine on the raceme, were produced in a terminal head; each one was $1\frac{1}{2}$ inches across, in colour white, stained with pale purple towards the tips. The bases of the sepals and petals are depressed so as to form a kind of cup, in which the lip appears to be almost enclosed. The front lobe of the lip is white, stained with purple; the side lobes also are white, with dark purple lines. The bases of the two lower sepals form outwardly protruding chin. With the exception of *Chysis aurea*, all the species now introduced are very handsome Orchids. *C. bracteata*, indeed, when well grown belongs to the very first rank.

SHORT NOTES.—ORCHIDS.

Oncidium tigrinum giganteum.—A very fine variety of this plant comes from Mr. Potter. These flowers quite took me by surprise when I opened the box. Each measured upwards of $3\frac{1}{2}$ inches in length, the sepals and petals prettily undulated, almost black, and transversely barred with thin lines of pale yellow. The front lobe of the lip is broad,

of a rich bright yellow. It is by far the best variety that has come under my notice. I saw it last season and it was just as fine. I would propose the name of *giganteum* for it.—W. H. G.

Mr. Wheatley's Cattleya (*C. Dowiana aurea* *Wheatleyana*) (*R. Johnson*).—This is undoubtedly the same plant as figured in the "Orchid Album," t. 168, under the name of *C. D. a. Statteriana*, as I have the dried flower and can compare it. I see that M. Linden figures the same plant under the name of *C. Hardyana-Statteriana*. I cannot help thinking it is an absurd name, as there is nothing to suggest the fine natural hybrid named in honour of Mr. Hardy, and as the name of *C. aurea Statteriana* has been already given to another *Cattleya*, I would suggest the name given above by me for this plant.—W.

CHRYSANTHEMUMS.

SEASONABLE CULTURAL NOTES.

A MOST important point towards success is the early insertion of the cuttings. To have blooms of the finest quality the plants require a long season of growth in a cool temperature. It is useless to strike the cuttings late, and then by hurrying the plants on in a warm temperature to attempt to make up for loss of time. Early propagation induces the proper maturation of the tissues of the plants. Apart from the results gained by early propagation there is the advantage of getting rid of the old plants. The month of December I consider is the best to take the cuttings in, but where these are difficult to obtain at that time the first two weeks in January will suffice, especially for some of the free-growing Japanese sorts. I always start with those that are of rather weak growth, such as Princess Beatrice, Princess Teck and its sport, Lady Hardinge and Empress Eugénie amongst incurved sorts. These, of all varieties, object to "coddling" in even the slightest way. Cuttings 3 inches long taken some distance from the old stem are the best, rejecting all with even a trace of the presence of a flower bud in the point. The best compost to employ is half loam and leaf soil, with a free admixture of sharp silver sand. Growers of the old school were accustomed to insert four or six cuttings around the edge of 3-inch pots, placing the pots on a shelf in a cool house. Cultivators, however, have gradually realised the advantage of placing the cuttings singly into small pots. The older method checked the plants in their infant stage when potting them off singly. Where but one cutting is inserted in a $2\frac{1}{2}$ -inch pot the plant is easily transferred to a larger pot, and thus experiences no check. A gentle bottom heat was provided, too, to hurry on the rooting process by some; this, however, had the effect of weakening the plants, and is now superseded by placing the pots in a small frame on the stage of the greenhouse, vinery or Peach house. By keeping the frame closed, with the exception of removing the light for an hour or so in the morning to get rid of condensed moisture, the risk of the leaves flagging is avoided. If no air at all were admitted, many of the cuttings would damp off, the point being generally soft and succulent at that stage. As a further means of guarding against the chances of a loss of the leaves and cuttings, the glass should be wiped dry every evening.

My experience prompts me to say that the carrying out systematically of all these apparently trifling details is in the end a decided advantage, because the cuttings root in a shorter time, more time for growth being the consequence. It is surprising what a small quantity of water the cuttings require after the soil is well soaked at first. Many of the cuttings will be nicely rooted in three weeks, during which time not a drop of water has been required.

When the cuttings are nicely rooted air must be admitted gradually with a view to strengthen the plants direct from the base. As some varieties require a couple of weeks longer than others to become thoroughly established in the pots, it is wise when examining them to place the earliest

rooted plants in a frame by themselves, so that they may obtain more air, but not to the detriment of the weaker growing sorts, which require longer time to form roots. The flagging of the leaves from exposure is a sign that the plants are not sufficiently established. When this does not take place the sooner the plants are placed on a shelf close to the glass in a cool house the better. Here the soil will more quickly become dry, necessitating a greater supply of water. In this stage the plants would quickly suffer from want of moisture. Tepid water should in all cases be used with a view to prevent the leaves changing to a pale green caused by a check to the roots. E. M.

Guernsey Chrysanthemums.—As "C. H. P." is desirous of having the names of the Chrysanthemums raised by Mr. Kelly, I append the following list: Violetta, Col. Chase, Cecil Wray, Edelweiss, Undine, and Enid Dobree. Mr. Kelly has other good seedlings, which will probably be sent out another year.—THOS. H. LE LIEVRE.

Chrysanthemum Marie Therese Bergman.—This is an excellent addition to the single-flowered Chrysanthemums. The flowers are pure white, the individual blooms being about the size of those of Mary Anderson, but not so regular in outline. The flowers, however, are borne in greater profusion than in that excellent and popular variety, and the habit of growth of both is about the same. This is the type of single Chrysanthemum that should be encouraged.—A. Y.

Chrysanthemums in vases.—Whilst many people do not care for the large blooms of Chrysanthemums arranged on show boards, yet they cannot but admit that they have a very handsome appearance when a dozen or more are arranged in suitable vases with a fair length of stem, with the addition perhaps of other foliage to set them off. The majority of the large blooms which I grow are used in this way. I know it is very easy to make complaints as to the very artificial mode of showing the blooms on boards, but the question is, how is it to be improved upon? If all cut flowers were shown with long stems with healthy foliage attached, it is quite evident growers at a distance would not be able to compete, as it would be impossible to support them in water until the time came for staging. When the stems can be put in water within an hour or so of being cut, the foliage will keep fresh for some days. I have also noticed that the deeper in proportion the stems can be placed in water the longer will the flowers remain fresh. This fact must not be lost sight of if Chrysanthemums are to be exhibited in vases.—A. Y.

Dwarf Chrysanthemums for exhibition.—Would "H. S." kindly give through THE GARDEN a list of two or three dozen dwarf varieties of Chrysanthemums suitable for growing on the "big-bloom" system? Tall-growing varieties over 5 feet many find a difficulty in housing; whereas such kinds as W. H. Lincoln, Mons. Freeman, and J. S. Dibbens could be housed by most gardeners. Many in Malvern wish to grow about two or three dozen plants for large blooms.—S. N.

* * The following varieties, all belonging to the Japanese section can be depended upon to produce large exhibition blooms. Most of them do not grow beyond the height required, and the rest, which are noted, may be cut back about the middle of May, at which time the plants should be in 5-inch or 6-inch pots. They may be headed back to within a foot of their base, and placed under glass for a couple of weeks, or rather in a position where glass can be put over them to ward off excessive rain, it being important that the roots be kept on the dry side until new growth is formed. When the latter is 3 inches or so in length, the plants should be shifted into the flowering pots. G. C. Schwabe, carmine-rose; Kentish Yellow, light yellow; Miss Dorothea Shea, terra-cotta; John Shrimpton, rich crimson; G. W. Childs, maroon; Avalanche, white; E. Beckett, yellow; E. Molyneux, dark red; Marie Hoste, creamy white; M. Bernard, purple-rose; W. Tricker, bright rose and white; President Boirel,

rich dark rose; W. H. Lincoln, yellow; Val d'Andorre, orange-red; Eda Prass, flesh-white; Louise, bluish white; and W. G. Newitt, white, will suit your purpose. Those which may be cut back are Wm. Seward, very dark crimson; Col. W. B. Smith, old gold, darker shade; Mlle. Thérèse Rey, creamy-white; Florence Davis, white, green tinge; R. C. Kingston, deep purple; Vivand Morel, mauve; Sun-flower, yellow; Stanstead White; and Le Versceau, rose.—H. S.

NOTES OF THE WEEK.

Azara integrifolia.—Sir Herbert Maxwell brings us sprays of this charming shrub—a standard 7 feet high in the open air—two days after Christmas from his garden at Monreith, Wigtonshire, N.B. It is a singularly distinct and pretty bush.

Chrysanthemum Eugene Lanjaulet is an Anemone pompon variety, in full beauty recently in the Chiswick collection. It is a charming flower, neat, free, and bright in colour, the centre rich yellow with paler guard florets. The sprays of bloom are delightful for cutting, and we think this class should be more grown for decoration.

Crocus chrysanthus is a bright species we recently noted in bloom, also a form named *superbus*, the rich golden-yellow flowers relieved by coral-red stigmata. It is a brilliant flower, and welcome on a sunny winter day. There are four varieties, namely, *albidus*, *cœrulescens*, *fuscotinctus*, and *fusco-lineatus*, but the type is as showy as any.

The **Callipsyches** comprise an interesting genus but seldom seen in gardens, although *C. aurantiaca*, that blooms at this season, is a bright flower. They are amaryllidaceous plants, and can be grown under similar conditions to the better-known *Amaryllis*. During growth abundance of water is required. This should be gradually withheld as the leaves decay, being careful, however, not to let the bulbs shrivel.

Rosa macrantha.—Mr. T. W. Girdlestone, in his interesting article on "Wild Roses" at page 547 in issue of Dec. 16, notes my saying of this, that it has "rather pretty flowers, though they are somewhat small," and refers to some confusion in the matter of names. I may be allowed therefore to mention that *R. micrantha* was intended, the above name resulting probably from an undetected misprint.—R. I. LYNCH.

A charming Orchid in bloom now in the Kew collection is *Zygopetalum Rollissoni*, which is synonymous with *Maxillaria Rollissoni* and *Promenaea Rollissoni*. It was introduced from Brazil as far back as 1813, and grows well in a small pan suspended near the light in the intermediate house. The flower is small and neat, the sepals and petals very pale yellow, whilst the lip is of a much richer shade, spotted with crimson.

Siphocampylus betulæfolius.—Until the mention of this on p. 593, I have not seen it noticed anywhere for many years. I grew it forty years ago, and it is perhaps the prettiest *Siphocampylus* of any, all of which are too little known. It is more of a shrubby woody character than most others, the foliage pale green shaded with yellow, the flowers long, on long stems, red, tipped with yellow. At the time mentioned it was to be found in most of the large nursery catalogues, but seems now to be quite lost.—J. M., *Charmouth, Dorset*.

Chrysanthemum Harlequin.—Herewith I send you two long sprays cut from a large plant of the above-named *Chrysanthemum*. I could cut a good sheaf or two if required. It is a most excellent kind for Christmas blooming, and I have grown it several years for that purpose. It naturally grows long-jointed and will not do with late stopping; ours were pinched the last time about July 1. There has been no bud-thinning. The colour is, as you will see, of the Source d'Or type, each floret tipped with pale gold. It shows up

well by artificial light.—H. J. CLAYTON, *Grimston Park, Tadcaster*.

Schizostylis coccinea is a useful winter flower for the greenhouse. We noticed it grown largely at Kew, and mixed with white *Ilyacinthus* the crimson flowers are very pleasing. It is not often one sees well-grown plants in gardens, but the winter *Gladiolus* is acceptable at this season, when variety is wanted in the greenhouse, as a relief to the stereotyped Chinese *Primulas* and *Cyclamens*. The *Schizostylis* is not difficult to grow, and notes have recently appeared in THE GARDEN as to its culture. When grown in the open the most suitable spot is a sheltered warm corner, or such a place as would suit the *Belladonna Lily*, the soil being light and well drained.

The past dry season.—Amongst the many unusual effects resulting from the protracted dry summer is the futile attempt of several biennials to flower the first season. A number of *Ipomopsis elegans* here have thrown up flower-stems to the height of 2 feet, but, of course, no flowers matured, and now the plants look as if they were decaying. The same thing has occurred with *Erythrolæna conspicua*, a robust, red-flowering, Thistle-like plant, which was pushing a flower-stem vigorously until arrested by the cold. This likewise looks as if it would perish. Happily, however, I have a few plants that were not turned out; these have their rosette crowns unaffected.—J. M., *Charmouth, Dorset*.

Chimonanthus fragrans.—This is flowering with unusual freedom this season, no doubt a result of the hot, dry summer, which prevented gross growth and thoroughly ripened the shoots that were made. The best kind is that known as *grandiflorus*, of which we have several bushes that are quite smothered in bloom. They have a warm site and a very firm root run—in fact, the soil of the border has never been loosened since the bushes were planted. Under such conditions they invariably flower freely. Such pruning as is required is best done when the plants are in bloom, by cutting the shoots with their flowers moderately freely, selecting those that would have to be removed later on. It is a most welcome flower in the house, a few sprays scenting the largest room, their fragrance and freshness enduring for many days.—A. H.

Hardy Cyclamens are commencing to bloom freely in the nursery of Messrs. Barr and Son, Long Ditton, and good clumps of *C. ibericum*, a form of *C. coum*, make welcome masses of colour in the late winter, when, as this year, the weather is mild. The *Cyclamens*, apart from the flowers, are attractive by reason of their pleasing foliage. Several varieties are in this nursery, one of the most beautiful being *C. ibericum Atkinsi*, the flowers pure white, relieved by a purplish spot at the base of the segments; whilst there are other kinds, named respectively *rubrum*, *roseum*, *ilicium*, showing the diversity of colour in this class. To enjoy *Cyclamens* they should be planted in sheltered spots on the rockery, amongst Grass, at the foot of an old wall and similar places where they are in a measure protected, not from want of hardness, but as a shelter to the flowers. Light vegetable soil suits them best, and when in a suitable place, warm, partially shady and sheltered, as they are at Livermere Park, they produce abundance of flowers. They are very charming also grown in shallow pans, and under glass are not exposed to rains and frosts.

Winter-flowering Carnations.—It is a very nice thing to have a good show of Carnations in bloom at Christmas, but the list of English varieties is very small. Miss Jolliffe, Winter Cheer, La Neige, Duke of Fife, Duke of Clarence and about a dozen more and you come to the end of the list. It has been my object for some years to introduce variety into collections of these lovely plants both in the border and conservatory, and so far with great success, and I have the pleasure of sending you herewith specimens of a dozen that I have cut this morning (Christmas Day) in my conservatory. They are for the most part French and

German, and would be far finer but that so much air has been kept on the house for the benefit of the white *Chrysanthemums* required at this season.—H. W. WEGUELIN, F.R.H.S., *Shaldon, Teignmouth, Devon*.

** To our taste too much variety, too much of the bizarre and the wire and stripe and slaty hue, and very little of the splendour and intensity of the Carnation. We have always had too much of these frivolous aberrations, while no one was taking much notice of the more precious qualities.—ED.

OBITUARY.

Mr. W. C. Drummond.—This well-known nurseryman in the west of England, the proprietor of the Bath and Park Lane Nurseries, died recently at Bath at the age of 77 years. Nearly a half century ago he made a considerable reputation as a cultivator and exhibitor of Dahlias, though he was not the raiser of them. One of the earliest flowers to bear his name was *Bæswing*, which was distributed in 1845, and became much grown for exhibition, being a decided advance upon some which had preceded it. One of his greatest hits was with *Bob*, a deep scarlet flower of a bright hue, which was widely distributed and much exhibited. This was sent out about the year 1850. In 1852 two flowers were distributed, viz., *Sir Richard Whittington* and *Alice*, both of which were considered so good, that they were figured in the March number of the *Florist* of that year, then conducted by the late Mr. Charles Turner. Other flowers distributed previously or about the same time were *Felix*, *Utilis*, *Meion*, *Sarah*, *Minn*, &c. In 1853, British Queen, Robert Bruce, and Queen of Whites were put into commerce; and in the following year, Miss Susan Sainsbury, Dhawala Giri, Miss Mary Sainsbury, and others. He was a constant exhibitor of plants and flowers at the leading west of England shows, and up to the last year or two I used to meet him regularly at the exhibitions of the Trowbridge Horticultural Society. Mr. Drummond was one of the original supporters of the old National Floricultural Society, which was founded in 1851, and was the forerunner of the Floral Committee of the Royal Horticultural Society.

The weather in West Herts.—Another very mild week and the third in succession. On Friday the temperature in the shade rose to 51°, and on Saturday and Tuesday to 50°, while on no night did the exposed thermometer register more than 7° of frost. The temperature of the ground at 2 feet deep now stands at 41°, and at 1 foot deep at 40°, or respectively 3° and 6° warmer than at the same time last year. Some rain fell on Friday and again on Sunday, but the total measurement for the week only amounted to about a quarter of an inch. The winds have again mostly come from some southerly point of the compass and have been of about average strength. On four days of the week the sun shone for four or more hours, and on two of these (Thursday and Monday) the record exceeded five hours.—E. M., *Berkhamsted*.

Dogs in the garden.—To condemn these faithful animals is not in any sense my intention, but merely to point out a case in which the blame for the non-success of several shrubs was attributed in a most decided manner to the person who had charge of a plot of ground connected with a public building adjoining a very frequented highway. For the moment this puzzled me. I could not see why the shrubs should dwindle away and die until I made a close inspection of the wall and iron railings, as well as the piece of lawn. The traces of dogs were apparent not only upon the enclosure, but so repeated had been the visits that the tracks were plainly visible upon the stone coping. The only remedy prior to planting afresh was to fix a light wirework against the iron railings. It may be asked how it is that dogs do

not do more harm in gardens. To this my answer is that they do quite enough. It is, however, amongst newly-planted shrubs and in such positions as the example just given where most injury is done. To attempt to establish shrubs with this disadvantage to contend against is almost useless.—SOUTHON.

Destroying tree stumps.—Tree roots are often very expensive to uproot with only the grub axe and wedges, but with the new explosive mentioned by A. L. Y. Morley in *THE GARDEN* of last week the destroying of tree stumps will become an easy matter. Dynamite and gunpowder I have used extensively, but I prefer the dynamite. In practised hands it does its work more quickly than gunpowder, and is as safe to handle. A small charge of dynamite as it is made up in packets 2 inches long by 1 inch is quite sufficient to blow up a strong root of, say, 12 inches or more in diameter if a little judgment is used in boring the hole. Dynamite requires no tamping like gunpowder. When the charge is put into the root, the hole may be filled up with water, and the bursting of the root will be all the same.—J. MILLER, *Ruxley Lodge, Esher*.

Flora of South Arabia.—Mr. Theodore Bent, the well-known archaeologist and traveller, having arranged an expedition to Hadramant, in South Arabia, the director of Kew has obtained permission for a plant-collector to accompany him in the interests of Kew. Hadramant is one of the four ancient kingdoms of Southern Arabia which formerly supplied the world with its more important luxuries. It is practically unknown, but is reported to be rich in ruins and inscriptions. Frankincense, the product of *Boswellia Carteri*, is obtained almost exclusively from this part of Arabia. There are good reasons for believing that the flora of that part of Arabia is exceptionally interesting, both botanically and horticulturally. The small island of Socotra, off the coast of South Arabia, proved a rich mine both to botanists and horticulturists when visited by Professor Bayley Balfour thirteen years ago. Mr. Bent's party will be away about six months.

Iron roofing for sheds.—I am not at all surprised that iron roofing for sheds should be condemned. In this material for roofs we have the two extremes of intense heat in summer and extreme cold in winter. Light houses (or sheds for that matter) may look all right with iron roofing upon them in the opinion of those who do not think the matter out. Such have a neat appearance if that counts for anything, and it may do in the eyes of some people. Has it occurred, however, to anyone that through the iron being non-absorbent it is not calculated to be the best roofing material? In the editorial remarks in the issue for December 16 (p. 570) this fact is touched upon—"iron roofs weeping drops" in reality. This would not occur either with a slate or tile roof to anything like the same extent, if it did at all, simply because both of these are absorbent; hence the moisture on the underside is taken up instead of having to be dispelled in other ways, as by trickling down the roof to the base. This fact has no doubt occurred to those who in erecting iron roofs take as their shape nearly half a circle, so that the moisture upon the underside passes away more quickly than would be the case upon a comparatively flat roof with an inclined, but straight plane.—H. G.

— I quite agree with every word your correspondent "J. C. B." says on this subject. I can go further. He speaks of ten years; whereas I have had nearly 25 years' experience in Australia, where the majority of the houses are roofed with corrugated galvanised iron. Certainly, with us, it is hot, but not hotter than slates or tiles, and cools more quickly. To obviate this heat we whiten our roofs with a preparation which lowers the temperature at least 10 degrees, and, in the case of sheds, will keep out the frost. This preparation requires renewing every two or three years, but it is very

cheap, looks picturesque, and is a great relief in our hot summers. The iron is infinitely cheaper than slates or tiles, more easily and quickly laid on, and, in my long experience, requires no further outlay.—HENRY DUTTON, *Anlaby Estate, Kapunda, South Australia*.

* * We are sorry for the beauty of a country in which the houses are roofed with corrugated iron. We would not willingly roof a pig-stye with it. Even an iron bridge is rusting and rotting away every day of its life. We have put up iron roofs within four years which are rusting away now, and the iron piping we have put up is rotten as a wet blot sheet. The defects of iron from a builder's or an artistic point of view are more than we have time to enumerate.—ED.

PUBLIC GARDENS.

A new open space at Fulham.—On Tuesday afternoon Mr. John Hutton, chairman of the London County Council, formally opened Bishop's and West Meadows, an area of over twelve acres, bordering the river at Fulham, and hard by the Bishop's moat. In 1884 the Ecclesiastical Commissioners, as Lords of the Manor, at the instance of the late Bishop Jackson, conveyed it to the local authorities to be maintained as a public recreation ground, but the work of laying it out has for many reasons been delayed until the present time, when, at the instance of the present bishop, West Meadow has been added to the gift. A magnificent river wall has been constructed at a cost of £12,617, and it is estimated that the total expenditure in connection with the open space will be £19,000, towards which the London County Council has promised £5000. In declaring the Meadows open, Mr. John Hutton pointed out that since the Council came into existence it had added 1000 acres to the open spaces of London.



